

Logic and Lewis Carroll¹

by

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We all learned at school that Lewis Carroll, the author of *ALICE IN WONDERLAND* and *THROUGH THE LOOKING GLASS*, was in civil life an Oxford mathematician named Charles Lutwidge Dodgson [sic]. We have at Canterbury College a book by this man Dodgson, on the Theory of Determinants; I've looked at this book, but can't claim to have read it - I don't know what the Theory of Determinants is; and Dodgson doesn't contrive to make it look like anything easy or entertaining. The same man, however, also wrote books and articles on my own subject of Logic; he was in fact one of the pioneers in the modern subject of Mathematical Logic, and his two papers about it in *MIND* - a philosophical periodical now edited by professor Gilbert Ryle, who was in this country last year² - are still discussed by logicians; indeed, they're still discussed in the pages of *MIND*. But when I say that this same man Dodgson produced these logical works, that's not quite right, for they all appeared not under the name of Dodgson but under the name of Lewis Carroll, and for the most part they are written in the style of Carroll too. For example, his little book on *SYMBOLIC LOGIC* finishes up with exercises like this: -

What conclusion can be drawn from the following premises:

No terriers wander among the signs of the Zodiac
Nothing that does not wander among the signs of the Zodiac is a comet
Nothing but a terrier has a curly tail

This is a very elementary problem, of course, the conclusion being that no comet has a curly tail; but the tougher examples are of the same sort. And his two papers in *MIND* - well, I've called them papers but in fact they are stories.³ The first story has some notes appended, in a more sober style; the second story hasn't even notes, though it is a quite perfect answer to one of the letters from the learned about the puzzle raised in the first story. Conversely, it can be said that Carroll's better known works, the *ALICE* books and *THE HUNTING OF THE SNARK*, are written to a large extent in the style of Carroll the logician. Indeed, when I said that Carroll's two

¹ Edited by Julia Lippmann and Peter Øhrstrøm. The MS is kept in the Prior Collection at Bodleian Library, Oxford, Box 6.

² [Julia Lippmann's note:] Ryle visited New Zealand in 1954, so this paper was clearly written in 1955. Prior seems to be one of the first philosophers, or logicians as you may put it, who is able to take the work of Lewis Carroll seriously. In opposite to Willard Van Orman Quine for example who wrote a review of Carroll's *SYMBOLIC LOGIC* ["Algebra of Attributes." Lewis Carroll, *Symbolic Logic* (Edited by William Bartley III). *TLS* [*Times Literary Supplement*] (August 26, 1977)], Prior points out that Carroll's tricks with words and his competence in logic and mathematics show that Carroll has been a scientist in his subjects. In the particular view Prior differs crucially from his contemporaries.

³ In this place Prior has deleted the addition "and I think they're worth reading for that alone".

papers are still being discussed in the pages of Mind [sic], I might have gone further - THROUGH THE LOOKING GLASS is discussed in the pages of MIND, and in the JOURNAL OF SYMBOLIC LOGIC, too. And what I want to talk about now is not Carroll's special logical papers, but some of the logical aspects of the Alice [sic] books.

I wonder if you remember that odd conversation between Alice and the White King in THROUGH THE LOOKING GLASS, when they were waiting for the King's two messengers.

"Just look along the road" (the King says) "and tell me if you can see either of them."

"I can see nobody on the road", said Alice.

"I only wish I had such eyes", the King remarked in a fretful tone. "To be able to see Nobody! And at that distance too! Why, it's as much as I can do to see real people, by this light!"

This is one of those puzzles or jokes about the word "nobody" which have circulated among logicians from earliest times, and indeed it wasn't in THROUGH THE LOOKING GLASS that they first found their way into general literature. In Homer's ODYSSEY there is a story about Ulysses putting out the one eye of a giant, and when the giant asks who he is he says that his name is Noman. When the giant's friends come and ask him who has done this thing to him, he replies 'Noman', and they say "Oh, well, if no man did it, it must have been done by the Gods, you must have somehow earned their disfavour." In a way this trick is the opposite of Lewis Carroll's. In Homer's story the giant uses the word 'Noman' as a name, and his friends take it to be used in the ordinary way; in THROUGH THE LOOKING GLASS Alice uses the word 'Nobody' in the ordinary way and the White King takes her to be using it as a name.

The whole point and lesson of the trick is, of course, that the word 'Nobody' isn't a name. But it is astonishingly easy to get muddled about this sort of thing, all the same. Professor Anthony Flew, in his introduction to an important little anthology of recent philosophical papers called LOGIC AND LANGUAGE, quotes this very passage from Lewis Carroll, and makes this comment: "It is absurd, but to some people it is also easy, to be misled by the grammatical similarity of "Somebody came" to "Nobody came" into the misconception that (the word) "Nobody" refers to a person just as (the word) "Somebody" does". But has Professor Flew himself really got it quite straight? He has not; and Professor Church of Princeton was quick to point out the fact when reviewing LOGIC AND LANGUAGE in the JOURNAL OF SYMBOLIC LOGIC. Listen to him again - Professor Flew talks about "the misconception that (the word) "Nobody" refers to a person just as (the word) "Somebody" does." But does the word "Somebody" refer to a person? If it did, we would be able to prove that everyone is identical with everyone else - "I'm Somebody, and you're Somebody, therefore I'm you?" in fact neither "Nobody" nor "Somebody" are names.

There is, of course, in English, what might be called a social use of the words "Somebody" and "Nobody", in which we call a comparatively important person a Somebody and a comparatively unimportant person a Nobody. Here the words "Somebody" and "Nobody" are not exactly names, but they are common nouns, and this too is different from their ordinary use. They are, moreover, common nouns expressing a relation, namely one of superiority and

inferiority, so that there can be no Somebodies unless there are Nobodies for them to be or think themselves superior to. As Gilbert and Sullivan put it, when everybody's Somebody, the no one's anybody. Carroll did not exploit this sense of 'Nobody', but I suppose he was making the Gilbert and Sullivan point in his own way when he had Humpty Dumpty trying to persuade Alice that unbirthdays parties would be a better idea than birthday parties because there would be 364 times as many of them.

There is another trick involving not the word 'Nobody' but the allied word 'Nothing', in ALICE IN WONDERLAND, at the Mad Hatter's tea-party.

"Take some more tea", the March Hare said to Alice.

"I've had nothing yet", Alice replied in an offended tone "so I can't take more."

"You mean you can't take less", said the Hatter:

"It's easy to take more than nothing."

One might think that the answer to this one is that Alice didn't mean that she couldn't take more than nothing, but that she couldn't take more than what she had had. But this won't do, for what she had had was nothing, so if she could take more than nothing she could take more than what she had had. The ambiguity here, I suspect, lies in the word 'can't'. When Alice says "I can't take more", she doesn't mean that it is physically or mathematically impossible to do it but that it is grammatically wrong to describe a person as 'taking more' when they've not yet had anything.

This switching back and forth between talk of things and talk about talk is a common source of jokes and puzzles. It is possible, however, to make more distinctions here than one really needs to, and Carroll had a nice satire on this in his piece about the White Knight's song and its name.

"The name of the song" (says the White Knight) "is called "Haddock's Eyes"."

"Oh, that's the name of the song, is it?" said Alice.

"No, you don't understand", the White Knight said..."That's what the name is called. The name really is "The Aged Aged Man"."

"Then I ought to have said "That's what the song is called"?" Alice corrected herself.

"No you oughtn't. That's quite another thing. The song is called 'Ways and Means', but that's only what it is called, you know... The song really is "A-sitting on a gate"."

The Knight has made a legitimate distinction here, and then over-reached himself. What the name of a song is called, would be the name of the song's name, not the name of the song; the Knight is right enough here; but what the song is called surely is the name of the song. And of

course he could not show Alice what the song really is just by giving it yet another name, but only by singing it.

Carroll's White Knight, though, seems to have had a better grasp of these matters than a leader-writer in one of our New Zealand newspapers, who recently wrote an excellent editorial on the meaning of the word "Forthwith" in an electoral regulation, and then spoilt the effect somewhat by heading it up

"Forthwith" means Forthwith.

with quotation marks around the first "Forthwith" but not around the second. Just picture that heading in your mind and try to think of what, if anything, it could mean. The word 'Forthwith' with quotation marks around it is a kind of name of the word "Forthwith", and any statement containing it will make a statement about this word. But "Forthwith" without quotation marks is not a name of the word "Forthwith" or indeed of anything else, but an adverb, meaning "immediately". So the heading says in effect that the word "Forthwith" immediately does something called "meaning" though what it means is not stated. It's a bit like Alice's interrupted sentence in the last chapter of the LOOKING GLASS.

"I'm sure I didn't mean" Alice was beginning, but the Red Queen interrupted her impatiently.

"That's just what I complain of! You should have meant."

In all this, as I have hinted, Lewis Carroll stands in a tradition. These mental and verbal tricks that his characters engage in are of a sort which has been the stock-in-trade of the logician ever since his subject first grew up in ancient Greece. This very fact has, indeed, discredited the subject of Logic in the eyes of many people. Does not the case of Lewis Carroll simply serve to make it more obvious than ever that Logic is fit for nothing but the amusement of children? No, it shows nothing of the kind. What it does show is simply that LOGIC IS A SCIENCE. The difference between scientific thinking and everyday thinking is that the scientist is not content with rules of thumb that cover all ordinary cases; he is after laws that cover the queer cases too, and for that reason he concentrates on the queer cases. And the queer cases, the cases that don't fit the rough generalisations of everyday life, are apt to be amusing cases; for laughter, in at least one of its aspects, is our psychological defence against the unexpected, the out-of-the-way and the extraordinary.