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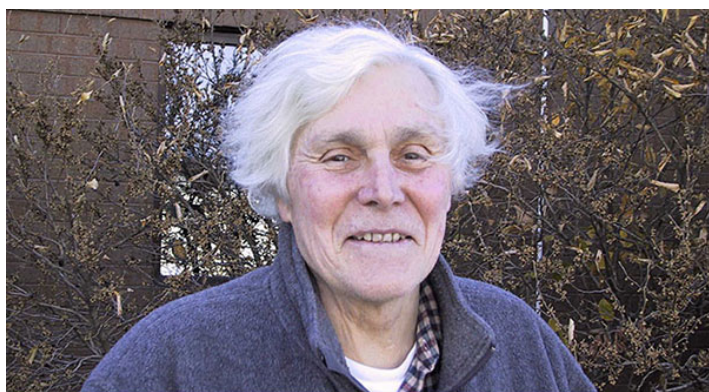
[“The Scientist Who Scrambled Darwin’s Tree of Life”...](#)

August 30, 2018 by Laborjournal

... This headline in the *New York Times* Magazine made me curious. Who could that be? “The most important biologist of the 20th century you've never heard of,” writes David Quammen in the *NYT*.

So who is it now?

It is [Carl Woese](#), the expert in molecular phylogeny who died at the end of 2012 — although this term did not even exist when Woese began to study the early evolution of bacteria.



Carl Woese, the "most important unknown biologist of the 20th century," on Thanksgiving 2003. He was born in Syracuse, New York, in 1928 and received his doctorate in biophysics from Yale University. In 1969 he became professor of microbiology at the University of Illinois at Urbana-Champaign, where he remained until his retirement. Woese died on December 30, 2012.

[The wonderful 7,500-word article](#) was written by [David Quammen](#), a multi-award-winning journalist and author. It is an excerpt from Quammen's latest book "*The Tangled Tree — A Radical New History of Life*". Quammen provides a fascinating summary of the discovery of archaea and their classification as a new kingdom in the *Tree of Life*, of the emergence of molecular phylogeny as a research discipline, of horizontal gene transfer and its significance for evolution — as well as of the person Carl Woese.

Quammen himself never met Woese, as he only began to study the subject and the man two years after his death. So he had to gather his information from many conversations with those who knew Carl Woese. From their words you get a pretty good sense of what it was like when Woese and George Fox announced in a 1977 publication that archaebacteria would be a third empire alongside eubacteria and eukaryotes.

The paper made the front page of the *New York Times* and Woese was in the spotlight for "15 minutes," says Quammen. But scientists didn't think much of his ideas. Ralph Wolfe, a microbiologist and former colleague of Woese, remembers: "We got a lot of calls, all negative. People were outraged by this nonsense. Which meant that the whole concept was delayed for at least ten or fifteen years." And so the researcher disappeared back into his lab.

Woese was right, however, as the past has shown. And although his findings drastically changed the image of the *Tree of Life*, the researcher never really became well-known or even famous. According to Quammen, this was ultimately due to his personality. He was a stubborn scientist - unknown, but brilliant, quirky, driven.

What surprised me was that I was able to meet Woese in person in 2003 at his home in Urbana (USA) - shortly after he had received the [Crafoord Prize](#) (the equally unknown little brother of the Nobel Prize). Carl Woese - at the time with disheveled white hair, a wrinkled face and casual clothing - took three hours of his time for me, even though it was *Thanksgiving*. He didn't seem eccentric or stubborn. The man was relaxed, talkative, in a good mood, and he laughed a lot. A very pleasant conversationalist - intelligent and yet patient in explaining the finer points of his ideas to me. And he was convinced that if Darwin had still been alive at the time, he would have worked for him - Woese.

(The resulting interview text, including a short summary of Woese's work, was also published [here in the blog](#) at the beginning of 2013 on the occasion of his death.)

After reading the *NYT* article, I immediately bought the book. I've only read a quarter of it, but I can still really recommend it. And it should be translated for a wider audience. Quammen has a great writing style. He manages to bring the research of Woese and all his colleagues, as well as many other scientists, to life. He provides details without being long-winded; he writes in a witty way... But read it yourself!

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[Growth, Diversity, Chaos... and Death](#)

January 3, 2013 by Laborjournal

Two great personalities in the life sciences did not live to see the new year: Rita Levi-Montalcini (right) and Carl Woese (left).



[Rita Levi-Montalcini](#) died on December 30th in Rome as the oldest living Nobel Prize winner ([1986, together with Stanley Cohen](#)) at the age of 103. With the discovery and isolation of the nerve growth factor NGF, as well as later the epidermal growth factor EGF, she provided crucial foundations for deciphering the concept of development control by polypeptide growth factors. More about this in the obituaries [here](#) , [here](#) and [here](#) .

On the same day, [Carl Woese](#) , the "father of the archaea" and a key pioneer of molecular systematics and evolutionary research through sequence comparisons, died in Urbana, Illinois, at the age of 84. Woese did not receive a Nobel Prize (but did receive the [Crafoord Prize](#) , among others), but he was perhaps even more influential on modern biology than Levi-Montalcini. The reason for this is revealed in a conversation that our colleague Karin Hollricher had with Woese almost ten years ago (*Laborjournal* 4/2003: 28-32) — and which we are presenting again here: [Continue reading this article »](#)

Tags: [Archaea](#) , [Carl Woese](#) , [Crafoord Prize](#) , [Darwin](#) , [horizontal gene transfer](#) , [molecular evolution](#) , [Nobel Prize](#) , [ribosomal RNA](#) , [Rita Levi-Montalcini](#) , [sequence comparison](#) , [family tree](#) , [growth factors](#)
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