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Retracted papers damage work on DNA repair

The retraction of a paper in the journal *Science* has left biologists picking up the pieces as revelations continue about the misdeeds of Tony Leadon, formerly a professor at the University of North Carolina at Chapel Hill.

The retraction, issued on 17 June, concerned a 1997 paper on a genetic disorder called Cockayne syndrome (P. K. Cooper, T. Nospikel, S. G. Clarkson and S. A. Leadon, *Science* 275, 990–993; 1997). Sufferers cannot repair their DNA properly, and the paper's authors reported that they had traced the syndrome's genetic cause to defective repair of oxidative damage — the sort of DNA injury caused by sunlight. But last week, three of the authors said that two figures contained invalid data, and that the paper's conclusions could no longer be supported. The fourth author, Leadon, refused to sign the retraction.

In 2003, a university panel found Leadon guilty of fabricating and falsifying findings in his research on DNA repair. Leadon left the

University of North Carolina on 31 March, after the verdict. He also left biologists struggling to sort out fact from fiction.

Two of Leadon's other papers were subsequently retracted. One of them claimed that a gene implicated in cancer, *BRCA1*, was involved in the repair of oxidative damage. But Philip Hanawalt of Stanford University in California — a leading figure in the field of DNA repair — says no other evidence has emerged to support the paper's conclusion. "His work on *BRCA1*, as far as I know, was simply fabrication," Hanawalt says.

The panel has made no public statement about the paper on Cockayne syndrome, but collaborators have been unable to replicate the results that it contains. There is some indirect evidence that problems with oxidative repair lie at the root of the disease, says one of Leadon's former collaborators, Priscilla Cooper of the Lawrence Berkeley National Laboratory in California. But, she

says, it will take time to establish the truth.

"The subfield that is working on oxidative damage is really having to redo everything from scratch," Cooper says. "This was quite a blow to me, and his other co-authors."

No one is quite sure what caused Tony Leadon to report false data or whether it was intentional; he has not responded to Cooper and Hanawalt's attempts to communicate with him, and he did not reply to *Nature's* attempts to contact him. But Hanawalt speculates that Leadon was driven to fabricate results after a test for DNA repair simply stopped working.

As the field tries to sort itself out, Hanawalt notes that there are other lasting impacts of the retractions. One of Leadon's co-authors, for instance, is searching for a faculty job, and must explain the situation to potential employers. "They can say, 'It wasn't my fault,' but the damage has been done," Hanawalt says. "This kind of thing can be devastating." ■

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