

SOME NOTES ON ECHOLALIA,¹ WITH THE REPORT OF AN EXTRAORDINARY CASE.²

By MARTIN W. BARR, M.D.,

Chief Physician Pennsylvania Training School for Feeble-Minded Children,
Elwyn, Pa.

WITHIN the last decade contributions to literature relating to the various forms of cerebral speech disturbance have been more or less voluminous, but they have been devoted almost exclusively to those most frequently met with, and the rarer one of echolalia has been, by the alienist touched but lightly—the analysis of the term, the definition, a passing word of comment—and then dropped. It remains, therefore that the literature of this subject is most meagre, the search for information most discouraging.

Echolalia or echophrasia, a broader and more comprehensive term, although not yet sanctioned by common usage, is a speech affection characterized by a tendency to repeat words or phrases spoken by others, hitherto most generally observed and described in combination with coprolalia³ or with palmus⁴.

The term echolalia was first employed by Romberg, who considered it an evidence of cerebral softening, but Echeverria⁵ notes it as a sign of will perversion or of impaired or defective inhibition.

Giles de la Tourette, in 1885, next takes it up and describes it in connection with coprolalia and palmus.

¹ *Exo*, Echo; *lalia*, Speech.

² Read before the Philadelphia Neurological Society, May 31, 1897.

³ *Kopros*, Filth, the tendency to repeat foul language.

⁴ *Palmos*, A twitch, also known as Latah, Myriachit, Tic convulsif and Jumper's disease; a nervous affection characterized by localized spasmodic movements.

⁵ Dictionary of Psychological Medicine, Vol. I., p. 424.

Noir, in 1893, made a careful study of the mental degenerates (idiots and imbeciles) of France, and asserts that the affection may occur singly as well as in combination. Landon Carter Gray⁶ coincides in this opinion, and my own experience would seem to verify the same.

Tuke⁷ gives echolalia as a symptom of the general paralysis of the insane, and adds that it may be associated with many other nervous disorders, most frequently with epilepsy—the patient in some cases imitating in his speech not only the words of the person addressing him, but the tones also.

Diligent inquiry among alienists, both here and abroad, and a careful study of imbeciles and speech defectives, covering together over eight thousand cases, gives the following data, which, while throwing but little added light upon the subject to-day, yet may by its grouping, aid in future scientific investigations.

Fletcher Beach, late of Darenth Asylum, says that echolalia was there very uncommon, although it did exist in a few cases.

Shuttleworth also found it in a few cases at the Royal Albert Asylum, but neither of the gentlemen gives statistics.

Reginald Langdon Down finds it in four per cent. of the cases of imbeciles under his care.

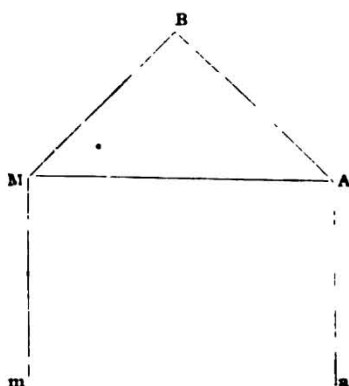
Cesare Lombroso, in a personal letter, says that he has observed echolalia in hysterical imbeciles, but never in microcephalic idiots or cretins, while W. W. Ireland's opinion in this direction narrows the field even more, as he states in a recent letter that in his experience echolalia is not found among the feeble-minded.

A case reported by Lichtheim, and by him defined as transcortical motor aphasia, may best be explained by the following diagram.⁸ Of the triangle A B M let B repre-

⁶ The American Journal of the Medical Sciences, May, 1895.

⁷ A Dictionary of Psychological Medicine, p. 526.

⁸ With thanks to Dr. Spiller.



sent the so-called concept centre (*Begriffscentrum* of the Germans), M, the centre of motor images, and A the centre of auditory images. "The reflex arc consists in an afferent branch Aa, which transmits the acoustic impressions to A; and an efferent branch Mm, which conducts the impulses from M to the organs of speech, and is completed by the commissure binding together A and M." (Lichtheim, *Brain*, Vol. VII.)

"A variety of motor aphasia is created by interruption of the path B M, of which we have many examples. From the diagram we should expect the loss of

- (a) volitional speech,
- (b) volitional writing,

whilst there are preserved—

- (c) understanding of spoken language,
- (d) understanding of written language,
- (e) the faculty of copying.

So far the symptoms coincide with those of Broca's aphasia. They differ inasmuch as there is preservation of

- (f) faculty of repeating words,
- (g) writing to dictation,
- (h) reading aloud." (Lichtheim C. c.)

Charlton Bastian, referring to this says: "Lichtheim's interpretation of this case is wholly different from mine. He accounts for it by supposing a damage of commissural fibres to exist, which pass between his postulated centre

for concepts and Broca's convolution, which for him also is a motor region rather than one of sensory type."

He goes on to explain: "The meaning of this ability to read aloud in such a case is that though the auditory word-centre is so much damaged as to be unable to act spontaneously (that is, under volitional stimuli), it is still capable of responding to the associational stimuli coming to it as a result of strong excitation of the visual centre. Persons so affected are also quite capable of responding to sensory stimuli passing direct to the auditory centre itself—that is, they can at once repeat words uttered before them." (The Lancet, April 10th, 1897, p. 1016.)

(l. c.) "In this relation it may be mentioned that it sometimes happens that the speech of patients is entirely limited to a mere imitative repetition of words spoken in their hearing, while they are without the power of volunteering any statement; that is, their auditory word-centres respond only to direct sensory incitations, and not at all to those of an associational or volitional order. In these cases (usually included under the term "echolalia") a marked general impairment almost invariably co-exists.

"A defect of this kind (occurring in a woman who was hemiplegic from cerebral hemorrhage) has been recorded by Professor Béhier. She was born in Italy, and had resided both in Spain and France. Of the three languages she had thus acquired she had completely forgotten the Italian and Spanish, and had only retained a most limited use of the French. In this latter language *she only repeated like an echo* the words pronounced in her presence, without, however, attaching any meaning to them. But in the case of a woman seen at the Salpêtrière, by Bateman, the mimetic tendency was much stronger. She even reproduced foreign words with which she had never been familiar. It is clear that in such a case as this there must have been a mental degradation of a much wider kind than that which occurs when the auditory word-centre alone is reduced to its lowest grade of functional activity."

Transcortical motor aphasia, according to Déjerine, is entirely hypothetical, being in his opinion only a stage of amelioration in the cortical motor aphasia of Broca.

Mills,⁹ in 1891, cites two cases occurring in his own practice—one a woman of cultivation and refinement who would burst out with a thrice-repeated oath accompanied with an abrupt action; the other, a boy who would give unprovoked utterance to filthy language, accompanied with violent movements of the head, shoulders and arms.

Here is undoubted association with both coprolalia and palmus, as is an analogous case coming under my own observation of a beautiful and refined young girl attending a mixed boarding school, who would at intervals give sudden expression to three words successively: The first vulgar, the second foolish, the third profane; these also associated with like convulsive movements.

Again,¹⁰ Mills thinks echolalia might as properly be classed under morbid impulses as under aphasia, and describes it as "an affection in which convulsive movements are associated with sudden explosion of speech. The patient with a grimace, contortion or violent movement of some kind, suddenly bursts into an obscene, profane or absurd expression. This expression may be the echo of something overheard—hence the name, echolalia—or it may be a spontaneous outcry. It is not simply an hysterical affection, controllable and curable, but it is a true monomania, the affection of speech being beyond the patient's volition." In a still later article he classes true echolalia as a characteristic symptom of transcortical or suprapictorial sensory aphasia.¹¹

In my own personal examination of fifteen hundred and twenty-five mentally defective children, I can find but

⁹ Aphasia. Reprint from the *Review of Insanity and Nervous Disease* for September and December, 1891, p. 75.

¹⁰ *American Text Book of Diseases of Children; Speech Defects and Anomalies*, p. 663.

¹¹ *A Text Book on Nervous Diseases*. Dercum, p. 440.

two cases of what might be called true echolalia. One is not available, but the other, which is unique, I here present.

Kirtie M. Mansfield, idio-imbecile, white, male, epileptic, aged twenty-two years, with the intelligence of a child of five. He is the eldest of three children, the brother and sister being strong and healthy, both mentally and physically. Family history good, with no trace of nervous or mental disease. The parents, people of exceptional refinement and intelligence, are distantly related—the maternal mother and paternal grandmother being cousins german. Paternal grandfather died of some kidney trouble (form unknown) aged forty; maternal grandmother of some heart disease (form also unknown) aged sixty-seven. Father thirty-two and mother twenty at time of this child's birth. Born at full term, ordinary labor, nursed by mother, with no peculiarities beyond an unusually large head; a perfectly healthy infant up to sixteen months, showing, the father says, no indication of mental disease. During teething he had *petit mal*, gradually followed by prolonged spasms, and at the age of four developed true epilepsy, any excitement precipitating an attack. He began to talk with the ease of a normal child, but early developed a habit of peculiar repetition, learned the alphabet and to repeat with facility Mother Goose rhymes (which he craved to have sung to him daily). His precocious memory just at this period, coupled with these abnormal repetitions, first attracted the attention of those about him as evidencing something wrong.

In disposition he was gentle, easily governed, social, liking the presence of other children, although not joining in their plays, spending hours apart, amusing himself with blocks or weaving strings.

He had the usual diseases of childhood. In 1884 a severe attack of diphtheria was followed by vaso-motor paralysis of the left side of the face, which gradually yielded to treatment. In 1882, when he first came under the

care of the Pennsylvania Training School, he cried a great deal and talked constantly about "a nice packer o' pins and a buggy and wagon." Sight and hearing good, speech limited and enunciation slightly defective. Nervous, restless and self-willed, working himself into a fury when thwarted, muttering incoherently to himself, he spent a great deal of time twirling and untwirling a string until at last his nervous fingers found employment in knitting; in this he accomplished quite difficult patterns without assistance, himself setting up the required number of stitches, and adding as directed.

He can now count to fifty; is fond of music; is unable to read and write, but household service has proved a means of development for him, as he has learned to wash dishes, sweep and dust, and is orderly and methodical to a degree quite remarkable for one of his intellectual grade; thus he will voluntarily gather up all the litter from the floor, winding the strings into a ball, and never omits on leaving the school-room, to say: "Kirtie come to school this afternoon?" "Kirtie come to school to-morrow?" "Kirtie come to school Monday morning?" as the period may be, without once misplacing time or event. This he does day after day, invariably speaking of himself in the third person.

From this it will be seen that he has a certain amount of intelligence, although he still passes much time in a corner smiling and muttering vacant repetitions. Repeating whatever he hears, his thoughts are those of others and his speech automatic. When addressed he rarely fails in repetition before reply. Thus one may ask: "How old are you, Kirtie?" and he will immediately repeat, taking words and tones, "How old are you, Kirtie?" But here may be noted a departure from the habit of precision before mentioned. He is now twenty-two years of age, and yet to the question, "How old are you, Kirtie?" following the invariable repetition, "How old are you, Kirtie?" comes the answer, "Twelve." Though accepting the suggestion

that he is now twenty-two, he will, after a few moments, give the same reply, "Twelve." This is the only indication he gives of any loss of memory, but, indeed, I think it may rather show the presence of some strong overlaying association with that number. His keen sense of association is further shown in the following instance:

A companion of whom he was very fond, died, and, after attending a service of song some four years after, on being questioned as to where he had been, replied, "Heaven, heaven—home, Joe Zun—die song—heaven," the hymn, "Heaven is my Home," evidently recalling his loss.

His memory is, indeed, phenomenal. He recalls not only the visits of his parents and other incidents occurring during the year, but also the names of boys and attendants he has neither seen nor heard of for years, and he will sit talking to himself of them. He catches readily both words and music of all the popular songs at first hearing, repeating the words almost verbatim, or if substituting, giving equivalents.

One of the most interesting experiments with him appears all the more wonderful when we consider his low mentality. As before stated, he not only repeats words, but also imitates voice and tone of the speaker and frequently follows accurately in pantomime every movement. One afternoon I gave him, in rapid succession, words and sentences in nine different languages: English, French, German, Spanish, Italian, Japanese, Latin, Greek and Norwegian, and each time I found that, although the words were unfamiliar and would have been difficult for an ordinary person, certainly for a normal child, Kirtie took the pronunciation with facility, his voice keeping pace with mine as I repeated:

"I am here with thee and thy goats, as the most capricious poet, honest Ovid, was among the Goths."

"Liberty! Freedom! Tyranny is dead! Run hence,

proclaim it—cry about the streets, liberty, freedom and enfranchisement!"

"Pas à pas on va bien loin."

"Wir seufzen im nächtlichen Winde. Vom Zweige ein Wink so fern."

"Superabundantissime."

"Vedi! le fosche notturne spoglie, de'cieli sveste l'immensa volta."

"Namu miò hò ren gé Riò."

"Potentissimus est qui se habet in potestate."

"Zöe mou sas agapo."

"Min norske vinter er så vakker, med hoida snebedakte bakker og grønne gran med pudret haar."

On another occasion he followed me in the same words through three different tones and inflections of voice—the first a mere whisper, the last amounting to a shout, his voice always keeping tally with mine. "How do you do, Kirtie?" "How do you do, Kirtie? Pretty well." I repeated the question in the same voice, then suddenly changing I asked the question in a loud voice: "Are you well, Kirtie?" He, expecting the other question, shouted back, "How do you do, Kirtie? Pretty well." Realizing that his answer was automatic, and that there was no reasoning in it, I repeated it three times before he grasped the change, when he replied, "Are you well, Kirtie? Yes." Placing my hat on the floor, I said, "Go get my hat, Kirtie." This he repeated three times without attempting to move from his seat, seeming not to understand. Finally, picking it up and tossing it from me, I repeated the request, and, as if aroused by the action, he brought it, still repeating, "Go get my hat, Kirtie." "Thank you," I said. "Thank you, thank you, thank you; you are welcome." he replied. "What did you take out of Miss Annie's room?" "What did you take out of Miss Annie's room? Pins. Must not steal pins to put in coat." "What did B. B. do on the base-ball field?" "What did B. B. do on the base-

ball field? Ran away home. Bad boy," and so on, with indefinite repetition.

He is extravagantly fond of blocks, with which he will amuse himself for hours.

Some years ago he contracted the habit, when irritated, of deliberately tearing his clothing, especially his stockings, to pieces. The deprivation of his favorite plaything was found to be the best discipline for this offence. Now, when his nurse attempts to put away his blocks, he will say, "Do not take away blocks; will not tear any more." If asked if he will loan or give a block, he will reply, always repeating the question, "No, no, I will not tear my clothes," and when asked what clothes, replies, "My stockings." Occasionally, if his play is interrupted by a spasm, the blocks will be scattered, but on regaining consciousness he immediately gathers them up, knowing exactly both the position and number.

I call attention here to the fact that this case is associated with epilepsy, but neither with coprolalia nor with palmus.

Dr. William G. Spiller who has been an interested observer of the case, and to whom I am greatly indebted for aid in the work of research and comparison, says, "In performing a necropsy in a case such as you present, I should notice especially the condition of the posterior part of the left first temporal convolution. The fact that the boy is an epileptic is a point in favor of a cortical lesion, though, of course, it is no proof. As he understands all simple commands, and obeys them, the auditory centre cannot, therefore, be destroyed, but it *may* be so damaged that it is incapable of responding to volitional stimuli, yet still be capable of responding to impulses passing to it over the tract aA. I am not able to accept the concept-centre, and would prefer to explain your case in the words used by Bastian. To me your patient presents a symptom-complex resembling that of transcortical motor aphasia."

Summing up and comparing, we find echolalia a rare

form of aphasia, betokening always a marked general mental impairment, and therefore most naturally associated with other forms of degeneration.

There being no record of an autopsy of such a case, the precise location of the lesion, if there be one, is yet to be demonstrated.

In comparing the case presented with Lichtheim's proposition, we are confronted at once by a difficulty; the boy is an idio-imbecile, and his inability to read or write closes one door of observation, but we do find in common with his table, first "loss of volitional speech," and second, "preservation of understanding of spoken language, and of faculty of repeating words."

The absence of volitional speech, notwithstanding an abnormal memory, would indicate a diseased condition of the motor region, but not destruction, as he does reply and respond to word of command.

Even the repetition of words would almost appear to be such a response, or an exaggerated form of a habit of obedience to suggestion, for it is automatic, not volitional nor reflective, such as we often see in normal persons—an effort to strengthen the sensory impression so as to apprehend before acting.

Thus in the act and in the echo he is simply a creature of suggestion. His capacity for receiving such suggestions so rapidly as to echo these instantaneously without thought would tend to show less impairment of the sensory than of motor centres, and therefore confirms my impression that the defect, not so much sensory as motor, is rather to be defined as transcortical motor aphasia.