SCIENTIFIC MISCONDUCT

Medline Searches Turn Up Cases of Suspected Plagiarism

When he began collecting data last year for a book about scientific misconduct, cancer researcher Marek Wroński had no idea that he would set off a bomb in the scientific enclaves of his native Poland. But in the past few weeks, Wroński's queries about an obscure misconduct notice in a Danish journal have exposed what Wroński claims is a widespread case of plagiarism. He has also raised questions about the Polish scientific establishment's ability to investigate itself. These allegations have shaken two major universities, made headlines in Polish newspapers, and aroused the concern of Poland's science funding chief, Andrzej Wiszniewski.

Wroński claims that Andrzej Jendryczko, a chemical engineer and former professor at the Medical University of Silesia (MUS) in Katowice, Poland—along with a dozen or so co-authors who may or may not have understood what the main author was doing—published at least 30 biomedical research papers that repeat verbatim passages from other authors without giving credit. Five Polish researchers listed as co-authors on some of the papers hold coveted full professorships or are heads of university departments, according to Wroński. One striking example he discovered is a paper on cancer of the cervix, published in English in 1991 in *Zentralblatt für Gynäkologie*, a German journal, that duplicates whole passages—with a few critical changes—of a 1979 paper in English on cancer of the larynx published in the *Journal of Maxillofacial Surgery*, also German (see illustration).

Jendryczko has not responded to letters *Science* sent by fax to his home and office, and *Science* could not reach him by telephone. However, on *Science*'s behalf, Jan Latus, an editor at the New York City Polish language paper *Nowy Dziennik*, interviewed Jendryczko and his wife Barbara by phone at home. Jendryczko maintained his innocence and said he was not able to respond to specific charges because they had not been provided to him in written detail. Speaking for her husband, attorney Barbara Jendryczko said that Jendryczko intends to fight the allegations and media reports in court if necessary. On 14 January, Jendryczko also published a letter in the newspaper *Rzeczpospolita* of Katowice, denying Wroński's charges and suggesting that Wroński's attack was motivated by a private grudge. He also criticized Wroński for not seeking an explanation directly from the accused before going public, adding that even the most dangerous criminals are allowed to defend themselves before being judged.

Wroński—a Polish-educated M.D.–Ph.D. who studies cancer therapy outcomes at the Staten Island University Hospital in New York—says he had never heard of Jendryczko before he read his papers last year. His inquiry began last June, he says, after he came across a cryptic note in the *Danish Medical Bulletin* of September 1996. Under the heading, "Work originating from Denmark, translated into Polish and published in a Polish journal. Four Polish scientists guilty of scientific dishonesty," the Danish Committee on Scientific Dishonesty reported that it had confirmed a case of plagiarism. The incident had come to light when Danish authors of a paper published in 1989 found a duplicate of their abstract on Medline under other names. The abstract related to a paper published in 1992 in the Krakow-based journal *Przeglad Lekarski*. The committee added that the "principal Polish 'author' ... admitted the plagiarism and apologized," while "the head of the principal author's department, who co-authored the article, also apologized for the act and felt that his trust had been abused." No names were given.

Science has obtained copies of letters to the Danish committee signed by Jendryczko and his former department chair, Marian Dróżdź—two of the four co-authors on the Polish paper. Dróżdź's 13 February 1995 note thanks the committee for its work and says that, "The act of Professor Andrzej Jendryczko who, as an independent scientist, enjoyed a great extent of trust at that time is hurting even more because of having abused the entrusted confidence." Dróżdź wrote that he was turning the case over to the university ethics committee. In an undated note that month, Jendryczko wrote to the Danish panel, "Although incontestably I am to blame, I would like you to accept my excuse. ..." He explained that he admired the work of the Danish group, had translated it, used its techniques to explore a similar topic, and because of "disorder and one of the author's neglect" [not his own] had published the translation. He said it wouldn't happen again.

Wroński was most upset by what he views as the mild initial reaction of Polish authorities to the Danish findings. After a closed, 13-month inquiry during which Jendryczko spent 6 months on paid leave, Polish university authorities concluded that the statute of limitations had run out and that Jendryczko could not be punished. Although Jendryczko resigned from MUS in early 1997, he was appointed a professor at the Polytechnic Institute of Czestochowa, where he now works.

Wroński says many people knew about this case, "but nobody said a word." Misconduct, he claims, was "protected by the old guys' network." When Wroński began asking questions about it last summer, he adds, "many people told me to be quiet—they said I was going to destroy Polish science. ... But

The Intracellular Enzymatic Response of Neutrophils and Lymphocytes in Patients with Precancerous States and Cancer of the Larynx [1979]

Tatiana Gierek, Jerzy Lisiewicz, Jan Pilch

Summary: In patients with precancerous states and cancer of the larynx prior to and after radiotherapy exhibit the decreased activity of neutrophil beta-glucuronidase. Moreover patients treated by radiotherapy before the age of 6 to 9 years demonstrate deficiency of N-acetyl-beta-glucosaminidase in the above cells. The main finding in lymphocytes of the patients studied was in the appearance by diffusion of the above enzymes and of acid phosphatase in the cytoplasm, reflecting their release from lysosomes and immunological mobilization of these cells. The authors discuss the possible role of neutrophil enzymatic deficiency in lowering the antitumour cytotoxic effect of these cells.

Material and Methods

Our studies comprised 24 men with precancerous states of the larynx, i.e. leucoplakia, pachydermia, and papilloma, aged 32 to 58 years, 20 men with untreated cancer of the larynx prior to radiotherapy, aged 35 to 65 years, 30 men with cancer of the larynx after radiotherapy before 6 to 9 years, and a control group of 20 healthy men, 20 to 40 years of age.

The intracellular enzymatic response of neutrophils and lymphocytes in patients with precancerous states and cancer of the uterine cervix [1991]

A. Jendryczko and M. Dróżdź

Abstracts: In patients with precancerous states and cancer of the uterine cervix prior to and after radiotherapy exhibit the decreased activity of neutrophil beta-glucuronidase. Moreover, patients treated by radiotherapy before the age 6 to 9 years demonstrate deficiency of N-acetyl-beta-glucuronidase in the above cells. The main finding in lymphocytes of the patients studied was in the appearance by diffusion of the above enzymes and of acid phosphatase in the cytoplasm, reflecting their release from lysosomes and immunological mobilization of these cells. The authors discuss the possible role of neutrophil enzymatic deficiency in lowering the antitumor cytotoxic effect of these cells.

Materials and methods

Our studies comprised 24 women with precancerous states of the uterine cervix, i.e. leukoplakia, pachydermia and papilloma, aged 34 to 58 years, 20 women with untreated cancer of the uterine cervix prior to radiotherapy, aged 33 to 61 years, 30 women with cancer of the uterine cervix after radiotherapy before 6 to 9 years, and a control group of 20 women, 27 to 55 years of age.

Striking similarities. Paper published in *Zentralblatt für Gynäkologie* in 1991 *(right)* contains text that is almost identical to text from a paper published in 1979 in the *Journal of Maxillofacial Surgery* by three different authors. (Texts have been retyped for legibility.)

The Internet: A Powerful Tool for Plagiarism Sleuths

It's a safe bet that Polish chemical engineer Andrzej Jendryczko could have retired quietly from a long research career without facing charges of plagiarism had it not been for the Internet. It was thanks to the Net's remarkable power to link scholars and libraries across continents and to serve up instantaneous comparisons of texts that Jendryczko's accuser, cancer researcher Marek Wroński of Staten Island University Hospital in New York, was able to unearth a trove of 30 allegedly plagiarized medical papers last year (see main text).

The Internet delivered the first clue in 1994, when a Danish researcher named Jan Fallingborg looked up articles on selenium on Medline, the U.S. National Library of Medicine's (NLM's) computer service that searches and retrieves medical abstracts for a fee. He was surprised to find that, along with his own 1989 abstract on this topic, the computer coughed up a nearly exact duplicate version published in 1992 by four Polish authors. Danish officials investigated and concluded in 1995 that the Fallingborg paper had been plagiarized. They published the finding in 1996, but with no names.

M. WROŃSKI

Medline maven. Marek Wroński.

Last June, Wroński saw the Danish note, obtained Jendryczko's name, and began surfing the Net for evidence of other potential instances of plagiarism. After finding what he considered to be a startling number of articles by Jendryczko—125 over a 13-year career—he set out to find source articles from which their texts might have been borrowed.

By chance, Wroński's investigation received a boost from Vice President Albert Gore in June. Gore persuaded the NLM to open its Medline service to the public, free of charge, through an easy-access gate known as PubMed. One of PubMed's most valuable features, designed by the National Center for Biotechnology Information (NCBI), is a push-button function labeled "find related articles." NCBI director David Lipman explains that this "neighboring" function was developed by John Wilbur, an M.D. with a Ph.D. in mathematics. It uses statistical algorithms to identify root words in a selected article and scans the entire Medline database for other records that use the same words and are likely to cover the same topic. After its first pass through the database, it concentrates the search by giving extra weight to root words that appear more than once in the initial batch of candidate records. It's a powerful tool if you're hunting for suspected plagiarism. After poking around in PubMed during the evening and on weekends, Wroński identified an additional 29 suspect papers.

Lipman says he does not know of anyone else who has used PubMed to hunt for plagiarism this way. He recalls, however, that fraud hunter Walter Stewart, a staffer at the National Institutes of Health, once approached him asking for help in devising algorithms that would compare texts and give a numerical culpability rating for plagiarism. Lipman declined. But in PubMed, now accessed by 39,000 individuals a day, NCBI has handed a weapon to would-be fraud police like Wroński. **–E.M.**

during my 8 years' stay in America, I learned a completely different way of behaving." In the United States, Wroński says, "people are disciplined in the light of all their colleagues and the public." Polish scientists, he says, are just as capable as Americans and should hold themselves to the same standards.

After looking into the Danish case, Wroński began examining the rest of Jendryczko's oeuvre. He began searching Medline for Jendryczko's work and says he was amazed to find that about 125 medical papers by the engineer were indexed. "I found that he had published 125 papers in Medline in 13 years—60% of them original work," says Wroński. "And in one year—1993—he published 16 original papers." Moreover, these papers cover a wide range of medical specialties, reporting new findings on mitochondrial DNA and aging, estrogen and myocardial infarction, neonatal growth, zinc and copper in cancer tissue, cholesterol and hypertension, antioxidant enzymes in the placenta, intracellular responses to cancer, menopause, the effects of selenium, the effects of ionizing radiation, and many others. In one year, says Wroński, Jendryczko—who is not an M.D.—published two papers reporting data from 300 patients in one case and 1000 in another, without crediting the numerous physicians who must have treated them.

Wroński says he wrote first to Zbigniew Religa, a personal acquaintance and a renowned cardiologist who is president of MUS, in August, urging that the investigation of Jendryczko be opened to the public. In the meantime, he asked friends in Poland to obtain photocopies of Jendryczko's papers, and in less than a week, he says he received a package of 90 papers. In September, Wroński compared the texts of Jendryczko's published papers with suspected source papers, which he had identified through the "find related articles" search function of Medline (see sidebar). By mid-September, Wroński says, he had found 20 papers that he views as clear instances of plagiarism; by November, he had found nine more. In one case, Wroński says, a section of a paper published in 1989 in the *British Medical Journal* (*BMJ*) was combined with part of a 1992 paper from *The New England Journal of Medicine* (*NEJM*) to create a composite article published in 1993 in *Zentralblatt für Gynäkologie*. Editors at both *BMJ* and *NEJM* say they agree with Wroński's interpretation and are awaiting word from *Zentralblatt*. The editor of *Zentralblatt*, H.P.G. Schneider, has not responded to *Science*'s queries sent by fax and e-mail.

Wroński claims that his initial letter to Religa—and more specific allegations of plagiarism he sent to Religa and the university's vice president for scientific affairs, Tadeusz Wilczok, in September—were ignored until mid-November. Religa could not be reached for comment, but Wilczok responded on 15 January with a note denying any hesitation. Wilczok says that Religa "acted immediately and ordered the main library to produce the originals" of the suspect publications. Wilczok says the university has appointed three investigative panels to clear up this case. Although these investigations have not yet been completed, on 17 December, the MUS senate passed a resolution—which has been obtained by *Science*—stating that charges of plagiarism against Jendryczko "and various co-authors" are "fully substantiated." It voted to "most severely condemn" the alleged misconduct. The Polytechnic Institute of Czestochowa, meanwhile, has also appointed an investigative committee to look into alleged plagiarism by Jendryczko, according to its president, Janusz Szopa.

While these investigations run their course, a more immediate result of Wroński's sleuthing could be the establishment of a formal mechanism for investigating allegations of misconduct in Poland. In a telephone interview with *Science*, Wiszniewski, president of the state committee for scientific research, said this experience has convinced him that Poland needs a national committee of "respected names" to review such allegations.

–Eliot Marshall