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to meet a man whose work he so admired. But Bertillon was undoubtedly a difficult man, touchy and aggressive, and this, with Holmes's mild jealousy, may account for there being no published record of such a meeting. It has also been suggested that Holmes was involved in the notorious Dreyfus case which split French society in the 1890s. This idea has been given fictional form in *Prisoner of the* Devil (Proteus Press, 1979), a narrative written as though by Watson, but published under the name of its true author, Michael Hardwick. In this story, Holmes rather implausibly attempts to rescue Alfred Dreyfus from Devil's Island, where he was imprisoned following his false conviction, but is frustrated by brother Mycroft. Whether the author of this tale had any real facts on which to base it one does not know. However, whether Holmes investigated it or not, he could hardly have failed to form an opinion on the most controversial case of the day, and he must have seen at once that the original conviction of Dreyfus was utterly unjustified. That conviction rested on the evidence of a small piece of handwriting, on which Bertillon's opinion was sought. Unfortunately, Bertillon committed himself to the wrong side, and could never bring himself later to admit the error. If he and Holmes had been acquainted, this would no doubt have caused a rift.

Although Galton was so much the senior of the trio, he and Bertillon died within three years of each other. Holmes, as we know, retired contentedly to those evergreen Sussex downs where he still dwells. Perhaps these few notes help to demonstrate his role, with two other Victorian geniuses, in the development of scientific detection.

Sherlock Holmes and the World Medical Literature 1966 Onwards

PART 2: 1982 TO DATE

by JOHN S. GILBODY

1982

In 1982, Fitzgerald and Tierney published one of many such articles on the application of Holmesian methods to medical diagnostics (see 1989, 1991 and 1992 sections). The other major medical article this year about Holmes was by Caplan, and concerned the four stories in the Canon not narrated by Watson. Caplan remarked on how two of the stories (Maza and Last) were told by an unidentified narrator because the plot depended on the knowledge of the reader (but not Holmes or Watson) of a conversation that took place between two villains. The two stories narrated by Holmes (Blan and Lion) demanded Watson's absence as they involved essentially medical puzzles; Caplan expanded on these in a further article in 1983 (see below). In addition, Caplan outlined similarities he saw between the methods of Holmes and of dermatologists: extremely close examination, often with magnification; occasional use of special laboratory examination; relatively brief interview utilising trenchant questions; ability to make inferences from even limited observation; and delight at the sensory details, often cutaneous or at least external. This is probably the best evidence put forward for a specific association between Holmes and dermatology.

1983

In the two stories in the Canon narrated by Holmes

(Blan and Lion), Caplan proposed that Watson's absence was necessary as the final elucidation required skill in dermatological diagnosis, such that the presence of a medic would have relieved the dramatic tension of the mystery too soon. In Blan, there is little clinical detail to enable one to follow the detective's thinking process, but this is not so in Lion. The latter case concerned the death of a schoolmaster on a small sheltered area of beach, not far from Holmes's retirement abode in Sussex. The victim exhibited a number of diagnostic skin lesions, with his back 'covered with dark red lines (with) angry weals curved around his shoulders and ribs'. The pain associated with the marks caused the victim to bite through his lips, and, just before death, this 'infernal agony produced a lethal systemic effect in which his breathing would stop for a time'. The victim's dog suffered the same fate on a later visit to the same place.

The cause of death was a giant jellyfish, but Caplan noted how Holmes was sorely taxed in interpreting the lesions, which would have been simple for any dermatologist. Indeed, Holmes said that the problem was 'as strange a one as had ever confronted me', and that 'no (other) case... brought me so completely to the limit of my powers'. Holmes was certainly unfortunate in his limited access to medical counsel during the case, however, as not only was Watson absent, but the story was set in a remote rural

area, and 'the inquest had thrown no light on the matter'. Thanks to the book *Out of Doors* by J. G. Wood (1874), however, Holmes was able to make the correct diagnosis. Interestingly, it was Wood's fancy that the jellyfish resembled a piece from a lion's mane; hence the title of the story.

1984

In Stud, Holmes describes to Watson a new test he has invented for detecting haemoglobin, to replace 'the old guaiacum test (which) was very clumsy and uncertain'. In fact, over a century later, the predominant test for haemoglobin remains based on guaiac and its related compounds. Recently, however, a new test, the HemoQuant assay, was described by Ahlquist and co-workers, which like Holmes's test 'measures haemoglobin and . . . nothing else' with high sensitivity 'whether the blood is old or new'. As a mark of respect to Holmes, these workers proposed calling it the Sherlock Holmes test!

1985

In an article on Resi, Massey and Massey considered associations of the story with contemporary Victorian life. They suggested that Dr Percy Trevelyan in the story was a combination of the real-life figures Frederick Treves—best known for having brought to light the Elephant Man—and Dr Hughlings Jackson, arguably the father of English neurology. Consider these analogies: in the story, Dr Trevelyan was an author on 'obscure nervous lesions'. Treves described a case of congenital deformity, an obscure form of nerve lesion. Dr Trevelyan's research into the pathology of catalepsy won him the Bruce Pinkerton prize and medal. Treves won the Jacksonian prize of the Royal College of Surgeons. Both had difficulties with capital in starting up their practices, and both had brilliant careers. Concerning the link with Dr Hughlings Jackson, Jackson was an authority on epilepsy (Jacksonian fits) and catalepsy, as was Dr Trevelyan in the story. It is perhaps no coincidence that Dr Conan Doyle had worked at the London Hospital with both Treves and Jackson.

Further background material on Resi may be found in a 1992 paper by Howard and Willison in the SHJ, which presented some fascinating historical details regarding catalepsy, and the career of the distinguished Victorian neurologist Sir William Gowers. The authors proposed that Gowers may have been the model for Dr Trevelyan, on the basis of Doyle's likely knowledge of Gowers' work, and the possibility that Doyle may have attended a teaching session by Gowers, but, though elegantly presented, their evidence does not seem to be as convincing as that given by Massey and Massey. On a smaller point of interest regarding Resi, Howard Brody has discussed what led Trevelyan to use amyl nitrite to treat catalepsy; a rather unexpected treatment (Baker Street Journal, December 1976).

Returning to 1985 publications, Miller contributed

to the corpus on how Holmesian deduction may be applied to medical diagnostics (see 1989, 1991 and 1992 sections), and, though not mentioned in the Medline database, Denis Smith published an interesting article in the *SHJ* concerning amongst other things a possible medical connection between Card and Yell, namely Cushing's syndrome, a condition resulting from the over-secretion of corticosteroid hormones. Smith noted how the surname of the three sisters in Card was Cushing, and how in Yell Grant Munro beheld a 'shockingly unnatural' face from the upstairs window of a cottage; one effect of Cushing's syndrome is to produce a 'Moon face' by altering body fat distribution.

As the two stories were published consecutively, Smith proposed that a single article about the syndrome in a medical journal may have inspired Doyle with a family name for one story, and the starting point for the plot of another. This theory is credible (albeit at its bounds!) until one considers that Harvey Williams Cushing did not describe his syndrome until after the two stories had been published. Nevertheless, could it be that Sir Arthur predated Cushing in the same way as he did Marfan (see 1975 section)?

1987

In the Spring, Richard Caplan published an article on 'brain fever', a condition which occasionally crops up in the Canon, for example affecting Percy Phelps in Nava. I have always thought brain fever to be a rather nebulous and medically doubtful diagnosis, and it is amusing to consider that Doyle himself once described the condition as one which 'always attacks' the heroine after a crisis, but which is unknown under that name to the textbooks'. Certainly, Caplan was unable to track down the condition in any of the medical textbooks until he came to an 1847 work by Gunn with the pleasant title 'Domestic Medicine, or Poor Man's Friend in the Hours of Affliction, Pain and Sickness', which described 'nervous fever' as a condition which 'affects the whole nervous system and produces a tremulous motion of the body and limbs'. These and other descriptions in the book seemed to confirm that Percy Phelps in Nava did indeed suffer from brain fever. Caplan concluded his article with a description of two letters written about Phelps, which he found in a collection of material originally belonging to the great Victorian surgeon Jonathan Hutchinson, and which are now held at The Johns Hopkins Medical School in the United States. The first letter was written to Hutchinson by a Dr E. Propter Hoak, asking for help with the treatment of Phelps, and the second written again by Hoak (or Hoaks?) to Holmes himself, dated 1 February 1890. The latter letter read as follows:

"Dear Mr Sherlock Holmes,

This letter is sent you in my role as physician unto Mr Percy Phelps, who has been under my

care these past eight months. We need your help, sir.

I remind you that Mr Phelps was just emerging from a most incapacitating bout of brain fever when you visited him at Briarbrae. He enjoyed a spectacular sudden recovery after that. . . . I seek your aid not only because of your renown at solving arcane puzzles, but because in some strange way you seem to be a factor in his agonies. (In) each dream that awakens him . . . he is seated at a table, a covered platter is set before him, the lid is raised disclosing a scroll of paper, which, when lifted, reveals *your face* smiling at him from the bottom of the platter. . . Awaiting your earnest reply, I remain, sir,

Yours earnestly, E. Propter Hoak, M.B."

Also in 1987, Ehrenkranz published an article considering the appeal of the Canon to those interested in tropical infectious diseases. He concentrated on the story Dyin, pointing out how the character Dr Ainstree, described as 'the greatest living authority on tropical disease', seemed to be a clear reference to Patrick Manson, the author of numerous famous textbooks, and discoverer of the arthropod vector of filariasis. He moved on to discuss the nature of the infectious murder weapon in Dyin, and considered Yersinia pestis, which produces death by primary septicaemic plague, to be the most likely. Despite pointing out that plague would be unlikely to follow transcutaneous injection, as happened in Dyin, he recalled how it had successfully been used as a murder weapon in this way, by means of a jab in the upper arm, on a railway platofrm in Calcutta in 1933. He proposed that the Calcuttan murder had been achieved not only by plague, but also by plagiary!

In another article published in 1987, Cherington proposed that Sherlock Holmes was, in spirit, a neurologist. In support of this view, it is well known that Doyle had ambitions in neurology, and wrote a treatise on his completion of medical school on a major neurologic condition, tabes dorsalis. In addition, a large number of the medical conditions mentioned in the Canon are neurological. Concerning one of these conditions, Brill wrote a letter to the journal Neurology criticising Cherington's (and Doyle's) diagnosis of St Vitus' dance in Gree, and proposing Gilles de la Tourette's syndrome as an alternative. Tourette's original description of this syndrome was made in 1885, whereas Gree was not published until September 1893. Nevertheless, after reading a number of books written by Sir Arthur, Brill concluded that Doyle was not familiar with Tourette's work.

1988

Maltby published an article in the Canadian Journal of Anaesthesia on anaesthetic aspects of the Canon; he noted how chloroform was the only general anaesthetic to be used with criminal intent in the Canon—

in 3Gab, Last and Lady—and how Dr Watson's use of injected ether to resuscitate Lady Frances Carfax in Lady was puzzling, as she was already deeply anaesthetised with chloroform, such that adding ether would make the situation worse. Nevertheless, this was standard medical practice at the time. Opium was used for sedation and/or abduction in Silv and Wist, and also appeared in Twis and Sign. Morphine was administered by hypodermic injection in Cree and Illu, and curare was used as a murder weapon in Suss.

In August, Henry Rollin published a fascinating article in the British Journal of Psychiatry on the psychological make-up of Holmes. He noted how Holmes, as described by Watson, seemed to be an austere, solitary, self-driving individual, apparently incapable of any conventional human emotional expression, as indicated by his aversion to women and disinclination to form new relationships. Some authors have proposed that Holmes was a homosexual, but Rollin disputed this and considered Holmes more likely to be asexual. Certainly, this would fit in with his narcissistic, egocentric nature. One trait not noted by Watson was Holmes's obsessional nature, which Rollin proposed was a symptom of a frank neurosis. This view is supported by Holmes's tendency to bouts of depression, a characteristic of which is psychomotor retardation, so well described by Watson in Musg: "He would lie about with his violin and his books, hardly moving, save from the sofa to the table".

Regarding Holmes's cocaine use, Rollin proposed that, though a user, Holmes was not addicted, and merely used cocaine as a mood elevator. In addition, there is no evidence that Holmes at any time suffered mental or physical deterioration, the inevitable consequence of prolonged cocaine use. As an aside, it is interesting to note that in the Summer 1985 issue of Baker Street Miscellanea, Robert Katz proposed that Holmes's and Watson's addictions to cocaine and betting, respectively, 'served to create a therapeutic environment . . . that enabled (them) to deal constructively with potentially dangerous behavioural problems!' Finally, is Holmes a suitable case for treatment? In contrast to Musto's view of 1968 (discussed in Part 1), Rollin thought not, not only because removal of Holmes's obsessional preoccupation with detail would deprive him of his abilities, but also because anyone attempting to psychoanalyse Holmes could find themselves the victim of a reversal of roles!

Other scholarly discussion of Sherlock Holmes and cocaine has included articles by Jameson (1974) and Grilly (1980) in the *SHJ*. Jameson presented historical background regarding cocaine, and dated the period of drug use by Holmes as 1882-90. This falls well within the period of cocaine's popularity in Britain, 1890 coinciding with the beginning of public awareness regarding the drug's hazards; even so, it was not until 1920 that cocaine was made illegal. In

addition, Jameson proposed that during this period Holmes's cocaine use declined and was not continuous, and that at all times its use was harmless, being a substitute for the stimulation and excitement of the chase when no cases were forthcoming. As Holmes's career progressed and he became busier, his need for the drug diminished until it was ultimately abandoned. Grilly presented further background regarding cocaine, and proposed like Jameson that Holmes was not addicted. In addition, he criticised Miller's article of 1978 (see earlier), which suggested that Holmes may have deceived Watson about his cocaine use, and was in fact injecting a belladonna alkaloid.

1989

In January, Peschel and Peschel published an article in the *Journal of the Royal Society of Medicine* (*JRSM*) considering what physicians have in common with Sherlock Holmes. They commented that medical and detective work share a number of thought processes and drives, namely observation, analysis and deduction, devotion to detail, hard work, learning, energy, determination and an overpowering desire to solve mysteries. The Peschels then illustrated, by means of three medical case reports, how an application of Holmes's methods could benefit hospital practice. They used a jigsaw puzzle analogy to illustrate how in the diagnosis of an illness one often does not have all the pieces.

1991

A further article in the same journal by Oderwald and Sebus two years later continued the discussion, with particular attention given to the problem-solving aspect. They criticised Peschel and Peschel's jigsaw puzzle analogy, proposing that such a metaphor arises from the neat pre-ordained nature of detective stories and medical case histories, in which a known outcome results in a reversal of time. To understand medicine in practice, they argued, one has to distinguish between what is happening in reality and the specific way in which reality is represented in a case history. Thus, final success should not be ascribed to the entire diagnostic process, nor should reality be reduced to one line of reasoning. Oderwald and Sebus proposed Umberto Eco's novel The Name of the Rose (1984) as a better analogy of detection to medicine. In this novel, the protagonist, William of Baskerville, attempts to solve a series of murders in a monastery, the plot consisting of several parallel levels. Only one of these levels concerns detection per se, such that, despite William assuming a theological pattern to lead him to the solution, this turns out to be the wrong pattern, with the outcome not the result of what he thought. Rather, his mere presence at the scene seems to be more important. In addition, at the end of Eco's novel, there is no 'complete picture', but instead an open structure, which Oderwald and Sebus proposed as more analogous to medical practice than the jigsaw puzzle model.

In a subsequent letter to the *JRSM*, Ayers supported Oderwald and Sebus's William of Baskerville model of medicine, and referred to the enunciation by Eco and collaborators (1983) of the principles of ratiocination (Edgar Allan Poe's term) or abduction (Eco's preferred term), which are: "Never assume anything; the nature of the object under scrutiny must dictate the nature of the inquiry; it is necessary to keep sight of the matter as a whole; and one must prove that crucial 'apparent impossibilities' are possible (if, indeed, they are so)". This is surely the best representation yet of Sherlock's methods, and how they can be transposed to medical practice. Ayers concluded by saving that current work on computer algorithms and artificial intelligence as a means of handling medical decision making might prove to be a waste of time, and even counter-productive (see Gilbody, 1992), with the answers all in Sherlock's methods.

In March 1991, in a further contribution to the neurological Holmesian corpus, Westmoreland and Key reported how after reviewing the Canon, they found 41 (73%) of the 56 short stories, and all four of the novels, to make some reference to a neurological condition or symptom. Consequently, not for the first time, the proposal was made that neurology has more right than other medical specialties to lay claim to Holmes. Indeed, Holmes himself in Maza said: "I am a brain, Watson. The rest of me is a mere appendix".

1992

In the June 1992 issue of *JRSM*, the Canadian anthropologist Joel Wilbush criticised the Peschels' use of Holmes's methods as a model for the diagnostic process, even when a multi-levelled approach is adopted (Oderwald and Sebus, 1991). He pointed out how medical diagnosis differs in both content and circumstances from detection, being principally a social process rather than an objective exploration. He further suggested that, unlike a detective who identifies unknown agents, a doctor is usually familiar with his patient and the likely disease scenarios, and so can often make diagnoses 'like a blacktracker identifying spoor left by a familiar animal', rather than by deductive analysis! Wilbush thus concluded how the role of older more primitive parts of the brain in the diagnostic process remains under-appre-

In the Journal of the American Academy of Dermatology, Caplan discussed the links between Holmes, Doyle and Malcolm Morris, a famous dermatologist and friend of Doyle. The article was principally about the dermatologic contributions of Dr Morris and his link with Doyle. It was Morris, for example, who suggested that Doyle become a specialist and move to London, and that he should write a book about a detective, and give up medicine for writing. In addition, Morris proposed 21 Baker Street, where his grandfather had lived, as Holmes's abode, and Doyle visited and went over the particu-

lars of sale of that house, getting to know every detail of it. It was in case the residents objected to the use of their address that Doyle invented 221B. Finally, in the preface of one of Morris's books, drawing on material from Sir John Simon's book *English Sanitary Institutions*, Morris acknowledged John Murray, the publisher of Simon's second edition in 1897. Caplan thus proposed that we may now know what happened to Murray, the faithful orderly who helped Dr Watson escape after his wound at the battle of Maiwand!

The only other significant reference to Holmes in 1992 was a letter by Danek and co-workers to the journal *Archives of Neurology*, supporting Westmoreland and Key's 1991 article, and re-stating the importance of Holmes's 'science of deduction' in determining his popularity amongst the medical profession. It is reassuring to note that this popularity is not only undying, but seems currently to be increasing.

1993

Published so far in 1993 has been a letter to the *JRSM*

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commenting on Joel Wilbush's paper (Gilbody, 1993).

Concluding Remarks

Sherlock Holmes has inspired and stimulated the medical profession probably more than any other fictional character, not least because his adventures reflect so well and describe so vividly contemporary Victorian and Edwardian medicine. As a result, Holmes continues to be a subject of active debate in the medical literature, which appears to be increasing. The recent arrival of readily accessible CD-ROM and other databases, such as the one used in this study, provides great research opportunities for those interested in the serious study of Sherlock Holmes and Sir Arthur Conan Doyle. It will therefore be interesting to see if other Sherlockian and Doylean society members 'grasp the nettle' as I did, and are prompted to conduct such research in, for example, the scientific and legal literature. There are gems waiting to be found, a recent one that springs to mind being a witty article about Professor Moriarty published in the magazine New Scientist (Bowers, 1989).

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