and to join with his daughter, Mme. le Dr. Sorrel-Dejerine, in laying a wreath on his grave.

EDWIN G. ZARRISKIE

References


AMAND DUCHENNE (1806–1875)

Duchenne de Boulogne was one of the greatest clinicians of the nineteenth century. No better proof of this exists than Charcot’s statement that Duchenne was his master.

Duchenne was descended from a family of fishermen, traders and sea captains who had resided in Boulogne-sur-Mer since the beginning of the eighteenth century; his character, mind, and physical features were said to bear the stamp of the Boulognese.

According to his biographer, the "thickset, active, and vivacious" Duchenne was a fine athlete who played tennis, swimming, and polo. As a young man, he distinguished himself as a student and took a particular interest in the study of anatomy. According to his contemporaries, he was a man of exceptional intelligence and quick wit, with a talent for making people laugh. Duchenne's contributions to the field of neurology were significant, and his work continues to be studied and admired today.
Guillaume Benjamin Amand Duchenne

A...d to Lasègue and Straus, he was "of medium height, thickset, active in movement and slow in speech," with a faint provincial accent, and he closely resembled his father who had received the Croix de la Légion d’Honneur from Napoleon for valor as a sea captain in the French-English wars.

Duchenne was educated at a local collège, at Douai, before moving on to Paris for his medical education when he was twenty-one.

Photo courtesy of Dr. Maurice Genty, Académie de Médecine, Paris, France
Upon returning to Boulogne five years later he entered the practice of his profession; but after eleven years of insufficient scope for his interests he removed himself again to Paris, where, from the age of thirty-six, he lived for the remainder of his life.

Having lost his wife in childbirth a few years after his marriage and being alienated from his only son by his wife's family, he arrived in Paris alone, without funds, and set to work in charity clinics and hospitals. He gained his livelihood from private practice, which presumably became adequate to supply his limited needs. He seemed to live only for his patients and his scholarship. At no time was he offered, nor did he ever seek, an official hospital or university appointment. At first he had to endure humiliations and even contempt by some of the established physicians—the "monarchs" of the wards, as he called them. But as the years passed, his extraordinary skill in analyzing clinical problems became recognized, and his fame was spread by two famous friends: Trousseau and Charcot.

Duchenne's habitual routine was to visit each morning one or two hospitals, "avec sa pile et sa bobine," as they apostrophied, his electrical gadget. Nothing escaped his searching eye; he sought ways of testing every nervous function; his patience was extreme. If any students or staff members were interested he gave freely of his own technical experience and was ready to offer his interpretation of the case. Through his entire career he went his own way, persevering in the face of obstacles, single-minded in seeking discovery of new facts about nervous disease, never satisfied with his own knowledge. His profuse descriptions seem a little tenuous now, but his utterances were said to have had a sharp emphasis; their quaint delivery was always appealing, and the final explosive "bon !" became a byword. Later in life he turned from the clinic to pathological anatomy after he had gained some familiarity with the microscope under the guidance of Charcot.

In taking stock of Duchenne's major achievements, it may be said that he more than any other person of his day was responsible for developing the technique of the meticulous neurological examination. He had discovered that electrical stimulation would cause muscles to reveal their individual role in willed movement, and although he first seized upon this as a therapeutic method, he later used it as a diagnostic tool, which the modern neurologist still employs in probing for the nature of disease as it affects the nervous system.

The latter part of Duchenne's life was filled with the study of new diseases, still poorly understood in an age before the advent of antibiotics. He died of tabetic locomotor ataxia, and his work on "paralytic" disease, "disease of the muscles," was of great interest to his contemporaries. He discovered the "tissue" of the nerves, and his work on the structure of nerves and muscles was of great importance in the development of neurology as a science. His work on the nervous system and its diseases is still of great importance to modern neurologists.
latter used it as a diagnostic tool for studying the natural motion of every muscle. Diseases were divided into two categories: those in which the muscle had degenerated and did not respond at all, or only in proportion to the residual muscle fibers, and those in which they still did because the innervation was recently interrupted. Duchenne's detailed methodology attracted the attention of men like Charcot, who sought reliable clinical observations and related anatomical data. No doubt Duchenne's lack of official attachment to any hospital gave him time to pursue his clinical studies. Part of his vast number of clinical observations went into the analysis of muscle action in health and disease, published as those two masterpieces, *De l'électrisation localisée* ... (which went through three editions) and *La physiologie des mouvements*.

These painstaking observations enabled Duchenne to discover new diseases and provide the first accurate descriptions of others still poorly understood. (For the English reader these are condensed in an excellent translation by Poore.) His delineation of tabetic locomotor ataxia, which he clearly distinguished from the Friedreich form of locomotor ataxia, was the first clear account of this late complication of syphilis. By a series of observations and deductions he proved that acute poliomyelitis (previously called "paralysie essentielle de l'enfance," localization unknown) was a disease of motor nerve cells in the spinal cord. He also clarified the various forms of lead poisoning and revealed their electrical reactions. A new entity known as progressive muscular atrophy, examples of which François Amilcar Aran published in 1850 with full acknowledgement of Duchenne's help, was another major contribution. It was but a further step for him to identify progressive bulbar paralysis to which he led Louis Duménil and Wachsmuth. The latter made it known as Duchenne's disease. Pseudohypertrophic muscle dystrophy was identified as a primary muscle disease. Lacking postmortem material, his inventive mind hit upon the "tissue punch," or "histological harpoon." This biopsy procedure, possibly the first, excited a heated polemic in the lay press as to the morality of examining the living tissues of the body. In the laboratory he developed an improved technique for the sectioning of tissues, well in advance of the microtome.

Although Duchenne was given no official recognition by the
Académie de Médecine and the Institut de France, he was made honorary or corresponding member of academies in Rome, Madrid, Stockholm, St. Petersburg, Geneva and Leipzig, to his great satisfaction. The reunion with his estranged son, who took up neurology in Paris in 1862, was a joy soon to be matched from him when in 1871 the young man's promising career was cut short by death from typhoid fever; the famous monograph on poliomyelitis his son wrote was incorporated in the third edition of De l'électrisation...13 Alone once more, with failing health, he courageously pursued his studies until a cerebral hemorrhage claimed him in 1875.

In the Salpêtrière an unpretentious bas-relief depicts a doctor leaning over a patient to whom he applies the electrodes of a simple electrical generator. Above it, the monument bears a plaque saying

1806-1875

"A. Duchenne (de Boulogne)

Electrisation Localisée"

Physiologie des Mouvements

Neuropathologie

BOSTON, MASSACHUSETTS

RAYMOND D. ADAMS

References
