

The case of the questionable reference

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In a recent issue of CMAJ (Can Med Assoc J 1989; 140: 7), Dr. Bruce Squires, the scientific editor, discussed several infractions by the authors of scientific papers that have the potential to damage the credibility of science, with one of the sins cited being the failure to check references. Here, Dr. Mark Clarfield of Montreal writes about his personal experience with a questionable reference.

It is well known that one must never quote a secondary source without carefully examining the original paper. Having recently had a potentially disastrous experience relating to this, I thought it might be

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useful to point out how easily one can be seduced.

I had been working on a meta-analysis and critical review of the literature concerning the reversible causes of dementia (Clarfield AM: The Reversible Dementias: Do they reverse? *Ann Intern Med* 1988; 109: 476-486). During my research, I came across a description of a fascinating case history in which the author summarized the findings of an original paper published by Parr in 1955 (Parr D: Diagnostic problems in presenile dementia illustrated by a case of Alzheimer's disease proven histologically during life. *J Ment Sci* 1955; 101: 387-390).

According to the secondary report, the original paper described a patient who had presented with early dementia and subsequently underwent a brain biopsy that proved consistent with Alzheimer's disease. The remarkable thing the secondary report claimed for the original

paper was this: "Subsequent follow-up over a period of years failed to confirm the presence of dementia and the patient recovered fully (emphasis mine)."

I quickly incorporated Parr's supposed discovery into my paper since it strongly supported a related point that I was trying to make about the reversibility of dementia. Fortunately, though, I remembered a professor's warning: "In medicine, never say never. That being said, never accept a secondary source without checking it out yourself!"

I had my secretary order Parr's original paper from the medical library and went on with my review, confident that a quick perusal of the original research would confirm this fascinating finding. This in turn would allow the flashy inclusion in my own review of the startling point so assiduously dug out of the mines of medical literature.

I was in for a surprise. Parr had described the case of a

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51-year-old man whose dementia symptoms were first noticed in 1951 and who underwent a full examination, including a 1952 brain biopsy that was positive for Alzheimer's disease. So far so good — everything was consistent with the summary I had seen.

However, in an addendum to his report, Parr noted that on follow-up in 1954 "... there was otherwise no obvious physical change [over the 2 years]. He could still write clearly, but had some difficulty with visuo-spatial orientation, for example reversing east and west when asked to draw the points of the compass. He had nominal dysphasia, *much more markedly than before* (emphasis mine). Psychometric tests showed a *greater general deficit than in 1952*".

This was hardly the full recovery mentioned in the later description of Parr's work. In an attempt to overcome the appar-

ent contradiction, I wrote to Parr, who confirmed the elements of the case history, but had never heard anything about an improvement in the patient.

"I did of course check [the] reference to this case, which I had not read [before]", he replied. "I cannot recall ever hearing of the follow-up that he reports. The case was under Professor Desmond Curran, who died a year [ago]. I saw a good deal of Professor Curran in the period 1955-60 and feel that he would have mentioned such a surprising development to me had he known about it. Two contemporaneous colleagues there to whom I have spoken cannot remember the story either."

One possible source for the error in the secondary source is the misinterpretation of the addendum to Parr's original work, in which the patient's family physician — the patient's relatives had refused further follow-

up by specialists — reported that 1 year after the 1954 follow-up examination, the patient had "shown no gross further deterioration". That, however, is a long way from the "full recovery" mentioned in the secondary source. It appears that the patient was still quite demented, although there may have been a temporary stabilization.

I think several lessons can be learned from this case of a case history gone awry. For instance, secondary sources should be treated like newspaper articles — you should never quite believe them unless you attended the event being reported. As well, always check the original papers. Whether you believe what you read in them is another matter altogether.

The final lesson is the simplest. Unless you are willing to follow those rules, do not submit manuscripts to medical journals. ■

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