Journal of Neurology, Neurosurgery, and Psychiatry. Special Supplement 1989:11–12

Did Parkinsonism occur before 1817?

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James Parkinson's clinical acumen and priority in drawing attention to the distinctive features of an illness that was to give him enduring, internationally recognised eponymous distinction (alas posthumously) is unquestioned even though it was not until 1884 that Charcot gave his authoritative acknowledgement.[1] Yet the question has often been posed, particularly by epdiemiologists and those currently concerned with possible causative environmental neurotoxins, whether the illness occurred in earlier times. While it is difficult to be sure whether the constellation of motor deficits we now call Parkinson's disease was identical in aetiology, clinical and epidemiological features to that observed in the nineteenth century, it is even more taxing to look back into more remote medical and historical records and form a notion whether the disease had been truly observed in the past. Such retrospective difficulties apply to most other degenerative neurological disorders. Thus, considering multiple sclerosis, seminal neuropathological observations can be traced to the early nineteenth century[2 3] and as Gowers wrote in 1888 "Our knowledge of the affection is recent. Lesions have indeed long since figured by Cruveilhier and Carswell, but not generally recognised until re-investigation by Vulpian and by Charcot and his pupils and described by Charcot in his lectures".[4] Similar circumstances influenced the recognition of motor neuron disease. In 1850 Aran[5] first drew attention to the neuropathology, Duchenne (1853)[6] clarified the illness from others and his contributions only later became widely known through the lectures of Trousseau. It seems improbable that these two illnesses first appeared in the nineteenth century and more likely that recognition was due to increasingly sophisticated clinical and neuropathological methods of assessment and classification. If this point is conceded it seems legitimate to assume that comparable factors applied to awareness of Parkinson's disease; perhaps it was formally recognised a little earlier than multiple sclerosis and motor neuron disease because its features were more conspicuous—and also, of course, because of James Parkinson's clinical perspicacity. There are however, a few earlier observations, frustratingly brief, that suggest that the illness had been noted in earlier times. Some of these will be retrospectively and briefly considered.

In 1776 Johannes Baptiste Sagar (1732–1813)[7] in his treatise "An Adriadne's Thread for Students of the Sick" included the following remarks: "*In Vienna, I saw a man above the age of fifty who was running involuntarily, being also incapable of keeping direction so as to avoid obstacles; in addition he suffered from ptyalism*"—a succinct description of festination, inco-ordination of gait and hypersalivation. Parkinson, in his Essay, generously referred to previous authors. Among these he quoted Boissier de Sauvages who established nosological clinical systems and who in the first volume of his classification of diseases (1768) included a section on compulsive tremor: "*In this condition the shaking limbs jump even when they are being supported, just as if they are being agitated, so that no relaxation is possible at all*". Although the latter observation is compatible with rigidity, recognition of rigidity is usually attributed to Charcot (1869 & 1877); for scholarly discussion of his possible antecedents the reader's attention is drawn to a review by Schiller (1986);[8] de Sauvages may have priority. His explanation of the phenomenon—"*A disordered influx of nervous fluid into the controlling muscles*"—considering prevailing and subsequent notions may not have been so unreasonable a speculation.

Ten years earlier Gaubius (1758)[9] gave a clear description of tremor, speech disturbance and festination: "*There is also a condition whereby muscles, set in motion quite normally by an act of will, then accelerate their movements with unbidden agility and impetus without any constraint over their own motion, anticipating the mind against its will. This defect, common in muscles controlling speech, may occur elsewhere. I myself have seen someone who is able to run, but not walk*". Parkinson also quoted Sylvius de la Böe (1680):[10] "*Tremors were distinguished by Junker into Active, those proceeding from sudden affections of the mind, as terror, anger &c. and Passive, dependent on debilitating causes such as advanced age, palsy &c*" But a much more satisfactory and useful distinction is made by Sylvius de la Böe into those tremors which are produced by attempts at voluntary motion, and those which occur while the body is at rest."

Among those artists, painters and engravers who excelled in observation, there are several who may have portrayed the shaking palsy. Thus it has been suggested (Longhi,[11] 1830) that the innkeeper in

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Accepted January 1989

Rembrandt's sketch "The Good Samaritan" of 1630 is "*in an attitude which can only be found in one who has constant tremor so that . . . he really seems to shake*". Leonardo da Vinci had a lifelong preoccupation with movement and thought deeply about the nervous system stating that "*forces produced by the lessening and contraction of the muscles which draw back and by the nerves which reach as far as the stimulus communicated by the hollow nerve dictates*". He located the highest control centre within the third ventricle of the brain and when this was cut off from the motor nerves, they may "act on their own". Leonardo clearly recognised involuntary movements and proposed a mechanism: "*how nerves sometimes operate by themselves without any command from other functioning parts or the soul. This is clearly apparent for you will see paralytics and those who are shivering and benumbed by cold move their trembling parts, such as their heads or hands without permission of the soul; which soul with all its forces cannot prevent these parts from trembling*". It is difficult to date accurately this observation but it is clearly noted in mirror script on an anatomical drawing in the collection of H.M. the Queen at Windsor Castle.[12] Thus it seems likely that between 1489 and 1506 Leonardo had not only seen the shaking palsy, but had speculated with uncanny insight on its pathophysiology.

Throughout the Middle Ages medicine continued to be dominated by the writings of Galen (129–199).[13] Son of an architect-mathematician born in Pergamon, he studied in Alexandria and as a young man must have listened to lectures from the principal schools—Platonic, Stoic and Epicurean. He later became court physician to Marcus Aurelius Antoninus. After Hippocrates, Galen was the most influential physician in antiquity and in his compendious writings there are many references to tremor: "*It is the impairment of the free exercise of one's faculties . . . it is an unfortunate condition in which movement is unstable and not under one's own control. . . .*" and among the causes he lists "*mental distress, fear, muscular incapacity, mental depression*". Galen also clearly recognised gait disorder and refers to scelotybre (literally troubled limbs) "*a kind of paralysis which prevents people walking straight by mixing up the sides, exchanging left for right and right for left, failing to lift the foot and pulling it back instead, like those who walk up a steep incline*". Had Galen seen festinating Parkinsonism?

Oft quoted is the Old Testament (Ecclesiastes 12:3) where the present situation of the young is compared with their likely predicament when old: "*In the day when the keepers of the house shall tremble*". For possible even earlier sources and incunabula one may turn to ancient Egypt and India. Professor H. Smith, Emeritus Professor of Egyptology at University College London, has drawn my attention to an Egyptian papyrus of the nineteenth dynasty (c1350–1200 BC) describing a king: "*A divine old age had slackened his mouth. He cast his spittle upon the ground and spat it out*". Was this Parkinsonian dribbling? In the library of the Hindu University in the Holy City of Benares on the banks of the Ganges, among the Sanskrit texts in Ayurvedic medicine may be found the Charakasamhita. This was compiled by Agnivesha (c2500 BC) and re-edited in the second century BC. Chapter 20 entitled Vepathu contains a detailed description of different patterns of tremor some of which are associated with one of the Vatas or palsies. Thus observers in 2500 BC appear to have been familiar with the shaking palsy.[14]

Fragmentary glimpses into the past in no way detract from James Parkinson's unique contribution to clinical neurology, but if it is accepted that the illness has been observed and recorded from time immemorial, those who are concerned with the enigmatic causes of Parkinson's disease might profitably consider the true natural history of the malady. Santayana put it more succinctly "*Those who cannot remember the past are condemned to repeat it*".

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