

THE MEDICAL BULLETIN

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THE MEDICAL BULLETIN is issued quarterly for Dr. Watson's Neglected Patients, a scion of the Baker Street Irregulars.

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Bulletin Board

Wanted: Information, hunches, insights, etc. concerning G. Le Strade. Last known address: Scotland Yard, London, England. Address replies to D. Ellis, % The Medical Bulletin.

It is rumored that records concerning the family of the above mention Lestrade have been located.

From the Chief Surgeon by David Poole

Although our annual dinner meeting, on January 15, took place on a cold and windy night, the weather did not dampen the festivities in the slightest. It was our "Basil of Baker Street" dinner, and the traditional toasts were augmented by toasts to Basil and Dr. Dawson. A short business meeting followed the dinner. The principal business enacted was the election of the Staff surgeon - Chuck Hansen; the Transcriber - Debbie Laubach; and Interns - Ron Lies and Charlene Schnelker. Many thanks are due to Charlene for the time she devoted to the Transcriber's job during her terms of office.

Two awards were made. Dr. W.P. Blake, the first "Wielder of the Scapel" (Treasurer) of Dr. Watson's Neglected Patients, was presented with an inscribed plaque in recognition of his work in translating the entire Canon into Braille. The second award was a presentation of a Dr. Watson's Neglected Patients Pill Box to Chuck Hansen, our Staff Surgeon, in recognition for all his work for the Patients. An auction of Sherlockian books, donated by Murder by the Book (Nancy Wynne), and by John Stephenson, and of other memorabilia followed the meeting. Through the efforts of Blair Kittleson, auctioneer, assisted by John Stephenson, our Treasury netted about \$94.00.

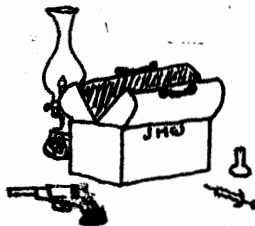
Dr. Watson's Neglected Players (the Buskers) presented the play, "The Ivory Box", a mystery drama by Dorothy Ellis involving Ohms (Ron Lies), Watts (Chuck Hansen) Mrs. Hapless (Charlene Schnelker), and, you guessed it, a mouse, Fletcher, (Debbie Laubach).

I am sure all will be glad to know that one of Dr. Watson's Neglected Patients, Ron Dame was invested at the Baker Street Irregulars' dinner January 8th. As a BSI he is now Colonel Lysander Stark (see the Three Garridebs). Congratulations Ron! At the same BSI meet-

ing Lisa McGaw was invested, the second woman to be so honored. About time!

If any of you Neglected Patients have wished to attend a John Bennett Shaw workshop on Sherlock Holmes, your chance will come this summer. The workshop will be held in Kansas City, July 9-11. When we get further information we will pass it on through the Medical Bulletin or by flyer if necessary.

A last item. The Bowling Green Popular Press has published a biography of Dr. Joseph Bell by Ely Liebow, editorial advisor for Baker Street Miscellania. Anyone desiring more information may write to the B.G. Popular Press, Bowling Green State University, Bowling Green, OH 43403.



Out of the Bag

by Debbie Laubach

Greetings and salutations from the new occupant of the office of Transcriber. I would like to thank all who gave their support over the past few weeks since I have taken over the "reins of power" from Charlene Schnelker, and offer a hearty round of applause for all she has done for our scion in the past forty years. Fortunately, we still have her among us, and she has promised (without many threats) to play an active role

I suppose, for those who aren't acquainted with me, an introduction is in order. I am a relative newcomer to the kingdom of Sherlock (5 yrs.) and an even newer resident of Colorado (3 yrs.). I graduated from high school in '77 and took a degree in Veterinary Technology in Pittsburgh, Pennsylvania before I took Horace Greeley's worthy advice. At present, I am a manager of a boarding-breeding kennel in south-east Denver, and enjoy it immensely; next to the Master, dogs and other small furry critters are my passion.

(to p. 14)

The Problem of the Blundering Chemist

by Isaac Asimov

We all know that Sherlock Holmes was the first important detective in fiction to go about his business with true scientific rigor. At least, we all think we know that. Arthur Conan Doyle wrote the 60 novels and short stories about the master with such winning conviction that he succeeded in convincing his readers that this was so.

Yet that conviction is an illusion. Conan Doyle was surprisingly poor in science, apparently, and Sherlock Holmes, as a scientific detective, does not really come off well for that reason.

Conan Doyle's limitations are visible, for instance, in his attempt to describe the scientific profundities of the arch-villain, James Moriarty.

In The Final Problem, Holmes says of Moriarty: "At the age of 21 he wrote a treatise upon the Binomial Theorem, which has had a European vogue".

Moriarty was 21 years old in 1865 (it is estimated), but 40 years earlier than that a Norwegian mathematician, Niels Henrik Abel, had fully worked out the last detail of the mathematical subject known as "the binomial theorem," leaving Moriarty nothing to do on the matter. It was completely solved and has not advanced beyond Abel's solution to this day.

Then, in The Valley of Fear, Holmes says of Moriarty, "Is he not the celebrated author of The Dynamics of an Asteroid- a book which ascends to such rarified heights of pure mathematics that there was no man in the scientific press capable of criticizing it?"

Why the dynamics of an asteroid, when already hundreds were known in Moriarty's day? In the Newtonian sense, nothing further remained to be done about asteroidal motion after 1825, when the French astronomer Pierre Simon de Laplace, completed his book Celestial Mechanics. To be sure Moriarty might have anticipated Einstein's theory of relativity, or he might have solved what is called the "three body problem"¹ in gravitation, something that remains unsolved to this day. In either case, however, the work would have had general applications and would have applied to all moving bodies, and not merely to "an asteroid."

But let us ignore mathematics and astronomy, which, we may fairly assume, were not Conan Doyle's forte. Let us, instead, turn to chemistry. Conan Doyle was a physician, and one cannot have been a physician, even a hundred years ago, without some acquaintance with the principles of chemistry.

And it is chemistry that is the true test, for if Conan Doyle portrays Sherlock Holmes as anything other than a detective of superlative genius, it is as a chemist. That makes sense, too, for chemistry has great forensic value and would be of prime importance to a scientific detective.

In A Study In Scarlet, the first tale of the series, the meeting and first acquaintanceship of Holmes and his ever-after-loyal-companion-and-Boswell, Dr. John H. Watson, is described. Here we learn about Holmes' intellectual attainments. Watson makes a list of them and does so without pity.

He describes Holmes's knowledge of literature as "nil" and uses the same word for philosophy and for astronomy. Holmes's knowledge of politics is "feeble", his knowledge of botany "variable", his knowledge of anatomy "unsystematic," his knowledge of geology "limited."

When it comes to chemistry, however, Dr. Watson characterizes Holmes's knowledge of the subject as "profound." We are therefore entitled to believe that

Holmes is an expert chemist, and that Conan Doyle should labor to make him appear to be one.

And yet, although Conan Doyle dutifully mentions Holmes's chemical labors in a number of stories, in virtually every case he also manages to be wrong in one respect or another.

For instance, in The Adventure of Shoscombe Old Place, Holmes says, speaking of the police, "Since I ran down that coiner by the zinc and copper filings in the seam of his cuff they have begun to realize the importance of the microscope."

It would seem that Holmes made a microscopic study of the dust gathered from the seam and detected metallic particles which he identified as zinc and copper. It would be an easy task to spot the metallic particles--but to identify them as being of this metal or that, specifically, by eye alone is much trickier. No **chemist** would be satisfied with visual evidence alone in such a case; certainly the courts would not. As it happens, even small quantities of copper and zinc could be tested for chemically, and the spectroscope* was already in use and that would make the matter certain. Yet Holmes doesn't mention such tests.

If some possibility exists that chemical or spectroscopic tests were done but not mentioned, we must note too the fact that, a few paragraphs earlier, Holmes makes another kind of identification by microscope alone. He says of the material he is examining, "Those hairs are threads from a tweed coat. The irregular gray masses are dust. There are epithelial* scales on

*Spectroscope: any of various optical instruments which produce a spectrum for visual observation.

*Pertaining to the nonvascular tissue, usually a single layer that covers most internal free surfaces and organs and the outer surface of an animal body.

on the left. Those brown blobs in the center are undoubtedly glue." (And it is the glue that is the essential clue.) This is miraculous. To look at tiny blobs of amorphous organic material and to be able to tell that they are glue rather than any of a large variety of other amorphous organic materials represents particularly piercing eyesight. Holmes advances this identification as proving the guilt of a man suspected of committing a murder. If the courts accepted such evidence, none of us would be safe.

But then Holmes's eyes are such that, as he explains in A Study in Scarlet, "I can distinguish at a glance the ash of any known brand either of cigar or of tobacco." If so he is the only human being on Earth or in history who could.

The first time Watson sets eyes on Holmes in A Study in Scarlet Holmes is working in a chemical laboratory and has just made an important discovery. Holmes cries out, "I have found a reagent which is precipitated by haemoglobin, and by nothing else."

The test is never referred to again in either this story or any of the 59 that followed, but a certain reasonable latitude for the imagination is permissible. What happens afterward is considerably less permissible, however.

Holmes offers to demonstrate the new test by pricking his finger with a "bodkin" to obtain some blood. He draws off "the resulting drop of blood" and adds it to a "litre of water." He then successfully performs the test which demonstrates the presence of a small quantity of blood in a large quantity of water. (To make the value of the test obvious, he ought to demonstrate that the reagent does not react with other substances that resemble blood in appearance, but we'll ignore that point.)

A drop of water is usually taken to represent a volume of about 1/20 of a milliliter. Blood, being more viscous, is likely to form a larger drop, but let us

suppose that Holmes squeezes out just a tiny bit of blood and not a full drop and that he adds but 1/50 of a milliliter to the water.

A milliliter is 1/1000 of a liter, so 1/50 of a milliliter is 1/50,000 of a liter. In adding the blood to the water, a proportion of one part of blood to 50,000 of water is produced. Yet Holmes says "The proportion of blood cannot be more than one in a million."

We cannot allow for the effect of enthusiasm or eagerness to be impressive. A person whose knowledge of chemistry is "**profound**" could not possibly make this mistake. He would be too accustomed to the mechanics of dilution not to get closer to the truth than that.

The chemical nomenclature placed in Holmes's mouth by Conan Doyle is old fashioned and, at times downright wrong.

In A Case of Identity, Watson questions Holmes concerning the mystery of a missing person. "Have you solved it?" he asks. Holmes, far more interested in a chemical investigation he is carrying on, answers, "Yes. It was the bisulphate of baryta."

What a chemist would have said, however, would have been "barium bisulphate" or even "barium acid sulphate." The compound has the formula $Ba(HSO_4)_2$ and is an **obscure** one of no importance. It is no more than mentioned (sometimes not even that) in sizable reference books, and is not a particularly **difficult** substance to analyze. Working on it should in no way have impaired Holmes's concentration on the human mystery.

In The Adventure of the Copper Beeches the necessities of investigation do interfere with Holmes's chemistry. On learning that he must take a train at a certain time Holmes says, "Then perhaps I had better postpone my analysis of the acetones....."

What can he be thinking of? Acetone is a specific chemical compound, CH_3COCH_3 , and should not be used in the **plural** as though it represented a class of com-

pounds. To be sure, it is the best known member of a class known as the "ketones", a term derived from the German spelling of acetone. An amateur might therefore refer to the ketones as the acetones, not a chemist of the caliber that Holmes is reputed to be.

In The Adventure of the Engineer's Thumb, mention is made of counterfeiters who have been producing half-crowns made of some metal less valuable than silver. Holmes comments: "They are coiners on a large scale, and have used the machine to form the amalgam which has taken the place of silver."

Here we have another mistake. What has taken the place of silver is an "alloy," a term which refers to any mixture of metals. When the coiners den has burned down, "large masses of nickel and tin were discovered stored in an outhouse." Presumably, then, the metal used for the counterfeit coins was a nickel-tin alloy.

Is it not possible to use the word "amalgam" as a synonym for "alloy" as Holmes did? To be sure, amalgam can be used to indicate not only a metal mixture, but a mixture of any kind whatsoever, but only non-chemists would do it. To a chemist such as Holmes, an amalgam is not only an alloy, but one particular variety of alloy. It is a mixture of mercury and any other metal. No true chemist would refer to any mixture not containing mercury as an amalgam.

Or consider The Adventure of the Blue Carbuncle.

A "carbuncle" is a precious stone that is a variety of garnet and is chemically an iron-aluminum silicate. It is deep red in color and it is to that that it owes its name, for it has the color of a glowing bit of burning coal (from the Latin carbunculus for a "little piece of coal"). There are different varieties of garnet of different colors, but only the red ones are called carbuncles. Hence a "blue carbuncle" is a contradiction in terms.

In the course of the story, Holmes says, "There have been two murders, a vitriol throwing, a suicide, and

several robberies brought about for the sake of this 40-grain weight of crystalized charcoal."

Ignore the point that jewels are weighed in carats, rather than grains, so that he should have referred to it as a "13-carat weight."

Much more important is the fact that a carbuncle is not "crystalized charcoal." A carbuncle is a compound of iron, aluminum, silicon, and oxygen. Charcoal on the other hand, is at least 90 percent carbon.

Holmes is confusing a carbuncle and a diamond. A diamond is indeed pure carbon and can be referred to as "crystalized charcoal" although a good chemist is much more likely to say "crystalized graphite" or "crystalized carbon."

We can see where it is possible to suppose carbuncles to contain carbon from the identity of the first syllable, but that is a coincidence that traces back to color and the Latin language. A chemist simply would never make this particular mistake.

Finally, we must note the occasion in The Sign of the Four when Holmes decides to rest his mind, by taking it off a case and spending some time on chemistry. He says, "When I had succeeded in dissolving the hydrocarbon which I was at work at, I came back to the problem of the Sholtos..."

Hydrocarbons are composed of molecules made up of carbon atoms and hydrogen atoms only. Those with large molecules are soft solids at ordinary temperatures (tar, pitch, asphalt); those with small molecules are liquids at ordinary temperatures (kerosene, gasoline, naphtha).

Hydrocarbons mix with each other freely. If a solid hydrocarbon is placed in a liquid hydrocarbon, the solid hydrocarbon will mix with and easily dissolve in the liquid. What we call "dry-cleaning" is an example of this sort of thing. Some liquid hydrocarbon (or

chemically-similar substance) succeeds in dissolving stains out of textile material, because those stains are sufficiently closely related to hydrocarbons, in whole or in part, to dissolve easily in the liquid.

What Holmes is really saying, then in connection with the hydrocarbon he wanted to dissolve was, "As soon as I had used my dry-cleaner..." That particular problem could not have succeeded in resting his brain for more than 45 seconds.

Yet is there nothing to be said on the other side? Was Conan Doyle never prescient, even if only by accident?

Yes, he was. A remarkable passage occurs in The Adventure of the Devil's Foot. There Conan Doyle introduces an imaginary root ("Devil's Foot Root") obtained from West Africa. If this is ground to a powder and the powder set on fire, it produces a toxic smoke or fume that maddens and kills.

With more bravery than good sense, Holmes tests the substance on himself and on the ever loyal Watson. Here is how Watson describes the effect:

"I had hardly settled in my chair before I was conscious of a thick, musky odour, subtle and nauseous. At the very first whiff of it my brain and my imagination were beyond all control. A thick black cloud swirled before my eyes, and my mind told me that in this cloud, unseen as yet, but about to spring out upon my appalled senses, lurked all that was vaguely horrible, all that was monstrous and inconceivably wicked in the universe. Vague shapes swirled and swam amid the dark cloud bank, each a menace and a warning of something coming, the advent of some unspeakable dweller upon the threshold, whose very shadow would blast my soul. A freezing horror took possession of me. I felt that my hair was rising, that my eyes were protruding, that my mouth was opened, and my tongue like leather. The turmoil within my brain was such that something must surely snap. I tried to scream and was vaguely aware of some hoarse croak, which was my own voice, but distant and detached from myself."

A half-century later the physiological effects of lysergic acid diethylamide (LSD) were discovered--though not in an African root--and the effects were not very different from those Watson described. It seems that Holmes and Watson had the equivalent of a "bad-trip" decades before its time.

This is a remarkable bit of chemical science fiction that came true, and to me it makes up for all the bits of poor chemistry Conan Doyle inserted into his stories.

1-Three Body Problem: attempts to predict the motions of three celestial bodies that are mutually interacting. Generally, the problem is insolvable, with some exceptions: The relative motions of sun, Earth, and moon can be determined because one of the bodies--the moon - has negligible mass.

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The Crucifer of Blood, by Paul Giovanni will be staged at the Lincoln Center Mini-Theatre in Fort Collins during the months of May and June. Individual tickets are \$4.50. For further information contact the Center at 417 West Magnolia Street, Fort Collins, Colorado.

Performances in May are 14, 15, 21, 22, 27, 28, and 29. In June Crucifer will run on the 3rd, 4th, 5th; 10 - 13 and 17 - 20. Saturday, May 22 has been selected as "Patient's" night. For information regarding this event, contact Debbie Laubach at 690-8139 weekends and Wednesday night, or 693-4547 all other times.

SHERLOCKIAN SEMINAR, with John Bennett Shaw
July 9 - 11, 1982.
For reservations, write Len Grimstead, Sherlock Holmes Seminar, Rockhurst College, 5225 Troost Avenue, Kansas City, MO. 64110.

(Out of the Bag continued)

I am in the market for a new thesaurus, having worn out my old one in an attempt to describe the incredibly bad S'ian episode on "Fantasy Island" of the fourth of February. If you were among those fortunate enough to miss it, don't let it rob you of any sleep. The plot revolves around one department store security guard whose fantasy is to assist the "world's greatest fictional detective" in one of his numberless struggles against the nefarious Prof. Moriarty (begin to sound boringly familiar?). Add to this dubious story Donald O'Connor as Watson, an Irish Les Trade, secret governmental plans, and a Dartmoor Sanatorium, and television has reached its worst hour. I was fascinated by the acting debut of Rita Jenrette, how could such pathetic "acting" pass the censors? And as to Peter Lawford as ol' Sherlock, the less said the better. If this episode should ever turn up again on reruns, I plan to be out of town.

Sherlock Holmes - Mitchell, pumped in 28 points to pace the Marauders to a 75-58 triumph over Air Force Academy Friday.

(Rocky Mountain News, Sports PLUS, January 11, 1982)

Answers (from Unscrambles, December, 1981)

1. HOLLER: " MESH SOCK" - Sherlock Holmes
2. DOGS WET CANE Cadogen West
3. EAGLETS RD. - G. Lestrage
4. G. TRAP! BURN NOTICE - Bruce Partington
5. RUB EVIL WET TOYS - Violet Westbury
6. TIE BONERS - Oberstein
7. NON-HOT JAWS - John Watson
8. LATER EVENT IN LAW - Valentine Walter
9. SHORT MEL McFOY - Mycroft Holmes
10. WE ALTER JAMS - James Walter

The Bruce Partington Plans

Holmes for the Birds by Roy Hunt



I am Holmes
The great detective -
In me,
There is nothing defective.
As a great detective
A knock upon the door -
A donation for the poor?

A blazing fire
On a cold winter's night.
Could it be Lestrade
Seeking solace
From fright
On this cold Winter's night?

Where is Watson?
Where is Mrs. Hudson?
Where is Billy,
The page boy in buttons?

Odd,
For the first time
In my life
I feel fear . . .
As there came
A knocking
Upon my chamber door.

Thinking it Watson.
I opened the door, and in flew
A raven
. . . Squawking.
Nevermore!

Why, I enquired of the raven,
Do you say, nevermore?
And - - Quoth the raven - -
Because - -
There is no more.

