

Current Comments®

EUGENE GARFIELD

INSTITUTE FOR SCIENTIFIC INFORMATION®
3501 MARKET ST. PHILADELPHIA, PA 19104

Humor in Science: The Lewis Carroll Connection

Number 4

January 23, 1989

I really can't quite remember when I first corresponded with Rudi Schmid, Department of Botany, University of California, Berkeley. He is the kind of pen pal who exemplifies the best of the communal world of science facilitated internationally by journal literature and informal correspondence. Some time ago he surprised me with a delightful study comparing postal services at the turn of the century through 1941,¹ after having already impressed me with his detailed knowledge of the botanical literature. Last year he delighted me with a reprint of his work on Lewis Carroll,² which we now share with *Current Contents*® readers. As they well know, I'm a sucker for humor in all its forms.^{3,4} But this particularly appeals to my interest in metaphorical connections in science.⁵

Before we start, however, let me make a few citationist remarks about Lewis Carroll, the pseudonym assumed by the Reverend Charles L. Dodgson. According to Martin Gardner, Dodgson was a relatively "undistinguished mathematician who delivered dull lectures at Oxford and penned equally dull treatises on such topics as geometry and algebraic determinants. Only when he approached mathematics in a less serious mood did his subject and his way of writing about it take on lasting interest."⁶

Carroll's greatest influence on science, as well as his continuing popularity, came from his ability at word play—coining new, fantastical terms; giving new meanings to words; and making puns. We mentioned Carroll in a previous essay on puns and their role in communication.⁷ According to Joseph S. Attanasio, Department of Communication Sciences and Disorders, Montclair

State College, Upper Montclair, New Jersey, Carroll's themes, word choices, and tone in his fictional works were influenced by a hearing loss in his right ear and an apparently bad stutter.⁸

In Carroll's "Alice" books⁹ the confusion that results from word play makes for humorous entertainment, encapsulated in the quote of Carroll's egg on the wall, Humpty Dumpty: "'When I use the word,' Humpty Dumpty said, in rather a scornful tone, 'it means just what I choose it to mean—neither more nor less.'"⁹ (p. 184)

For many years I used this quote as the introduction to my lectures on the ambiguity of language and the symbolism of citations.³ Countless researchers have used Carrollian themes when describing the human factor in the conduct of science. In "Pancreatitis: through the looking glass," Herbert Y. Kressel, Hospital of the University of Pennsylvania, Philadelphia, uses Humpty Dumpty's quote to introduce his commentary on the problem of defining and diagnosing the symptoms of pancreatitis;¹⁰ and Eli Glatstein, Radiation Oncology Branch, National Cancer Institute, Bethesda, describes the problems in defining and treating non-Hodgkin's lymphomas, where "the dogma set forth by many seems almost inversely proportional to the experience of those investigating these diseases...[and] that certain aspects of the non-Hodgkin's lymphomas have assumed the qualities of a surrealistic fantasy, as if written by Lewis Carroll."¹¹ D.H. Osmond, Department of Physiology, University of Toronto, Ontario, Canada, sees similar Carrollian surrealism in the quest for federal research funding.¹²

While some current papers comment on the word-meaning confusion, others use Alice-in-Wonderland motifs in describing aspects of research. Gideon M. Eschel and colleagues, Assaf Harofeh Medical Center, Tel-Aviv University, Zerifin, Israel, relate an account of a six-and-one-half-year-old boy afflicted with an acute Epstein-Barr virus who had what was termed "Alice in Wonderland syndrome"—an acute visual disorder characterized by anomalies in perception associated with shapes, color, perspective, and reciprocal positions of objects.¹³ Wayne A. Hershberger, Northern Illinois University, De Kalb, describes an experiment in which

forty food deprived...chicks were tested individually in a straight runway containing a familiar food cup that moved when the chicks moved. The food cup always moved in the same direction as the chick... In Lewis Carroll's...picturesque terminology, the experimental chicks were tested in Alice's "room through the looking-glass," in which, in order to approach the food cup, they had to "walk the other way."¹⁴

I think from the selected examples above that the zany and hilarious interpretations of sober subjects indicate that Carroll's humor strikes a chord in many scientists. In a recent telephone conversation, Rudi discussed the appeal of humor in science and his interest in the Carroll connection:

Well, like most people, I think I have a pretty good sense of humor. I first came into contact with the topic of scientific humor back in my graduate-student days when a very famous zoology parody called *Eoörnís pterovelox gobiensis* was reprinted¹⁵ [it is a 1928 parodic monograph on a nonexistent bird from the Gobi Desert¹⁶]. Essentially, since then I had this folder, and every so often when I saw a cartoon or an article or a spoof, I would throw it into the folder.... I am also a Lewis Carroll fan, and I had noticed, of course, looking at the general accumulations of examples, that a certain number dealt directly with Lewis Carroll. Some were actually parodies of Lewis Carroll items.¹⁷

The popularity of Reverend Dodgson and his linguistic whimsy is as strong as ever. There are even two flourishing "Lewis Carroll" societies. One, which published the following reprint, is located at 43 Byron Avenue, London, UK; the other, with a more imperious title—the Lewis Carroll Society of North America—has its headquarters at 617 Rockford Road, Silver Spring, Maryland.

So, while I go off on an expedition looking for some *toves*, *momeraths*, *boojums*, and the ever-elusive *snark*, sit back and enjoy the following reprint.

* * * * *

My thanks to Peter Pesavento for his help in the preparation of this essay.

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THE DEBT OF HUMOUR IN SCIENCE TO LEWIS CARROLL

by
Rudolf Schmid

Lewis Carroll's three most popular books, *Alice's Adventures in Wonderland*, *Through the Looking-Glass*, and *The Hunting of the Snark*, first published in, respectively, 1865, 1871, and 1876¹⁻³ have inspired numerous works of humour in science. The examples mentioned below are probably just the tip of the Carrollian iceberg. Some of these works seem important derivatives of Carrolliana and are obscure and largely unknown to Carrollologists. For example, I have seen Clark⁴ cited only twice (Heath,⁵ Montgomery.⁶ Alas Heath,⁷ does not discuss Clark's work) in this journal and not at all in *Knight Letter: The Lewis Carroll Society of North America* or in various books on Lewis Carroll.

Priscilla Fawcett's rendition⁸ of Alice on tip-toes peering at a caterpillar hookahed down on a mushroom may be completely unknown outside botany; the artist informs me (personal communication, Jan. 1986) that she never received any comment about her drawing of Alice and the caterpillar. This drawing compares most favourably with its Tennielian counterpart and is decidedly superior to Harry Rountree's 1928 version reproduced in Ovenden,⁹ which shows Alice in roaring 20s hairstyle and garb. Because of the excellence of Priscilla Fawcett's drawing, I reproduce here with her permission not only her drawing but also her comments on its background:

When I was doing the drawing in spring 1973, I wanted the caterpillar to be both a caterpillar and a youngish Oxford type 'into drugs' as Lewis Carroll and his contemporaries were. It was quite respectable to experiment a little with drugs. I suppose a few got hurt though. Obviously if a caterpillar smoked, it would have to do so through its respiratory system and exhale through the spiracles [the small openings along each side of the thorax and abdomen of an insect that permit breathing], making multiple smoke rings, etc., feasible. I made the spiracles rather big because if they had been the right size they wouldn't have been so obvious.

Besides the delightful caterpillar, I particularly like the wonderful menagerie of gazing characters from *Alice's Adventures*. Of course, the botanical detail is also superb, as is to be expected from this renowned botanical artist.

Boojums and snarks as inspirational forces have been significant in physics, psychology, molecular biology, and botany, and have also figured in botanico-grammar. Recent claims of the first appearance of the term 'boojum' by physicists (Mermin,¹⁰; Waldrop,¹¹), psychologists (Beach,¹²; Lau and Dember,¹³), and possibly DNA cloners (Anon¹⁴; this appears to have only a cute title—see Schmid,¹⁵: Part 19—involving 'boojum') are long predated by botanical usage as the common name for *Idria columnaris*, the Baja boojum (a.k.a. cirio) invented in 1922 by Godfrey Sykes (Gardner, in Carroll,³; Humphrey,¹⁶ p.31). Mermin's article recounts his five-year struggle to give the word 'boojum' scientific respectability for the sudden vanishing phenomenon in superfluid helium-3. Beach, in contrast, did not use 'boojum' for a scientific construct but rather as an apt metaphor for the state of an entire discipline in science, namely, comparative psychology. Finally, part of the opening paragraph of my 1983 essay on 'Which-hunting, or whatever happened to that?'¹⁷ was inspired by Carroll's *Snark*.

The poems in the *Alice* books, which are mostly parodies or burlesques of well-known literary works (see Gardner,^{1,18}; Gasson,²; Macdonald,¹⁹ and Shaw²⁰), have in turn inspired numerous burlesques or take-offs, particularly in parodical periodicals. Thus *The Tea Phytologist*, which parodies the botanical serial *The New Phytologist* (see Schmid¹⁵), offered the following: 'Alice in the Botany School: the Mock Orange's story' (1934 issue, p.6); 'The Black Night's song, from Alice in Botanyland' (1939 issue, p.6—see also the two untitled stanzas on pp.4-5 based on Carroll's 'The Walrus and the Carpenter'), and 'Always through the magnifying glass' (1964 issue, p.8). These are take-offs of, respectively, the Mock Turtle's song, the White Knight's song, and the Mock Turtle's song in the *Alice* books.

There have been endless parodies of Carroll's great nonsense poem 'Jabberwocky' (Gardner,¹ p.194; Heath,⁷). However, rather few of these seem to have involved science. The only example I know involves thermodynamics. This is Alex Pelle's²¹ 'Thermowocky', which I reproduce here in full:

'Twas quantig, and the vuscy graph
Unscrewed its curves with shrill delight;
The beaty ewes began to laugh
And the slismal logs took flight.

'Beware the Entropy Beast, my son!
The mouth that sucks, the breath that cools!
Beware the Boltzmann bird, and shun
The chattering caloric ghouls!'

He took his driting pen in hand:
Long time the beast of heat he sought—
Then rested he by the Plinck-Planck tree,
And stood awhile in thought.

And, as in thermal thought he stood,
The Entropy Beast, with eyes of flame,
Came slurping through the melting wood,
And siphoned as it came!

One, two! One, two! And through and
through.
The branksome pen went snicker-snack!
The head, the feet—and now the heat,
Released, came streaming back.

'And hast thou slain the Entropy Beast?
Accept this laurel for your head!
O frabjous day! Calloo! Callay!
The glarvish thief of heat is dead!'

'Twas quantig, and the vuscy graph
Unscrewed its curves with shrill delight;
The beaty ewes began to laugh
And the slismal logs took flight.

As a botanist, I can't say if this parody is nonsense or meaningful.

On the other hand, Newman's 'Jabberwocky genes,'²² a poem of 22 stanzas, is not a burlesque of Carroll's 'Jabberwocky' but merely makes a few borrowings from it, for example, the title or 'Beware the bushy-stump disease'! This verse is of only peripheral interest to Carrollogists.

A most elaborate take-off is Paul F. Clark's 19-page *Alice in Virusland*,⁴ a presidential address to the Society of American Bacteriologists and a fable embellished with humorous text, five cartoons by W. Allen, and appreciable humour verse. The poems include 'The Coccus and the Spirochaete,'⁵ 'Wriggle, wriggle, Spirochaete,' and 'The Influenza Virus' based on, respectively, Carroll's 'The Walrus and the Carpenter,' 'Twinkle, twinkle, little bat,' and 'In winter, when the fields are white.' This take-off is populated with a curious admixture of Alice characters, viral and bacterial types, fruit flies and king crabs, and famous people like van Leeuwenhoek, Pavlov, and Erasmus. Of course Alice must be initially shrunk to microbial size so that she can interact with the bacteria and viruses.

Clark's opus is humorously and skilfully written but rather didactic and pessimistic. On page 9, for example, the Coccus says:

'This human race is surely mad
They slit each other's throats.
They blow each other off the earth.
They sink each other's boats.'

'Should we permit,' the Coccus asked,
'These silly beasts to thrive,
Who call themselves the lords of earth
Yet selfishly connive
Freedom, dignity and peace
From many lands to drive?'

The Human Race, in the person of Alice, is brought before the Tribunal of the Microbe Parliament, who have convened 'to consider what to do with "man"'. Despite the didacticism, the fable presents some amusing points of microbiology, has a final apparently original poem, 'The dream of the Unknown Soldier,' and ends on an optimistic note. As the address was written during August 1938 during increasing war fears due to Nazi Germany's pressures on Czechoslovakia, the didacticism and pessimism seem understandable.

Heath's valuable articles^{5,7} discuss several parodies or quasiparodies of the *Alice* books, namely ones dealing with 'insect-land', 'flowerland', 'monsterland', 'hiveland', 'beeland', and 'jungleland'. I have seen none of these, which, at any rate, seem peripheral to real or hard-core science. However, very briefly mentioned by Heath^{5,7} are two works on such science. The physicist George Gamow²³ in *Mr Tompkins in Wonderland* attempted to sugarcoat modern physics via an Alician vehicle complete with charming illustrations by John Hookham. However, this work lacks verse and is, as Heath⁷ correctly noted, not really parody. Morrill's 'Alice's adventures in evolutionland',²⁴ which Heath⁵ erroneously listed under 'satires' rather than 'didactic' (the place where it is discussed in Heath,⁷) was serialized in the parodical periodical *The Worm Runner's Digest* (see Schmid¹⁵). However, this work is sans verse and cartoons and on the whole is merely silly and tedious.

Lastly, disparate cartoons of Alice and a mushroom appear in Norstog and Long⁸ (p.250) by Priscilla Fawcett, as discussed above, and in the 19 October 1963 *The New Yorker* by Ed Fisher (reproduced in Emerson,²⁵). Also, Mackay²⁶ gave a selection of quotations from all three Carroll books. Ingle²⁷ discussed 96 fallacies and errors of logic in these books. However, this is a



mere cataloging written without any attempt at humour. What little humour there is derives only from one's familiarity with the philosophical basis of the fallacy or error being discussed.

In summary, these are the examples of humour in science indebted to Lewis Carroll that I know

of and that I encountered during my preparation of a review of humour in the scientific literature. There certainly must be other examples of such humour based on Carroll, and I thus encourage readers to forward them to me for a possible sequel.

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AUTHOR'S NOTE (18 December 1988)

The issue of *Jabberwocky* containing this article appeared in summer 1987, though it is dated summer 1985. The article is reprinted with minor corrections, mostly to the bibliography. My 1986 *Biologist* paper cited therein (reference 15) got too big for its britches and is thus being expanded into a book to be published by Timber Press, Portland, Oregon. Examples of the science-Lewis Carroll connection proliferate, for instance, those noted in Eugene Garfield's introduction, and by my own hand. As editor of the "Reviews and notices of publications" column in *Taxon: Journal of the International Association for Plant Taxonomy*, I have since its February 1987 issue taken the liberty of inserting in each column an appropriate quote from Lewis Carroll's works (see *Taxon* 38:78). For example, my favorite quote applies to the ever-behind *Kew Record of Taxonomic Literature*: "It takes all the running you can do, to keep in the same place"—The Red Queen. Others wishing to indulge in such naughtiness will find C.A. Miller's¹ index of Carrolliana invaluable and may find further inspiration listening to David Del Tredici's^{2,3} *Alice* epic or Mike Batt's⁴ *Snark* saga (for details and cited reviews see reference 5).

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