Introduction

A young woman arrived in the small town of Springfield, Massachusetts in early 1833. The people of the town were unaware that her arrival would lead to much excitement and extensive medical speculation (1).

Jane C. Rider, a sixteen-years old girl, had traveled south from Brattleboro, Vermont, in April, and had found employment as a maid in a local household. On June 24, 1833 she had the first of a series of somnambulistic attacks that warranted the calling of a local physician, Dr. Lemuel W. Belden, who became fascinated with her case. In her past history, he learned that she had experienced sleep-walking as a child, and that she had a history of headaches, particularly left-sided. At the age of thirteen, she had had a spell of a few months duration of chorea, or St. Vitus Dance.

Her next attack occurred in September and from thereon the frequency gradually but steadily increased. At first the attacks only occurred at night. Onlookers were impressed to see how she maneuvered through the dark, [or at best the dim light provided so viewers could observe adequately]. She prepared meals, set the table, threaded needles and sewed, all without recollection when she awoke in the morning. Her attacks were associated with an increase in symptoms, especially those of headache and dizziness and an number of others subsumed under the term, dyspepsia. She also showed some heightened intellectual abilities and occasionally some changes in behavior. The former consisted of reciting poetry long since forgotten and singing songs, a capacity she lacked in her normal waking state. She also had paroxysms wherein she would become quite mischievous and revealed a newfound talent to mimic people in their manners and speech.

What really intrigued Belden was her visual hyperacuity. When people started to pay attention to this and to challenge her, her attacks changed in time of occurrence, frequency, and duration. Timing Shifted from night into evening and eventually into daytime. Frequency increased to a peak of two or three a day. Duration tended to be about an hour if she was alone; the length of the attack appeared to correspond to the amount of attention and admiration she received. Dr. Belden started to test her on November 10. In a dim room with her eyes closed she read faintly pencilled notes and other obscure items not visible to onlookers. Two days later, over one hundred people came to see this almost miraculous performance. This attack became the longest, lasting almost three full days. Because of her severe photophobia, she also had adopted the habit of tying a handkerchief over her eyes during the day.
This action did not interfere at all with her ability to see. Dr. Belden was naturally concerned whether her behavior was one of imposture. Everyone spoke well of her character and denied the possibility. Nevertheless, the scientist in him tried to eliminate the chance that she was cheating. He wrapped her eyes in several layers of black silk, padded it with cotton batting and so arranged it that the bandage fitted close to her nose [(which would indicate that he was aware of a nasolabeal peak)]. She continued to see without difficulty and made no attempt to open her eyes. Nor was there any sign that she tried to tilt her head in a special angle. Instead, she saw and read with objects being directly in what would be assumed to be her line of vision. Her marvelous vision seemed firmly established and no evidence emerged which would indicate that she was attempting a deception. How then could Dr. Belden hope to explain what he had observed?

Belden's Explanation

As marvelous as her special capabilities were, there is no evidence that Belden wanted to define them as miraculous. He denied that she could read cards through their backs, but he did submit that once while she was washing herself in the presence of women only, and with her back to the door, that she complained when a young boy entered the room and called him by name. Although Belden reported these actions, he indulged in no speculative discussions suggesting that it could represent a supernatural phenomena. Instead, he saw it as a natural occurrence albeit a product of a diseased state.

Belden briefly brought up also the possible knowledge to be obtained from animal magnetism or mesmerism. Although expressing considerable scepticism, he nonetheless admitted that there might be « increased activity of some of the intellectual or perceptive faculties » through the various organs in the brain (2). He doubted that people could learn without the senses as in reading a sealed envelope by placing it on the pit of the stomach thus indicating a knowledge of French literature that had been produced since the arrival of Mesmer in 1778. The 1810s had brought about a revival of interest in experimentation with hypnotized subjects which led to the more favorable commission report of 1831. It is doubtful that Belden knew much of the details of this report. He obviously had heard of the woman who could read with her belly. But whether he had heard of other transpositions of the senses, mental telepathy, seeing through solid objects, eyeless vision, traveling clairvoyance and medical clairvoyance, is doubtful. A sober review of these matters was presented by Alexandre Bertrand in his books of 1823 and 1826 on somnambulism wherein he rejected a number of these items, but still accepted thought transference (3).

When Belden spoke of separate cerebral organs, he was reflecting two other trends associated with the French scene, that of the emphasis on local pathology in medicine and localized brain physiology as illustrated by the phrenological movement. The founder of phrenology, Franz Joseph Gall, although originally from Vienna, had spent most of his years from the turn of the century in France and had died there in 1826. Gall's main disciple and associate was Johann Gasper Spurzheim who had come to Boston in 1832 for a lecture tour, but who died of an acute infection several months later. Belden knew of Spurzheim and may have seen some of his books which had been published in Boston. Following the phrenologists, Belden wrote : « ... there must be, it appears to me, a change in the brain itself — an excited state of the organ, in consequence of which perception, [so far at least, as relates to this order of impressions,] is effected more readily than usual. In this way we can conceive that it would be possible for even a confused image to be perceived. »
Nor is this a mere supposition, entirely unsupported by evidence. There was certainly some change, in consequence of which Jane was able to recall past impressions with an extraordinary degree of distinctness. The power of perceiving the relation of sounds which constitute tune, was also developed, so that she could sing with a considerable degree of correctness. These facts show conclusively that some relations were perceived with a vigor and distinctness altogether unusual. Why not, therefore, admit that the same change extended to that function of the brain by which the mind perceives impressions transmitted from the retina? — or, in the language of phrenologists, that the organ of color was excited equally with that of tune? (4) [Similar points were made by Dr. Samuel B. Woodward in a letter to Belden. Woodward was not unusual in that most American psychiatrists for the fifteen years following the visit of Spurzheim showed varying degrees of dependence on phrenological theories (5).]

Belden pointed out that the mental faculties affected in Jane's paroxysms were those that the phrenologists located in the area of her greatest head pain. This was on the left side about half way from the lateral corner of her eye and the very central portion of the top of her head. According to the phrenologists, the general area from the spot downward to the eye not only contained the faculty of « marvelousness » [(a term that Spurzheim preferred to « supernaturality » or to George Combe's « wonder »)], but also included tune, time, wit, and imitation (6). These were intellectual faculties which were heightened in Jane; [her propensities (basic drives) and sentiments (emotions) did not seem to be involved]. Belden did not accept phrenology as a total explanation, but he said he was impressed that Jane's case suggested the existence of separate organs in the brain to explain the manifestations of her mind.

Belden buttressed his view that certain normal physiological capacities could be augmented by citing the medical literature in support of his position. First of all there were a series of cases in which patients who suffered from varying types of febrile diseases would suddenly start speaking a foreign language they had long forgotten, or even more bizarre, one they never realized they knew. [These cases were taken from the accounts of the British psychiatrist and anthropologist, James Cowles Prichard, and the American, Benjamin Rush, among various other sources.] Belden also mentioned two cases well known in the American popular literature of the time. One was Zerah Colburn who had been a calculating marvel at an early age though apparently untrained and undistinguished in his other abilities (7). The other was the Nuremberg case of Caspar Hauser reported in 1832, who seemed more immediately pertinent to the puzzle of Jane's case because he had an intense augmentation of a number of perceptual faculties (8). The most unusual was his ability to sense by means of a special feeling of attraction the differences between such metals as gold from silver, steel or brass. In addition, he suffered from hyperacuity of the senses of taste, smell, hearing, and vision. The first two ultimately bothered him the most; his acute sense of taste limited his diet almost entirely to bread and water, while his sense of smell was such that he dreaded going anywhere. The odor from a single rose would overwhelm him, for example. His hearing was very sharp. His vision was characterized by two exceptional abilities, to see clearly at great distances and to be able to see in the dark. At times his vision seemed telescopic. Take, for example, the time at the end of twilight that he thought he saw a rat caught in a spider web some sixty paces away. When checked he turned out to be correct. When night came he was still able to walk nimbly and confidently through the darkest places as if in daylight. Tests of color vision in the dark showed that he could tell blue from green without any difficulty. Obviously, he had a superb visual ability very similar to that of Jane's. How did Dr. Belden explain this?
Belden did so by speculating that there must be changes in two organ systems of the body, that of the eyes themselves and the associated brain structures. He concluded that Jane C. Rider indeed had an « extraordinary power of vision » and that she actually was able to see in spite of darkness and bandages over her eyes. He did so strictly on a naturalistic basis.

It was an « ... increased sensibility of the retina » that Belden thought affected Jane. She would keep her eyes closed at night and during the day added a bandage to protect herself. All this evidence signified a retinal augmentation which enabled Jane to see when most people only saw darkness. In addition, darkness in everyday terms is a relative concept. Many animals, birds, and insects appear to see quite adequately when man finds it impossibly dark. For Belden further evidence followed from the analogy of heat to light. As heat never seems to be absent from physical bodies, he reasoned accordingly that light was never really absent even when it seemed very dark to the human eye. Belden explained Jane's ability to see through layers of bandages was due to a certain amount of light getting through. She would not be able to see through absolutely opaque objects such as a board or into a watch case. There was still the problem of explaining the production of detailed images. Belden believed that this was possible by the brain developing an increased sensitivity to the peripheral perceptual impulses received and thereby creating an image. He cited her vivid memory for forgotten poetry and her new found capacity for carrying a tune as analogous evidence that her brain organs were functioning at a higher level.

To support his view, Belden returned to the vase of Zerah Colburn. The physician who saw Zerah Colburn concluded that he had « a peculiar nervous disease ». [Belden had spoken to Colburn personally the year before. At that time, he had lost his marvelous calculating ability, and Belden might have argued that Colburn had recovered.] Belden said that Jane had suffered from a similar nervous disorder (probably referring to her chorea). He responded to comments in the newspapers that her disease was in the stomach by admitting that it was true that the stomach played an important role by having a sympathetic effect on the brain. This could happen to such a degree that the brain would not be the primarily affected organ, but in Jane's case he believed the brain disorder was the predisposing cause.

Conclusion

What happened to Jane C. Rider? When Dr. Belden realized she was getting more excited, he arranged for her admission early in December 1833 to the recently founded Worcester State Lunatic Hospital through the assistance of his friend and former mentor, Dr. Samuel B. Woodward, the superintendent. With a program restricting visitors, reducing all kinds of stimulation, controlling her diet plus various medical treatments including laudanum, Jane gradually but unevenly improved. She lost her visual acuity within two weeks, but was not discharged until April 4, 1834, still not completely well. She returned to Springfield for ten days and then returned home to Brattleboro where we lose track of her. Although she was discussed in at least four books in the next decade, no new information was presented.

For whatever the reason, American cases of trancelike states reported before 1840 were on the whole less spectacular and less fully developed than those reported in Europe and especially in France. Perhaps the most complete case history was that of Mary Reynolds who demonstrated a double consciousness, [or personality,] with complete mutual amnesia. Of our somnambulistic cases, Rachel Baker showed a greatly heightened intellectual capacity revealed by her preaching...
during sleep. The remaining two illustrated a perceptual virtuosity; Nancy Hazard through her synesthesia which allowed her to tell colors through her sense of touch, and Jane C. Rider through her visual feats. It was only after the 1835-1836 poselytizing activities for mesmerism by the French physician, Dr. Charles Poyen, that an increasing enthusiasm for magnetic phenomena revealed, or made possible, the occurrence of more complete and complicated cases that paralleled those of Europe.

FOOTNOTES


(2) *Boston Med.*, p. 84.


