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Aphasia, or Aphasic Insanity, Which?

A MEDICO-LEGAL INQUIRY.

By Dr. C. H. HUGHES, St. Louis, Mo.

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APHASIA, OR APHASIC INSANITY, WHICH? A MEDICO-LEGAL INQUIRY.*

BY DR. C. H. HUGHES, ST. LOUIS, MO.

Aphasia, within the last few decades, has been brought quite prominently before the profession, and I know of no subject of more importance in its bearings on certain recently mooted questions in cerebral physiology, touching the localization of function. Our faith in the conclusions of Fritsch, Ferrier, Hitzig and Bartholow, and their laurels may be somewhat dimmed or brightened according to the conclusions finally reached on this subject. I believe in the localization of cerebral function, but there are many who, like Broca, before his conviction, are still skeptical, and strenuously contest the evidence of overwhelming facts. You will recollect, Mr. President, the circumstances under which M. Broca, who had been an opponent of the teaching of Bouillaud, became a convert to the doctrine of a speech center, having its location within the brain, and the famous challenge made by M. Aubertin before the Anthropological Society, of Paris, in regard to one of Broca's patients, then in the hospital for incurables, deprived of the power of speech, and how the confident Broca, accepting Aubertin's challenge, subsequently found the lesion in his patient's head to occupy the left anterior lobe of the cerebrum, renounced his former views, and located the seat of aphasia in the convolution which now bears his name.

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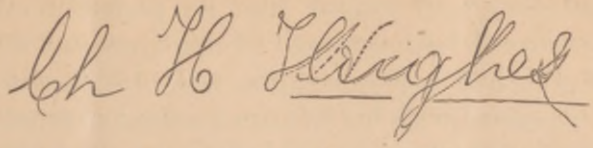
* Read before the Association of Medical Superintendents of Asylums for the Insane, at Washington, D. C., May 17th, 1878.

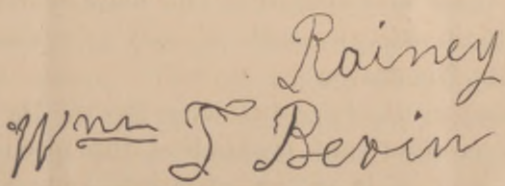
The subject of aphasia may often acquire important medico-legal significance, as was the fact with the case I am about to read. The question of mental competency to do certain acts, such as the signing of important papers, and the conveying of power of attorney, may arise. A question as to the degree of concomitant mental impairment, if any, will almost invariably be raised, if important acts are performed by these patients, involving great pecuniary interests, or questions of responsibility to law are in question. Aphasia may be simple and uncomplicated, or complicated with hemiplegia, imbecility or insanity.

On the 13th day of March, 1873, Mr. Wm. T. Bevin, a few months after the death of his wife, was stricken with right hemiplegia and aphasia. A cardiac valvular lesion preceded the paralysis and is still persistent. At the time of my last examination, February 7, 1876, I found his respirations, without discoverable pulmonary lesion, to be twenty-one per minute, and the heart and wrist pulsations asynchronous, the latter counting as high as one hundred and eight, and the former sometimes ten to eighteen more, per minute. At this time there was incomplete paralysis of motion on the right side and general anæsthesia. He was insensible to the pricking of a pin in both hands and feet. The sublingual temperature, on either side, was 96° F. He correctly and promptly comprehended oral signs, but tardily and imperfectly understood written ones. He soon recognized my name and wrote it for me, with his left hand. He likewise wrote his own name and the surname of his attorney (Mr. Rainey), upon my asking them. An H, written by myself, and an imperfectly erased tracing of my surname, were on the card on which he wrote my name. He first attempted to attach "ughes" to the H, I had written, but afterwards changed his mind and made an H of his own, which

accounts for the somewhat disjointed appearance of the word Hughes:



His tongue was clear, but he said he always had a disagreeable taste in his mouth. He either really had, or feigned, defective vision. When the thumb was held up before him, looking with one eye, the other being blind-folded, he would say it was two, and when the thumb and little finger were held up, he would say they were three. I intended making an ophthalmoscopic examination, but before I had opportunity the case came to trial,* and my testimony not being satisfactory to the family, I did not offer to examine him further. He either had defect of hearing in the left ear, or feigned it. I could not certainly determine which. He signed that he could not hear the ticking of a watch half an inch from his ear, yet he distinctly understood a remark addressed to him by his sister in quite an ordinary tone, at least twelve feet off from him, at the time I was testing his hearing. None of the family spoke to him in a very high tone, as is customary when one is deaf. He repeated the word *nin-nin*, accompanied by a nod of the head, to signify yes and by a horizontal turning to indicate no. When I wrote W. T. Bevin and asked if that was his name, he shook his head and taking the pencil wrote Wm. T. Bevin:



* William T. Bevin vs. Powell et al. Circuit Court No. 2, October Term, 1878.

He had three paralytic strokes, and was seen by his relatives after each attack. He has grown steadily better, and they now regard him as perfectly rational, but considered him unsound of mind on the fifteenth day of July, 1873, four months after his first seizure, when he signed with his left hand a deed of trust of his portion of some houses he was building jointly with some other parties, and in fulfillment of a promise and purpose, made and entertained prior to his attack. He could not write with his left hand before he was stricken. About the time of, and prior to the signing of this deed of trust, he is said, by some of the members of his family—principally his two sisters and a brother-in-law with whom he lived and is now living—to have done some things which they swore they regarded as evidences of insanity, such as on *one or two occasions* (none of the witnesses testifying to more) bowing to pictures in the parlor, when he knew members of the family were present, and with a pleased, but silly smile on his countenance. Once he is said to have wiped his nose on his napkin, and once or twice, in the early stage of his paralysis, they say he spat on his plate. Once he unbuttoned his drawers when his sister and another lady were in the room. It was said that once, shortly after his first stroke of paralysis, he defecated in bed. Once, he is said to have struck his mother with a stick, though one of his brothers, who swore there would have been no suit if he had got his three per cent commission, as promised for taking his afflicted brother's place in conducting the work, never saw or heard of his bowing to pictures, striking his mother, or unbuttoning his drawers.

Some time in the June following the stroke of paralysis, he recognized and pointed at the picture of the crucifixion, and other objects when asked to point them

out. At this time he could not, the family say—all but one brother—distinguish letters or tell if they were upside down or not, but readily recognized them if their names were called. As early as the first of May, 1873, he could sit in a chair and get about the room. In June he appeared to one of his physicians to be silly, "because he smiled peculiarly" and was exceedingly violent and irritable when the battery was applied. To another of his physicians he appeared demented, though he was able to go unaccompanied in the following November, a long distance to this physician's office, correctly select and count his money and pay his medical bill, and take and put away carefully a receipt for the same. It was said also that he made grimaces before a glass once or twice, and pulled out his hair, and he ate things, when set before him, that he never ate before. He handled his food with his fingers (he could not use a knife and fork), and his manners and tastes at table were changed in some other respects, he having been formerly very fastidious and precise.

When he first learned to write his name he would make signs to visitors for a slate, write his name for them, and express his pleasure at the accomplishment by a peculiar smile. After the description of his property, mentioned in the deed of trust, was read to him, he pointed in the direction of it and gave an assenting nod, pointing immediately after in the direction of other property not alluded to in the document, and indicating his understanding that it was not included, by the usual turning away of the head indicative of dissent.

He was attended by different physicians during the first attack. The physician who first saw him at the time of his first seizure found him only partially paralyzed on the right side, with consciousness still remaining, and helped him home. In six hours

after this physician saw him, he was hemiplegic and unconscious, and so remained for several days. He commenced to improve in two or three weeks. He was then annoyed by movements about the room and exhibited "not much, but some signs, of intelligence in his countenance." He made signs and efforts to convey ideas, and would mumble unintelligibly in answer to questions and had difficulty of deglutition. He never, at any time, had *delirium, delusion or hallucination.* He recognized Dr. Mudd generally when he visited him. One attending physician thought his mind was impaired, because "there seemed to him to be an absence of the power of expression and clear conception of subjects." This was just after the stroke. This mental confusion was a natural concomitant of the great *commotio cerebri* incident to such a severe, extensive and sudden involvement of a cerebral hemisphere in disease, even though that disease were solely at its base, which was here not the case. He might, at this stage even, have been demented, as he was considered to be, later, by one of his physicians but it could not be the real and permanent dementia which results from general degeneration and destruction of the cerebral cortex, as the improvement which soon began to appear and all the sequelæ—his learning to write with his left hand, recognizing and designating friends, pictures, etc., within four months, conclusively proved.

When we reflect that his hemiplegia embraced one-half of his face, in paralysis, it is not strange that he should have appeared silly and smiled peculiarly in May. His being irritable and violent when the battery was applied at that time, indicates only that the degree of paralysis of sensation has increased since then. It is not strange that he could not distinguish letters or tell if a book or paper were upside down, confusion of

vision being the rule rather than the exception, after hemiplegic strokes. The great length of the *tractus opticus*, and of the optic nerve within the brain, and the manner in which they are supplied with blood vessels, expose the apparatus concerned in sight to great disturbance of function from pressure, etc.; for this reason disturbances of vision are common in morbid conditions of the brain. This patient might have been totally blind from pressure consequent upon the cerebral œdema, which generally follows embolic closure of a vessel in other parts of the brain than the spot primarily implicated in the thrombosis, if we take no account of possible similar, simultaneous closure of other arteries of the brain. We have but to remember how closely related are the nuclei of the two optic nerves, in the *corpora quadrigemina*, to see how easily double impairment of vision may result, at least for a time, from a cause sufficient to engender hemiplegia.

In regard to dementia, which only one of his physicians asserted that he had (Dr. Benkendorf), it is difficult for the practiced alienist, accustomed to observe the phenomena and progress of this profound form of mental disorder, to conceive how a patient could have really been demented in June, in consequence of a cerebral vascular lesion grave enough to cause hemiplegia, paraplegia, confusion of vision and aphasia, and yet, be so recovered by the next following November, as to fully appreciate the services he had received from his physician, and go unaccompanied to his office, and settle in an intelligent manner his bill, even though he could not speak.

It was singular that of all the acts testified to by Bevin's brother-in-law and sisters, who were living with him and interested in the success of his suit, none of them should have been observed more than

once or twice during the whole time of his affliction. Many of these acts, had they occurred oftener, would have been explicable otherwise than on the theory of insanity, and all of them, as the testimony gives them in this case, are explainable without invoking the presumption of insanity, though a medical gentleman of practical experience with the insane, for whose opinions I have a high regard, and whom the courts justly recognize as an expert in questions of sanity, thought these acts indicated mental incapacity on the part of Bevin. Another medical gentleman of large practical experience with the insane, no less eminent in psychiatry before the courts and in my own esteem, concurred with me in the opinion that these acts occurring before the signing of the deed—some of them, as the bowing to pictures, etc., within a month or two—did not indicate sufficient mental impairment to disqualify him for a full appreciation of the nature, quality and purport of the transaction.

In this case, I think, there was undoubted mental impairment to the extent at least of a crippled power of expression. There was impairment of executive mental power to such a degree as to incapacitate the individual from profitably engaging in the pursuit of his avocation, after he had finished up the business which occupied him before his affliction. Mr. Bevin seemed himself cognizant of this fact, and conducted himself after his affliction strictly in harmony with his surroundings, and does so still. He learned to write his name with his left hand, attached his signature to an important document, as it was necessary for him to do in order to complete the undertaking he had been engaged in, and after that signed no more documents, nor attended in person to any business, but relied on the proxy of his next friend.

Let us look at his acts and see how far they tend to establish insanity. In the first place they are *limited in number, not a single habitual action* appears in his history that is at all singular. He defecates *once* in his bed *at the time it is testified by his family physician that he is paraplegic.* This was more likely an accident due to his paralyzed condition at a time when no one was present to assist him than the result of mania. No one was present at the time it occurred. Maniacs have often filthy *habits.* Accidental occurrences of this kind are seldom, if ever, observed. The *spitting in his plate once or twice* before he had learned to so co-ordinate the muscles of oral expulsion, or to adapt his position at the table to the changed circumstances of disease, was due to the facial paralysis rather than insanity.

Then as to his irritability. Recovering paralytics are known to be irritable, and not very reasonable at all times when irritated. They can not make their many wants understood, and while they understand themselves well, can not well understand why those about them do not comprehend their gestures and grimaces more readily. That he should once strike his mother, under such circumstances, does not then appear as an act of insanity. He was at that time an irritable, childish paralytic, but gradually improved, and never struck her again. He would not have struck her after he had sufficiently recovered to write his name with his left hand. He never attempted to strike anyone then.

In regard to the *bowing to pictures* which he had not seen since he was stricken and carried to his bedroom a helpless paralytic, it would have been more singular if he had not, when taken into the parlor, the first time since his affliction, have sought to indicate in some way to his friends that he recognized the objects about him. This act showed an appreciation of his

condition not common to insane people, and a desire to impress the fact of his mental improvement upon those about him, just as did the frequent calling for paper or slate and pencil, writing his name, and showing them to visitors with manifestations of pleasure on his countenance, even though "his smile looked silly." If he smiled at all it must have been a silly looking smile, by reason of his physical facial disability. How could a hemiplegic face put on a beautiful or intelligent looking smile? If, smiling, or in mental repose, his face had even habitually shown the *risus sardonicus*, this would not have proven him mad.

The motive for the making of grimaces before the glass, and pulling out his hair once or twice, does not appear in the testimony; nor does it appear that he had no motive. A desire to discover to himself the degree of muscular facial paralysis would not have unreasonably led him to view himself thus in a mirror, and move the muscles of his face, and chagrin at the disagreeable revelations reflected, might lead, without the concurrence of insanity, to the pulling out of some hair. It does not appear that he pulled out much hair, or that he often repeated the operation. I have seen the insane pluck out every hair of the head, and repeat the process, allowing no single hair to remain. It is unusual for an insane person to pull once or twice at his hair and never repeat the operation. It is not common for an insane person to go to a mirror for the purpose of plucking out the hair, and going to a mirror for the purpose of making grimaces is certainly an anomaly among the insane. There is too much of rational motive in it. It is too much like desiring to see how it looks. And this was Bevin's motive. He wanted to see how he looked, and what muscles of his face were still paralyzed. This would be only a rational proceeding on the part of any man convalescing from a para-

lytic stroke, which had involved, and still to some extent, implicated his face. It is possible that insane persons, under the dominion of a delusion, might go before a glass and pull at their hair, though not usual, but no delusion appears in this case, in this connection, or in any other relation. I have seen my own son study the play of his facial muscles, and when I was a student of anatomy I did the same thing, before a mirror too.

The circumstances connected with wiping of the nose on the napkin or table-cloth do not appear. He wiped his nose once or twice. It was not shown that he had a pocket-handkerchief, or that he had never used his napkin in lieu of a handkerchief before his affliction, or that he did not do it to annoy, rebuke and chagrin those who should have given him a handkerchief.

Laying aside the reasonable presumption made by one of the attorneys, that the testimony to the outrageous and indecorous acts detailed, was the prejudiced evidence of interested relatives, enjoying the benefit of the property placed in jeopardy by the suit, I did not believe this man to be *non compos mentis* for the transaction in which he was concerned, because—

First. The paralysis alone was sufficient to account for most of his acts, his improvement and gradual recovery for the remainder; he being now sound in mind and able to go about with no affliction save the aphasia.

Second. Because the lesion was one involving but a portion of one hemisphere of the brain. Atrophy or destruction of a whole hemisphere, especially if gradually brought about, not even necessitating mental disease, the sound hemisphere being capable of vicariously supplementing the one diseased, in the performance of the mental functions.

Third. The grey matter, even on the affected side, seems not to have been greatly involved, as shown in

the *absence of incoherence, delirium, delusion, illusion or hallucination*, during the whole progress of the case, and retention of memory, and ability to learn, *for a purpose*, to write his own name, in a few months after the stroke, with his left hand.

Fourth. With the absence of incoherence, delirium, delusion, etc., there was marked involvement of the face and extremities, absence of muscular twitchings in the limbs, and of rigidity of the neck and other parts of the body, which usually accompany paralytic lesions involving also the *cortex cerebri*. The lesion was mainly an obstruction of the left middle cerebral artery at the base of the brain, as revealed by the *aphasia* and gradual coming on of the paralytic attack.

Fifth. The nature of the lesion with the part of the brain mainly implicated in this case, is one from which persistent intellectual aberration seldom results; the equilibrium of the disturbed cerebral circulation being soon re-established, even when the circle of Willis is obstructed, instead of one of its branches, as in the case before us; and—

Lastly. For a reason which some may not deem of any weight, namely, because that portion of the brain which has to do, in all probability, with the highest intellection, is the posterior lobes of the cerebrum, and they are not nourished by the artery mainly concerned in the lesion before us; "a conclusion which, however contrary it may be to generally received opinion," to use the language of Charlton Bastian, "has been strengthened by observations made independently in different directions, and by different persons. It seems to agree, moreover, with clinical and pathological evidence," * Dr. Hughlings Jackson and other authorities on the subjects of brain disease agreeing with him.

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* Bastian on Paralysis, from Brain Disease, p. 239.

THE

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