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Do We See But Not Observe?

Sherlock Holmes and the art of medical diagnosis

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. This is largely a result of the medical training and experiences of Dr John H Watson and his literary agent, Sir Arthur Conan Doyle, and it is well-known, for instance, that Doyle was greatly influenced in his creation of Holmes by Dr Joseph Bell, one of his teachers at medical school, whom he said had an 'eerie trick of spotting details. If he were a detective, he would surely reduce this fascinating, but unorganized business into something nearer to an exact science'.¹ In addition, Holmes may have been named after a Dr Oliver Wendell Holmes of Boston,² and within the 60 Holmes stories there are references to 68 diseases, 32 medical terms, 38 doctors, 22 drugs, 12 medical specialties, six hospitals, three medical journals and two medical schools.³ Sherlock Holmes has even been discussed previously in the *Girl's Hospital Gazette*, in a series of ten articles by the late Sir Maurice Campbell between 26 April 1980 and 26 September 1981,⁴ this remains one of the most thorough and interesting discussions of the medical content of the Canon seen anywhere.

Given this clear association between Holmes and medicine, I thought it might be interesting to see what the art of diagnosis might gain from Sherlock's methods. To do this, I shall concentrate on a series of papers recently published in the *Journal of the Royal Society of Medicine (JRSM)*,⁵⁻⁸ although such discussion is far from new.⁹⁻¹⁶ The reader may further be interested to know that all papers pertaining to Holmes in the world medical literature since 1966 have recently been reviewed.¹⁷

In January 1989, Peschel and Peschel published an article in the *JRSM* considering what physicians have in common with Sherlock Holmes.⁵ 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. They then illustrated, by means of three medical case reports, how an application of Holmes's methods could benefit hospital practice, and used a jigsaw puzzle analogy to illustrate how in the diagnosis of an illness one often does not have all the pieces. The key role of observation in medical diagnosis was well illustrated in a letter by Nusynowitz to the *Journal of the American Medical Association* in 1969.¹¹ Nusynowitz recounted the case of a drug company representative with acromegaly, who over a period of five years saw more than 10,000 physicians. Unluckily for him, however, none of them spotted his problem, and Dr Nusynowitz thus concluded how, despite the sophistication of modern medical equipment, the eyeball, properly used, remains an excellent diagnostic tool!

A further article in the *JRSM* by Oderwald and Sebus two years later continued the discussion, with particular attention given to the problem-solving aspect.⁶ They criticised the Peschels' 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. They proposed Umberto Eco's novel *The Name of the Rose* (1984) as a better analogy of detection to medicine.¹⁸

In this novel, the protagonist, coincidentally (?) named 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. Certainly, it would be counter-productive to believe that a narrow line of reasoning could cope with the multifactorial nature of medical diagnosis and management.

In a subsequent letter to the *JRSM*, Ayers supported Oderwald and Sebus's William of Baskerville model of medicine,⁷ 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:¹⁹ '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 Holmes's methods, and how they can be transposed to medical practice. Ayers concluded by saying 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 20} with the answers all in Sherlock's methods.

Detective story versus medical case history

Finally, in the June 1992 issue of the *JRSM*,⁸ the Canadian anthropologist Joel Wilbush criticised the Peschels' use of Holmes's methods as a model for the diagnostic process,⁵ even when a multi-levelled approach is adopted.⁶ He argued that unlike a detective identifying unknown agents, a doctor usually knows his patient and likely disease scenarios, and is thus able to make diagnoses 'like a backtracker identifying spoor left by a familiar animal', rather than by deductive analysis! He concluded that the role of older more primitive parts of the brain in the diagnostic process remain under-appreciated.

Whilst interesting, Wilbush's comments are perhaps not surprising from an anthropologist, and can easily be criticised; few would argue, for instance, that 'instinct without knowledge' could recognise dysidiadochokinesia or diagnose phaeochromocytoma. Nevertheless, he does have a point in that medicine is much more than just a series of deductive steps, and unlike detection, for instance, management in medicine begins rather than ends with the diagnosis. In this regard, it is notable that Sir Arthur Conan Doyle himself thought that Holmesian methods were unsuitable for medicine, and in an address in 1910 to students at St Mary's Hospital on 'The Romance of Medicine', he warned against undue materialism and intellectual priggishness, and said that he had 'known men in the profession who were stuffed with accurate knowledge, and yet were so cold in their bearing, and so unsympathetic in their attitude ... that they left their half-frozen patients all the worse for their contact'.²¹ He emphasised 'the value of kindness and humanity as well as of knowledge'. More recently, a report in *The Times* (22 April 1981) stated that 'if the doctor becomes a medical Sherlock Holmes ... the patient may feel that he has ceased to be a person and has become a case'.

Despite being true, these views, firmly rooted in the principles of holism, are I believe rather unfair on Sherlock Holmes, who selected interesting cases 'for the quick analysis of cause and effect which gives the charm to an investigation'. When asked by Watson in the story *A Case of Identity* how many cases he had on hand, for example, Holmes replied: 'Some 10 or 12, but none which present any feature of interest'. In other words, deductive analysis, though interesting for the reader, played little part in most of Holmes's cases.

I would propose that this is also true for medicine, however much we may like to think otherwise!

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