SAYERS AND CIPHERS*

Peter Ibbotson

ADDRESS: 50 Homeway House, Pine Tree Glen, Bournemouth BH4 9ES ENGLAND.

ABSTRACT: This paper describes the occurrence of codes and ciphers in the detective novels of Dorothy L Sayers and the debt she owed to her contemporary crime writer John Rhode for introducing her to the simple yet very effective Playfair and how to solve it. It was presented to the 1992 convention of the Dorothy L. Sayers Society.

KEYWORDS: Ciphers, mystery, Playfair, Poe, Rhode, Sayers.

There are two personal reasons, one general, one particular, why it is appropriate for me to be discussing ciphers and Sayers; not the ciphers, quotations and book titles, that is, as discussed by Ernst Leisi in *Encounters with Lord Peter*.[1] Though, following Ernsts suggestions, I have wondered if it can be argued, speciously at any rate if not plausibly, that the narrative of *Have His Carcase*[2] conceals the development of the Harriet-Wimsey relationship into that of partnership.

The general reason: it was reviewing a book on codes and ciphers for *The Teacher* in the late '60s that led me to change from freelance educational journalism to freelance, later inhouse, philatelic journalism. The particular reason: Sayers' most famous cipher derives straight from John Rhode.[3] It is his 1930 book *Peril at Cranbury Hall* to which reference, innominately, is made in *Have His Carcase* (Chapter XXVI), and it was with John Rhode paperbacks that during the 1930s I whiled away the end and beginning of term train journeys between home and school or university.

Incidentally, Julian Symons[4] inability to appreciate John Rhode, coupled with his ill-founded criticism of Wimseys oenophily, and his failure to distinguish

* A paper given at the 1992 Convention of the Dorothy L. Sayers Society.

[1] Dean, Christopher ed. *Encounters with Lord Peter*. (The Dorothy L. Sayers Society, 1991).

[2] See also David Kahn, *The Codebreakers*. (New York: Macmillan, 1967), 799.

[3] John Rhode (1884-1965), whose real name was Charles John Cecil Street, was a prolific writer of crime novels.

[4] Symons, Julian. *Bloody Murder*, (Faber, 1972). Symons (1912-1994) was a British crime writer and an influential critic of crime novels.

between *The Magnet* and *The Gem*, leads me to wonder if others of his judgments may be suspect. Of course, the cipher in *Have His Carcase* is not the only cipher in Sayers' detective fiction. If by cipher we mean a hidden message, then the earliest cipher turns up in "Uncle Meleager's Will" in *Lord Peter Views the Body* where the message is hidden in a crossword puzzle of a type common in the l930s though not a patch on, for example, Azed or Ximenes. Another piece of detective fiction involving cruciverbalism is W. J. Burley's *Three-toed Pussy*. In "Uncle Meleager's Will once you have solved the puzzle and looked up the Old Testament reference which is revealed (unless of course you are as well-brought up as Bunter and remember it), you are home. BUT whenever I see a secondhand copy of *Lord Peter Views the Body* at a jumble sale or in a charity shop, I always check the crossword. So far I have never yet found a copy which shows signs that a reader has even attempted, let alone has completed, Uncle Meleagers puzzle. But of course the crossword clues themselves are, one might say, protociphers, with the Old Testament reference really a deuterocipher. Then there is the cryptogram in *The Nine Tailors.* It was a chance remark by the Rector which led Wimsey to establish that a pricked peal of Kent Treble Bob held the key to the cryptogram concealed within the mysterious letter which Hilary Thorpe found in the Fenchurch St Paul bell-tower [II. A full peal of Grandsire Triples, The first part]. As soon as Hilary finds the letter and Jack Godfrey reads it, we know, (or at least, the experienced reader of detective fiction knows) that some sort of cipher is involved in extracting the meaning. Although a detective fiction buff would feel instinctively that campanology holds the key to decipherment, he would have to be a very well-informed detective-fiction-reading campanologist (in Robert Louis Stevenson's phrase, "a man of greater ingenuity than the writer") to solve the cipher before Mr. Venables and Wimsey provide the answer.

The cipher in *The Nine Tailors* depends on the order in which the church bells are rung in a particular peal. The bells are numbered, for example, l, 2, 3, 4, 5, 6 and the order in which they are rung in the peal is listed, thus : l23456; l23465: l34562; 53624l and so on. It is a peal called Kent Treble Bob which is used. One bell is chosen, and wherever that numbered bell appears in the peal, you put the letters of your message. Then ingenuity is needed to replace the other numbers by letters so as to make a coherent (or otherwise) disguise for the hidden message.

In her introduction to the first series (l928) of *Great Short Stories of Detection, Mystery and Horror*, Sayers points out that two of the first four stories are from the Jewish Apocrypha. If we can adduce the stories of "Bel and the Dragon" and "Susanna" as early detective fiction, may we also be permitted to adduce the Old Testament, specifically the book of *Daniel*, as a very early use of code

or cipher in literature? After all, the writing on the wall at Belshazzar's feast has to be interpreted to the king; "interpretation" is the appropriate word for explaining a cipher.

Before John Rhode's *Peril at Cranbury Hall* in l930 and Sayers' *Have His Carcase* the following year, the ciphers familiar to omnivorous readers of detective fiction were simple substitution affairs. Each letter of a straightforward message was replaced by another letter, or by a symbol. Decipherment of the enciphered message by an outsider depended on knowing the frequency with which certain letters occur in the English language: E T A O I N S H R D L U being the generally accepted order of occurrence of the 12 most commonly used letters. (As any printer will tell you, or would have done in the days of hot metal, ETAOIN and SHRDLU were the original gremlins who married and produced several children, of whom the best-known is, as every typist knows, QWERTYIOUP.) The order of occurrence is slightly different in the English of the United States.

"The Gold-Bug," which some people class as Edgar Allan Poe's finest mystery story, depends on the solution of a simple substitution cipher to point the way to buried treasure. An old pirate thought that the use of symbols instead of letters would make his cipher hard to disentangle. Letter frequency produced the solution; Poe's order of frequency, which differs slightly from the English order of frequency, is EAOIDH NRSTUY.(*Some Tales of Mystery and Imagination*; Penguin Illustrated Classics edition, l938, p. 47).

Conan Doyle used a simple substitution cipher in "The Adventure of the Dancing Men," where the letters of a series of messages were substituted by "a number of absurd little figures" (matchstick men in different poses, in fact) "dancing across the paper upon which they are drawn". As with the cipher in "The Gold Bug," the frequency table E T A O I N S H R D L U is invoked to decipher the messages. (In "The Dancing Men", Holmes claims to have written what he called "a trifling monograph" in which he analysed 120 separate ciphers, but the substitution cipher used by Abe Slaney was, said Holmes, "entirely new to me." He did not mean, surely, the substitution cipher in general.)

But the cipher used in *Have His Carcase* is not a simple substitution cipher; much more difficult to decipher. It depends on digraphic substitution. It is the Playfair cipher, named in l850 after Lyon Playfair, 1st Baron St Andrews. The cipher had actually been devised by Charles Wheatstone, who introduced Playfair to it at a dinner in 1850 at which there were also present Prince Albert and Lord Palmerston. They were impressed and told others, including military men who quickly (a rare tribute in the military mind) saw the cipher's potential. If you think that it be hard on Wheatstone that his cipher should bear another man's name, do not waste too much sympathy on him. Every schoolboy knows

the Wheatstone Bridge which measures electrical resistance; but Samuel Christie, not Charles Wheatstone, devised it in 1837. So by rights it should be the Christie Bridge!

John Rhode in *Peril at Cranbury Hall* and Sayers in *Have His Carcase* both explain how to solve a message in the Playfair cipher. Of *Have His Carcase*, says Janet Hitchman in *Such a Strange Lady* (New English Library edition, 1979), Chapter VII, the working out of the enciphered message "occupies seven boring pages, if one is not cryptically inclined. The book loses nothing, however, by skipping these pages entirely . . . " There is dreadfully sloppy construction there; in any case sloppiness extends to other suspect Hitchman judgments on the cipher. She says categorically that what John Cournos (1881-1966)[5]; whom she describes as "a very great friend of Dorothy's, possibly a lover," would have provided for *Have His Carcase* was the Playfair cipher" and that "most certainly he would have provided the medical and technical detail for *Have His Carcase*." She also describes the enciphered letters categorically as "Czechoslovakian", though Leila Garland merely said " I think they came from Czechoslovakia or one of these queer places." (*Have His Carcase*, Chapter XV), while in Chapter XXVIII Wimsey says only that "the letters are said to have come from Czechoslovakia." It should have been as obvious to Hitchman in the '70s as it was to me as a 15-year-old in the '30s that the hard bits with which Sayers acknowledged John Rhode's help were what she specifically attributes to Cournos: haemophilia and Playfair.

In a letter of 25th August, 1931, Rhode wrote to Sayers "You say letters in a cipher. Do use the Playfair, you'd love it for its own sake, if you don't already know it and it would give Lord Peter a lot of salutary mental exercise. I've used it once myself. . . ". Three weeks later, on the eve of a Baltic cruise on a semi-cargo ship (which his army background naturally led him to call a boat), he wrote briefly to her "I can't refrain from sending you the Playfair, I think it will fascinate you." An accompanying five-page manuscript explained how to encode and decode the Playfair cipher; the sample keyword chosen was HAYRICK and the message used as the example for encoding was I DEEPLY MISTRUST THE PARSON. In a later letter he again urged Sayers to use Playfair than which, he repeated, he thought none was as fascinating. He told Sayers that in his *Peril at Cranbury Hall* he had shown how a message in Playfair might be solved by someone who did not know the keyword, but he urged her not to read the book. Instead she should evolve for herself the method of solution.

[5]John Cournos (1881-1966) was a Russian Jew born in Kiev who emigrated with his family to the United States in 1891. He became assistant editor of the *Philadelphia Record* before going to England in 1912, where he became a writer and close friend of Dorothy L. Sayers before his marriage in 1925. He returned to the United States before 1939 and died there

The Rhode-Sayers letters on Playfair are in the Marion E. Wade Center - and here I must acknowledge my deep indebtedness to the Center for making available to me both photocopies and transcripts of the correspondence. I am also grateful to John Rhode's copywright executor, Mr Michael Lane, for allowing John Rhode's unpublished letters to be photocopied. They end with a letter of 7th October 1931. In this letter, as in the five-page manuscript sent before the cruise, there are phrases and explanations and suggestions, echoes of which occur in both narrative and conversation in *Have His Carcase* Chapters XXVI and XXVIII.

In Chapter XXVI Wimsey tells Inspector Umpelty and Superintendent Glaisher that any message ever coded can be solved with pains and patience, except possibly some of the book codes. Rhode warned Sayers against ciphers founded on a book as "usually cumbrous and unsatisfactory." This is borne out in *Murder Must Advertise* and the complicated method of communicating to all the drug-peddlers, through the Friday's Nutrax half-double, the initial letter of the week's pub rendezvous.

As Rhode explained, cryptanalysis of a message enciphered in Playfair is not at all easy. Frequency of occurrence of individual letters is of little or no help. As Umpelty says to Wimsey "You can't guess it by way of the most frequent letter, because you get a different letter for it each time, according as it's grouped to the next letter." Take, for example, the well-known couplet about the commandments:

> Persevere, ye perfect men,
>
> Ever keep these precepts ten.

The letter E appears l7 times; in a simple substitution cipher, whatever was substituted for *E* would also appear 17 times. But — when the couplet is enciphered according to Playfair, using the *Have His Carcase* keyword MONARCHY, the letter *E* is represented by F seven times, by G four times, by K three times, by L twice and by I once. But if we use the keyword SQUANDER, which Wimsey used to demonstrate Playfair to Harriet, we get *E* represented by B five times, by D and R four times each and by C and G twice each.

In a Playfair encipherment, the most commonly-used letters occur less frequently and the less commonly-used letters occur more frequently than in a simple substitution cipher. Wimsey suggested to Clumps that Bungo would be able to decipher the message found on Alexis' body. Solution of a Playfair-enciphered message depends on unusual powers of observation, inductive and deductive reasoning, much concentration, perseverance, vivid imagination and aptitude derived from extensive practical experience. To this list I would add

serendipity. Solving a Playfair cipher is, in fact, just like solving an Azed crossword in *The Observer*. Luck comes into it as well.

In *Peril at Cranbury Hall*, John Rhode's Dr Priestley describes Playfair to his secretary Harold Merefield as "the simplest and most effective cipher yet evolved" (Geoffrey Bles, l949 reprint, p. 141). A scrap of paper is fortuitously discovered (p. 34) which yields four letters in the bottom left-hand corner of the cipher: F on line 3, O P on line 4 and U on line 5. Also, one of the characters remembers (p. 57) that YOKAVD represented the word *URGENT*. Dr Priestley describes the Playfair method using HONESTY as the keyword (pp. 142-3), much as Wimsey explains it to Superintendent Glaisher (*Have His Carcase*, Chapter XXVIII) using SQUANDER as the keyword. Rhode then presents Dr Priestley's deductions from the scrap of paper and YOKAVD (pp. 144-5) but cheats by having as the keyword (p. 148) the Christian name VALENTINE with the last two letters excised. I say "cheats" because a Playfair keyword must not contain any letter twice.[6]

In *Have His Carcase* the luck comes in the letter having been datelined from a central European town whose last two letters are the first two letters reversed; so that XNATNX is clearly WARSAW (Chapter XXVIII). Like Conan Doyle in "The Dancing Men", Rhode in *Peril at Cranbury Hall* offers several short enciphered messages on which the keen reader can, if he so wish, practise his 'prentice deciphering hand. Although Sayers offers only the one long message, the intelligent reader, the dedicated detective fiction buff, will not skip the pages dismissed by Hitchman as boring but will merely attempt her/his own solution or, at the very least will continuously check and assess Harriet and Wimsey's solutions. To suggest that the explanatory pages can be skipped is on a par with suggesting that in *The Documents in the Case* the pages dealing with dextero-rotatory and optically inactive muscarine (Document 52) can be skipped.

For not, for example, translating Latin and Greek quotations for the benefit of the non-classical reader, Sayers has been criticised for intellectual snobbery (notably by Symons)[7] but her narrative style paved the way for Innes and Crispin, against neither of whom has Symons alleged intellectual snobbery. It seems hard that when she does explain something at length, so that the reader is as informed as the fictional detective, she is accused of being boring.

---

[6]Editor's Note: A Playfair keyword may be any word, but repeated letters must be deleted. The use of VALENTI is perfectly appropriate.

[7]*Ibid.*

BIOGRAPHICAL SKETCH

Peter Ibbotson, born in England in 1918, is a teacher by profession but a writer by preference (on philately, education, and Mauritius). He contributed to the American Philatelic Congress yearbooks 1970 and 1971 and the *Oxford Companion to Crime and Mystery Writing* (New York: 1999). He is the author of the award-winning *Mauritius: The Stamps and Postal History* (London, 1991) the research for and writing of which he described to the Webster Grove Philatelic Society, St Louis, Missouri, in 1994