Joseph Bell: surgeon and master of 'spot diagnosis'

This year marks the centenary of the death, on 4 October 1911, of Joseph Bell, surgeon at the Edinburgh Royal Infirmary, who brought to perfection the art and science of close observation in clinical diagnosis. Even after 100 years, stories of his prowess still circulate, no doubt modified and embellished in the process.

Perhaps the best known example (of which I have heard many variants) is of the patient who came into Bell's outpatient clinic which was packed, as usual, with his students. The patient was subjected to close scrutiny and Bell then announced: 'Gentlemen, this patient is a sergeant in the Argyll and Sutherland Highlanders. He has recently returned from service in the West Indies, lives in Portobello and has gonorrhoea'. Of course. Bell was proved to be correct. The patient had a fine military bearing but was wearing a cap and not a bowler hat – obviously a non-commissioned officer. His belt bore his regimental badge – easy! He was sunburned in mid-winter – clearly he had returned from the tropics. His brightly polished boots were tar-stained – the road from Portobello was under repair. Of course, any non-commissioned officer recently back from the West Indies and living in Portobello would have gonorrhoea...

Bell could recognize a cobbler, as the insides of the knees of his trousers would be worn by his cobbler's last. The scars and callosities on the hands of a miner differed from those of a brick layer – all obvious by close inspection.

Bell wrote: 'The student must be taught to observe. To interest him in this kind of work we teachers find it useful to show the student how much a trained use of observation can discover in ordinary matters such as the previous history, nationality and occupation of the patient.'

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Of course, students being students, one day Bell's dressers (students on the surgical unit) got the better of him. They carefully rehearsed a cadaveric looking patient, dressed him in a long raincoat, tipped him half a crown and sent him into the surgical clinic with his hand thrust inside the buttons of his mackintosh. Bell inspected the patient carefully: 'This patient has all the typical features of a sufferer from a peptic ulcer. Note the typical thin drawn face of a dyspeptic. His hand under his raincoat is pressing against his painful epigastrium. The bulge in his coat pocket is no doubt produced by a bottle of alkali medicine. Isn't that so, my man?' 'No', replied the patient, drawing out his hand from under the raincoat, 'It's my septic thumb!'

'Arthur Conan Doyle attended Bell's clinics and... his famous detective character, Sherlock Holmes, was based on Joseph Bell.'

Bell was born in Edinburgh in 1837, the son of a surgeon, and spent his whole life in that city. He trained at the University and Royal Infirmary and qualified in 1859. He passed through the junior posts at the Infirmary, obtained the Edinburgh FRCS in 1863, in the last decade of the pre-antiseptic era, and was appointed assistant surgeon at the Infirmary in 1871. He was soon full surgeon as well as surgeon to the Royal Children's Hospital.

Bell was a skilful technical surgeon and a popular clinical teacher. He wrote a widely used manual on surgical operations which went through seven editions, and also a book on surgery for nurses. Bell died at his home in Edinburgh and was buried in the Dean Cemetery in that city, alongside his wife who had long predeceased him.

So why is this admittedly competent and popular surgeon of the Victorian era so well remembered today a century after his death? It is simply because, in 1877, a young second year medical student called Arthur Conan Doyle attended Bell's clinics and in later years freely admitted that his famous detective character, Sherlock Holmes, was based on Joseph Bell. Indeed, many years after the event, Conan Doyle said that it was Bell's diagnosis of the non-commissioned officer from Portobello that first impressed him.

In true Joseph Bell style, when Sherlock Holmes first meets his associate, Dr Watson, he makes the following observation: 'How are you? You have been in Afghanistan I perceive... Here is a gentleman of a medical type, but with the air of a military man. Clearly an army doctor then. He has just come from the tropics, because his face is dark and that is not the natural tint of his skin for his wrists are fair. He has undergone hardships and sickness, as his haggard face says clearly. His left arm has been injured. He holds it in a stiff and unnatural manner. Where in the tropics could an English army doctor have seen much hardship and got his arm wounded? Clearly in Afghanistan.' This first display of Holmes' powers of deduction from close observation set the pattern for all his later cases, so carefully documented by Dr Watson.

Bell was delighted to be identified with the most famous of all fictional detectives, but he always gave full credit to the inventive skill of Conan Doyle. He explained to a journalist once: 'Dr Conan Doyle, by his imaginative genius, has made a great deal out of very little and his warm remembrance of one of his old teachers has coloured the picture.'

Sir Arthur Conan Doyle (1859–1930) was himself, of course, medically qualified and practiced for some time as an ophthalmologist. He was born in Edinburgh, studied medicine at its university and qualified with his MB in 1881. The success of his first Sherlock Holmes novel *A Study in Scarlet*, published in 1887, soon led to his giving up medical practice, apart from service in the Boer War, and devoting himself to his writing. **BJHM**

Conflict of interest: none.