



Academic Citation Practice: A Sinking Sheep?

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abstract: An explosion in access to electronic databases and digital information is changing the way we view source citation. While the original purpose of referencing—showing the reader exactly where the author got his or her input—is clearly more important than ever, citation is increasingly taking on other roles, ones that have little to do with good scientific practice or effective communication of knowledge. One of the results is that myths and urban legends continue to flourish in academia, despite that we have never had better tools for preventing such misinformation.

Why Sheep Can't Swim

Referencing and citation practice may not be the world's most exciting topic, but the inspiration for this article comes from an incident that captured my interest on more than one level. My 14-year-old son returned from summer camp in Jostedal, a remote but beautiful valley in southern Norway, bursting with newfound knowledge to share: "Dad, do you know why sheep can't swim?" he asked.

Truth be told, I actually did not know that sheep could not swim, but after some consideration it seemed like a reasonable assertion. Even though I have seen a large number of sheep in my life, I could not recall seeing a single one swim. I answered as best I could—maybe it had something to do with the wool? That it becomes waterlogged when the sheep is submerged and pulls the poor animal under water?

"Nope! That's not why. Do you give up?" he persisted.

Now, I will admit that it is becoming increasingly common for my son and his two younger siblings to come home from school armed with knowledge that somehow seems to highlight gaps in my own. Although they are often astounded at the depth of my ignorance, I seldom feel embarrassed about not knowing everything that is expected from teenagers and children today. In this particular case, however, it really bothered me that I could not answer—partly because about twenty years earlier I had passed (with flying colors, I might add) a correspondence course on sheep farming, but more

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so because my area of academic expertise focuses on a part of the world where sheep farming is central to the livelihoods of the people. I really felt that I *should* know why sheep cannot swim.

“Come on, do you want me to tell you?” he kept pestering, until I finally gave in.

“Sheep can’t close their buttocks properly, so they take in water and sink,” he lectured smugly. He cited his camp counselor, a young man who had obviously made quite an impression on my son, as the source of this information.

I was flabbergasted—for several reasons. First, it struck me that this anatomical peculiarity revealed a substantial flaw in God’s handiwork. My next thought was that this, oddly enough, also cast doubt on key aspects of the logic of evolution and “the survival of the fittest.”

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had just finished reading about: the Swedish warship *Vasa*. Built to glorify King Gustavus Adolphus, the ship was outfitted with every imaginable ornament—and armament. It was launched in Stockholm’s harbor in 1628 to great fanfare. Unfortunately, it foundered and sank to the ocean floor after just a few minutes.

One of the reasons *Vasa*’s maiden

voyage was cut so tragically short was that it took in water through the open lower gunports when the ship heeled at the first gust of wind.¹

One important difference between the ship and the sheep stands out, however: the construction flaw that caused *Vasa* to meet its catastrophic and embarrassing demise was, for obvious reasons, never copied, and the ship remains the only one of its kind. In contrast, if you believe the new oracle of our time—*Wikipedia*—the number of sheep in the world today exceeds a billion.

My son had thus drawn my attention to a case of both theological and evolutionary significance. Naturally, as a researcher and a father, my first step was to try to find reliable sources that could verify the assertion that sheep cannot close their anal sphincters properly. I sat down at the computer for what would become an exhaustive (and exhausting) session of searching in electronic reference material, literature databases, and specialized Web pages with detailed information about the anatomy and physiology of sheep. Alas, I could not even find out if anyone had researched this phenomenon, let alone written about it in a way that would be reasonably comprehensible for someone like me, a social anthropologist with limited knowledge of biology. On my digital safari I did, however, stumble across others on the same quest, asking variations of the question “Is it true that sheep take in water through their rear ends?”

My newfound enthusiasm was brought to an abrupt halt after a late-night visit to YouTube: the very first search for “sheep” + “swimming” resulted in several hits, one of which showed a shepherd, probably South Asian, with a flock of eighteen sheep. He



leads them over to a river or canal, gives a sign, and one by one they obediently jump into the water and *swim* quickly—and clearly without any problems or signs of sinking whatsoever—over to the other side.² Another video showed a North American lamb (Peter) performing a spectacular plunge into the water, followed by an almost two-minute successful swim to reach his waiting mother.³

My confidence in the Creator's work was thus restored, as was my confidence in my own expertise as a graduate from a correspondence school in sheep farming and a researcher of shepherds in Africa. Breaking the truth to my son—not only that sheep do not leak, but also that his camp counselor, cool factor aside, was mistaken on this one particular issue—did, however, pose a slight challenge. My son is skeptical about much of what I tell him—and often for good reason. But he has a powerful respect for YouTube. The clips I showed him put an effective stop to all objections and further discussion on the matter. The conclusion was obvious: sheep *can* swim.

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A few weeks later, I held a lecture on the use of sources and citation practice for a group of student nurses at Bergen University College. One point I made was how important it was to use reliable sources and to cite them in such a way that the reader can easily find them. The image of the sinking sheep suddenly sprung to mind, and I blurted out: "Does anyone here know why sheep can't swim?"

About one-fourth of the students raised their hands, and one of them, after struggling to find the appropriate terminology, answered: "Umm, because their rear ends leak?" The others who had raised their hands nodded in a chorus of agreement. It turned out that most of these students came from rural areas and had firsthand knowledge about sheep and sheep farming in Hordaland, an area of Norway abundant with lakes, rivers, and fjords. My two years among shepherds in Tanzania was nothing compared to the collective and much more relevant experience of these students. My conviction wavered. Could it be that South Asian and North American sheep can swim and have well-sealed rear ends, while certain species of sheep found in Norway, in areas such as Jostedal, do not?

After my lecture, I headed straight to my office and called the research institute that seemed the most relevant. My call was put through to the institute's foremost expert on sheep. Like the nursing student, I, too, struggled to find the right way to pose the question, and I ended up asking something along the lines of "whether there was veracity in the assertion that some species of sheep had a kind of leakage in their external anal sphincter, a kind of reverse incontinence, and therefore had a tendency to take in water and perhaps even sink and drown when the level of water surpassed the point where this orifice is located?"

I immediately sensed that my question annoyed the sheep expert. He seemed outright insulted on behalf of his research objects, and vehemently and rather curtly rejected the notion that sheep should have such an appalling anatomical flaw. But after some discussion we achieved a more amicable tone, and he admitted he had heard the same thing about goats; that is, that *goats* could not swim because they leak. He nevertheless quickly added that he did not believe there was much truth in that either.



The goat gossip cheered me up so much that I boldly asked about another possible misconception about sheep: namely, how they tend to follow their leader blindly, no matter what he or she does—such as jumping off a cliff. The sheep scientist somewhat reluctantly admitted that this was known to happen from time to time, but again rushed to the animals' defense by pointing out that this unfortunate characteristic was not unique to sheep. The same thing has happened, and can happen, to a number of other herd animals.

He was, of course, quite right—which now leads me to a far more serious subject. Students and academics are also herd animals and act not uncommonly like sheep. This includes how we cite our sources and provide documentation for our statements of fact. I am not just talking about being clumsy, sloppy, or slovenly when we write, but also

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about being naive when we read anything that is followed by something that looks like a reference, either set off in parentheses or placed in an endnote or footnote. The study of citation practices provides an excellent opportunity to explore various forms of herd mentality among academics and to illustrate how the violation of basic principles for handling and referring to sources can have unfortunate consequences. One of them is the proliferation of academic urban legends,

statements and stories that have little or nothing to do with reality, but that nonetheless continue to reproduce and spread in academia.

Good citation practice is about being as honest, accurate, and thorough as possible. On the other end of the scale, we find references—and quotation marks—that are not just erroneous or ambiguous, but completely missing.

When References Go Missing

The rash of plagiarism cases that have captured the media's attention over the last few years are prime examples of people behaving like sheep heading for a cliff. The most mind-boggling case in my home country, Norway, was probably when in 2008 more than 200 law students got together and apparently threw themselves off the proverbial cliff at the University of Bergen. University administrators using the plagiarism-detection software Ephorus found a high degree of similarity between the papers that were turned in, indicating that the students copied either from one another or from former students. More or less the same thing happened at BI Norwegian Business School and in the faculty of medicine at the University of Oslo. The latter case concerned eleven take-home exams for a doctoral course in, ironically, the philosophy of science and ethics.⁴ In 2012, a similar outbreak of the plagiarism epidemic hit Harvard University.⁵

What stands out most about the students accused of plagiarism is not their herd mentality, but rather their miraculous ability to survive their cliff dives. These are students who were accepted into prestigious institutions of higher education, but a large number of them managed to convince their accusers that they did not know the dif-



ference between writing an independent text, and cutting and pasting with their word processing software. Clearly, being classified as ignorant is far preferable to being labeled a cheat or an academic criminal.

When cases like these end up with no action taken against the plagiarists, the blogosphere in the aftermath testifies to the level of anger and resentment among readers. Indignant comments point out that plagiarism is not a victimless crime: the hardworking students who not only did their own thinking but also wrote their own material are the ones who pay the price.

Everyone agrees that this is complicated business—for accusers and accused alike. And no doubt huge amounts of time and money are squandered in following up each of these cases. But perhaps these incidents should teach us that

when the medicine is expensive and ineffective, it is time to think about prevention. A good start is to make sure that all students are aware that academic citations are extremely important as tools for communication and documentation of knowledge, and that they need to be complete and accurate, and employed with precision, to fulfill these functions.

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“Pageless Documentation”

Another example of academic herd mentality is the widespread acceptance of incomplete references in some milieus: the lack of locators (such as page numbers) when referring to a specific part of a large source, such as a book.

More than thirty years ago, in a humorous and highly illustrative article, Roy P. Fairfield voiced his concerns about a phenomenon of “profound implications for the human race”: the “recent shift” toward what he called “pageless documentation”; the lack of crucial page numbers in some academic citations.⁶ More recently, David Henige has elaborated on the serious consequences of this practice. One of them is that it is “discouraging verification.” He asks, “What reader, after all, would search an entire book to check whether an author has got it right?”⁷

You do not have to open many scholarly books or journals to see that there are a large number of ways to cite a source. The fundamental principles are nevertheless the same: give credit where credit is due, and provide enough information about the source so that the reader can find it—whether it be a book, a journal article, or a film on YouTube.

There are many reasons why researchers should make it possible for readers to track down their sources. The most obvious are to verify that the source says what the author claims it says, to check that the source is reasonably credible, or to explore the source to see whether it contains other useful material. Missing page numbers or other locators can be distressing for any reader with a certain amount of critical sense or academic curiosity. It is even worse for those of us given a responsibility as examiner, opponent, or peer reviewer to evaluate how sources are used in a written work.

I must admit that I sometimes, when I am desperate enough and Google Books and other electronic databases are not able to help me find the source text, turn to vandalism



to solve the problem of “pageless documentation.” I buy the book, cut off its back, and run the loose pages through a scanner. The resulting file is then turned into digital text by optical character recognition technology, which allows me to search electronically for what I am looking for. In other cases, for example if I cannot afford to buy the book and do not have time to manually (and illegally) copy the one at the library, I follow the principle of Steve Wise: “Since I have no way of corroborating that fact, I treat it as if it does not exist. I find it hard to believe that this was the writer’s intent.”⁸ Both strategies have somewhat sad consequences, and it all boils down to a missing, but crucial, page number in a reference.

Leaving out the page number when it could have helped the reader track down the source text puts a roadblock in the path of the basic driving forces of scientific development: the production of cumulative knowledge and verification. It is like inviting someone to your house and just giving them the street name but not the house number where you live. The most determined guests might eventually find their way to your door, but many will probably give up, especially if the street is particularly long—or the book is particularly thick.

A philosophically minded colleague of mine whose sources are often thick theoretical books had an article accepted in one of the most prestigious journals in nursing science. One of the reviewers recommended that he remove most of the page numbers from his references, which he subsequently did. The result for us readers is that we do not know where to look in these books for the building blocks of his argument, for the nuggets of wisdom he presents us. This poses a formidable challenge for those of us who not only are inspired by his argument but also dutifully believe in the importance of checking to see whether those glittering nuggets really are gold—or maybe something even more valuable.

The poor advice my colleague received on this occasion is not an isolated case. A few years ago, I received the final proofs for a book chapter I had written, only to discover that the proofreader had removed all the page numbers in my references, except one accompanying a direct quotation. I wrote back that the removal of locators would imply such a significant reduction of the quality of the chapter that I did not want to see it in print. The editor saw the point, and the chapter was eventually published with complete references, including the original page numbers.

Incidents like these probably stem from an otherwise reasonable rule of thumb that applies to practically all citation styles: direct quotations must *always* be followed by a page number. The flipside of this important rule has, it seems, resulted in a logical fallacy for many. Some people think this means that you should *never* give the page number if you have merely paraphrased or otherwise presented a specific piece of information that is not a direct quotation. In many academic communities, this belief has

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pretty much become an institutionalized norm: do *not* use a page number if you use your own words to describe what you have found in a specific part of a source—even if it is from a thick book.

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What makes this unfortunate, if not outright absurd, is that in cases like this, it is especially important to give the reader the opportunity to go back to the source and check how the source text has been summarized, paraphrased, or interpreted. The digital revolution has accentuated this particular point. Direct quotations are electronically much more easily searchable than paraphrased sections, and locators are therefore more crucial for the latter. Despite the emergence of tools such as full text databases and Google Books, we still need the page numbers, particularly for source material that does *not* appear in the form of a direct quotation.⁹

When inaccuracy becomes institutionalized in this way—either through norms of obscure origin that forbid or discourage the use of locators in references, or through a silent tolerance of laziness, sloppiness, and inaccuracy—we are not simply dealing with a few guests being forced to wander up and down the street to find the party. We are talking about a huge herd of readers who have to wander around in the same way, time after time, and through many books. A scholarly publication based on this kind of practice is effectively one long obstacle course.

Vague, inaccurate, or incomplete citations impair the reader's ability to check and verify sources, and create an excellent environment for masking several different kinds of weaknesses and flaws. Outright text plagiarism is one of them. Another is the violation of the principle of striving to consult primary sources or firsthand descriptions.

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The Quest for the Primary Source

When herds of people or animals plunge off a cliff, or collectively do something almost equally foolish, the simple explanation of "following the leader" is inadequate. The "lemming syndrome" cannot be explained by following one single leader, but rather following the animals directly in front of them—as if on rails. The arrangers of the Cleveland Marathon know this phenomenon all too well. During the 10,000-meter race through the city streets in 2006, several hundred runners strayed far off course—and those who actually made it back to the finish line ended up running several kilometers longer than necessary.¹⁰ The finer points of this dynamic, and its occasionally disastrous consequences, are again evident in academia. Without even knowing it, many of us have intimate experience with the lemming syndrome: witness the vanishing distinction between a primary source and a secondary source.¹¹

A few years ago, I was reviewing a manuscript for a scientific journal, and a little number buried in the text piqued my interest: a prevalence rate—that is, the frequency of a certain illness in a certain population. This number was followed by a reference to a source, a report that fortunately was easily available on the Internet. This reference allowed me to quickly download the text and search my way to the number I was interested in, and was, frankly, skeptical of.

The problem was that this report *also* gave a reference next to the prevalence rate in which I was interested. This time, the reference pointed me to a source that I had to work much harder to find, only to end up with the same disappointment: yet another reference. The same thing happened again, and again, and again. A complicating factor in this case was that *none* of these authors had specified the page number in their citations. Two of the sources I had to look through were books several hundred pages long—on good, old-fashioned, nonsearchable paper. Still, I was persistent enough to chase that number through five rounds before I finally decided to give up.

This chain of references is similar to the process through which urban legends manage to flourish. When these bizarre or fantastic stories are told, the storyteller often claims—somewhat inaccurately—that “it happened to a friend of mine.” This gives the urban legend (quite undeservedly) the authority of the primary source, lending it enough credibility to lead a long and colorful life. It should go without saying, but in academia “facts” about prevalence rates or anatomical quirks should not be allowed to survive like urban legends. For this reason alone, we should strive to use primary sources when we write, instead of just grabbing uncritically what the contributor in front of us has grabbed from others.

There is no question that sometimes an author of a scholarly publication just *has* to use secondary sources, but then the responsibility is on the author to make it clear that this is something that comes from a friend of a friend. The prevalence rate that captured my interest should have been followed by a chain of references—at least five of which should have been preceded by “quoted in” or “cited in.” Of course, such a chain of citations would not look good, which is exactly the point. Not only is it inconsiderate of these authors to fling secondary sources around so unnecessarily—it is also bad science.

Unfortunately, this is a case where two minuses often become a plus in a place where the rules of algebra should definitely not apply. Unnecessary use of secondary sources is, for obvious reasons, a weakness, but one that can be easily, and sometimes cleverly, camouflaged. One way is to present a secondary source as if it were primary—as was

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done by all of the authors concerned in the example of the prevalence rate I tried in vain to track down. Another way is to copy a reference to a primary source from a secondary one without consulting the former and to simply paste it into your own text. In effect, you then plagiarize a reference and give the impression that you have looked up and read something in a source you might

never even have seen. This practice is somewhat risky, not only because it is a kind of theft, but also because you never know what comes along for the ride when you hijack an unknown. When large numbers of authors independently of one another manage to directly cite the same source in exactly the same erroneous way, there is good reason to suspect that citation plagiarism has taken place.

The more inaccurate or incomplete the references to the sources are, the less likely that transgressions will be exposed. Some people go to greater lengths than others, and with a greater degree of purposefulness, to exploit the opportunities that exist in camouflage strategies.

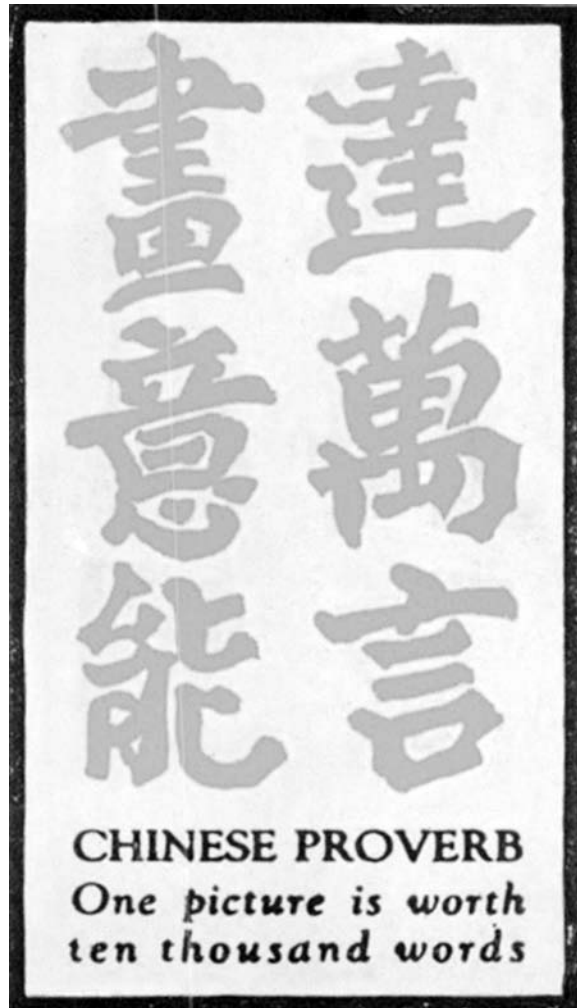


Figure 1. The advertisement from the magazine *Printer's Ink* (March 10, 1927) that introduced the fictional Chinese proverb "One picture is worth ten thousand words."

Much wisdom lies in the old and well-known Chinese proverb "One picture is worth ten thousand words." But this wisdom has nothing to do with China—and far less to do with Confucius, who is often credited with its origin. According to Burton Stevenson, an American advertising man named Fred R. Barnard invented the proverb in the 1920s, and he not only made up the saying but also concocted its reference.¹² Chinese letters claiming to render the message in its "original language" accompanied the "proverb" in the original advertisement.¹³ Apart from this, the ad said only "Chinese proverb," without a more specific source, let alone any page number that could have helped us along the way even if we had a book in which to look it up. An important reason that Barnard's fabrication was allowed to develop into a well-known "Chinese proverb" is, of course, that the diffuse and false reference made it impossible for readers to track down and check whether this proverb really was a product of the ancient wisdom of the East.¹⁴



The Whisper Game in Academia

My frustration with trying to figure out where the suspicious prevalence rate came from nevertheless revealed something interesting: tracing its steps back, source from source,

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showed me that both the actual number and its context changed at several junctions. When I reached the fifth secondary source I was no longer as skeptical about the number anymore—basically because I found something quite different than what was in the manuscript I was reviewing. Long chains of secondary sources provide an excellent environment for observing how a message gets interpreted differently each time it is

passed on—in other words, for studying the effects of the whisper game (also called “telephone” or “Chinese whispers”) in academia.

I could probably have observed the same phenomenon had I been able to follow the chain of sources leading back to the claim about the sinking sheep. Of course this is pure speculation, but it would not surprise me if perhaps a few sheep once upon a time had actually drowned from taking in water, and someone at some point had been a little too sweeping with his or her generalizations. One could also imagine that such a concrete and specific factoid (that sheep leak in the rear) could have survived more or less intact through a relatively long chain—all the way from a single original source. If the primary source should turn out to be Crocodile Dundee at a cocktail party in Los Angeles, and not my friend the sheep researcher, then this should affect how we treat such a claim. Using primary sources not only helps us avoid the whisper game phenomenon, but also makes it possible to evaluate the credibility of the original message.

A citation practice that is unconcerned about distinguishing between primary and secondary sources, combined with absent, sloppy, inaccurate, or incomplete references, sets the stage for “facts” becoming like urban legends or a so-called media canard: a chain of reports that cite one another as sources, lending credence to a story that has little or no basis in reality.

One example is the common belief that spinach is a good source of iron, which is not true at all. Another and somewhat ironic layer to this particular story is the report that the myth of iron content in spinach was caused by a decimal-point error during the nineteenth century, a widespread assertion that has been exposed by Mike Sutton as yet another academic myth.¹⁵ The forty-year-old history of the decimal-point error that allegedly made millions eat more spinach is, in fact, an excellent opportunity to study the details of how an academic urban legend can be conceived, be born, grow, and reproduce.¹⁶

Tobias Hecht has studied street children in Brazil and took a closer look at the numbers that have been circulating about how many such children actually exist. The highest estimate from the 1980s is 30 million, a figure that Hecht understandably found startling, since the total number of children and young people (between the ages of 5 and 19) in the urban areas of Brazil was only about 29.5 million in 1983.¹⁷ A more conserva-



tive estimate of 7 million Brazilian street children was used by several organizations, including Amnesty International and UNICEF, although they took pains to point out that they got the estimate from somewhere else. The number of 7 million has taken on a life of its own in an infinite spiral of vague or missing references, and according to Hecht, it has little to do with reality. Based on available evidence, he estimated that there were fewer than 39,000 street children in Brazil in 1993—that is, about 0.6 percent of the often-cited number of 7 million.¹⁸

If you think that portraying a serious social problem as worse than it really is cannot be all that bad, think again. Some who work directly with street children in Brazil claim that the overinflated numbers give rise to hopelessness and fatalism, and may even contribute to motivating death squadrons and their vigilante approach to dealing with the “invasion” of millions of street children.¹⁹

In 1942, Katherine Frost Bruner published a colorful article packed with good advice for aspiring academic authors. She had the following to say about the importance of complete and accurate references:

Incidentally, a sin one more degree heinous than an incomplete reference is an inaccurate reference; the former will be caught by the editor or the printer, whereas the latter will stand in print as an annoyance to future investigators and a monument to the writer’s carelessness.²⁰

This sentence has been widely quoted by authors concerned with reference accuracy, including three subsequent editions of the *Publication Manual of the American Psychological Association*.²¹ A remarkable irony is that this statement on the importance of reference accuracy has been quoted inaccurately by almost everybody who has been trying to quote these words. The explanation is that instead of consulting the primary source, Bruner’s article, the vast majority of authors trusted that the APA *Publication Manual* had understood her correctly, which, unfortunately, was not the case.²²

The obstacles that hindered my research into the prevalence rate apparently stem from academic naïveté, laziness, or ignorance on the behalf of several individuals. None of them had bothered to track down the primary source, and none of them had spent the extra seconds needed to provide a complete address, with page numbers, that could have helped readers concerned about reliability. There is, perhaps, a cultural extenuating circumstance in this particular case: the consistent absence of page numbers that could have helped me and other readers track down the primary source. The authors probably just followed the norms and traditions that apply within their discipline, medicine. In the medical literature, cumulative knowledge is usually built from research communicated through short articles that, though they can be complex in content, nevertheless comprise only a few pages. Brief articles pose few challenges to intrepid readers who wish to verify or build further on a particular point. Difficulties arise, however, when the source documents are several hundred pages long—or in the case of the formidable work of Burton

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Stevenson, almost three thousand pages. If there is little help to be found in either an index or a table of contents, you face a serious problem, whether you are an external examiner, opponent, reviewer, or any other kind of reader who might have an interest in the context or credibility of what is being referred to.

References as Promotion

When references cannot be used as tools for verification, or as aids for building cumulative knowledge within the scientific community, then they lose some of their most important functions. Perhaps we can take some comfort, albeit cold comfort, in knowing that they instead have begun to take on new roles—one of which is promotion. Even seemingly pointless references can function as advertisement, not just for oneself or one's friends and loved ones, but also for profit-oriented publishers.

Some journals explicitly encourage hopeful authors to refer to articles previously published in the same journal, often without providing any explicit reason for *why* this is useful. It is possible to imagine several reasonable motives, such as establishing useful links of continuity between articles published in the same journal, but one of the driving forces behind the practice is no doubt that journal self-citation will contribute to increasing the impact factor of the journal. Some editors are more eager than others to exploit this effect and are reported to have put undue pressure on authors to include more references to their own journal.²³ A 2012 survey of 6,672 researchers testifies to the magnitude of the problem of “coercive editors.” One in five respondents had within the last five years received a request from an editor “to add more citations from the editor’s journal for reasons that were not based on content.”²⁴

Steven Pressman, drawing upon his impressive academic background as author, referee, editor, and editorial board member, wrote an article full of advice for “navigating and surviving the publication process.” He points to yet another type of person who might appreciate journal self-citation:

More importantly, make sure to reference authors who have published on your topic in any journal where you plan to send your paper. As Daniel Hamermesh (1994, p. 156) notes, editors tend to send papers to people who have submitted and published in the journal. These people are the likely referees of your paper and, like most academics, they want their work to be read and acknowledged. Failure to do your homework here greatly increases your chances of getting rejected.²⁵

Journal self-citation has its limits, however. In 2004, the rate of self-citation in *World Journal of Gastroenterology* had risen to more than 90 percent, and Thomson Reuters, the company that publishes impact-factor rankings, delisted the journal for two years.²⁶ Since then, the number of banned journals has steadily increased, reaching a new record of 51 journals in 2012, 48 of which were banned because of excessive self-citation. The three remaining represented a rather remarkable phenomenon: a “citation cartel” where three participating journals excessively and systematically referred to *one another*.²⁷

One fascinating function of many literature databases is that you can quickly see who and how many have cited a certain article—for example, one of your own. In other words, these databases give us figures that function as a kind of impact factor for



each individual publication or person, and which can be used to calculate a person's h-index,²⁸ a number measuring both the productivity and influence of an author. Your reference list helps boost the prestige and ranking not only of specific journals, but also of individual articles and persons, including yourself. The groundwork is thus laid for references having another important function: an expression of friendship, solidarity, gratitude, or sheer self-interest.

The occasional unnecessary and misplaced references here and there to play nice with other scholars will probably not cause the world to go under. Seen in isolation, this is merely a benign, though misguided, gesture of friendship. It is worse if this type of referencing becomes an integrated part of social networks, with horse-trading and back scratching within the international research community. Forming a citation club where "each member cites the other members regularly" can be an efficient way of boosting each other's h-indexes and academic careers.²⁹

References as Cannons and Ornamentation

Visitors to the *Vasa* Museum in Stockholm cannot help but be impressed by the recovered ship's ostentatious ornamentation. Several hundred wooden sculptures and a three-meter tall figurehead adorn its decks and prow. The eyes of the military buffs would probably be drawn to the extra cannon deck, equipped with unusually large and heavy cannons on the uppermost level. During the ship's construction, there was, unfortunately, little or no coordination between decoration, gundecks, and the hull itself. When the entire ship sank after just a few minutes on its disastrous maiden voyage almost 400 years ago, it was not just the open lower gunports that were to blame. The ship had a much more fundamental problem: it did not have enough ballast to carry the heavy cannons, sculptures, and all the other stuff borne above the waterline.³⁰

Just like *Vasa*, academic articles can be overloaded with references that serve as either weapons or decoration—or both. References can be a powerful weapon—regardless of whether you have ammunition or not. I know little about the history of treponemal disease in the Western Pacific, but I do sense that there has been a heated scientific controversy on the issue. One of the sides wrote a contribution in *Current Anthropology* that I could not help being impressed by, despite the fact that I had difficulties finding the text amid the arsenal of references.³¹ In slightly more than one page, the authors managed to squeeze in eighty in-text citations (in author-date format!), which I assume could be overwhelming even for readers who are much more knowledgeable than I am on the topic.

Your reference list helps boost the prestige and ranking not only of specific journals, but also of individual articles and persons, including yourself.

Just like *Vasa*, academic articles can be overloaded with references that serve as either weapons or decoration—or both.



Another reason for citation overload may be the author's belief that readers tend to become impressed by large numbers of citations and a correspondingly long list of apparently relevant references. New versions of reference management software such as EndNote, combined with access to literature databases, make it possible to quickly harvest large numbers of more or less relevant abstracts. The same tools can automatically convert the necessary bibliographic details into a format that fits perfectly into any reference style. Artificially expanding the list of references through technical means and superficial reading of titles and abstracts has become easy and quick, often just requiring a few mouse clicks and not even a single touch at the computer keyboard.

Citations that primarily serve decorative purposes are not a new phenomenon. The most familiar variant is knee-jerk references to "the classics," or the latest trends, sprinkled liberally throughout the text simply because everyone else refers to them, and with no clear indication of how they relate to the point the author is trying to make. A handful of these ornamental but meaningless references can be irritating and confusing—or at best amusing—but they are hardly catastrophic. More problematic are works with a literature list full of heavy cannons and beautiful sculptures that really do not belong there. Works of this sort deserve the same fate as the *Vasa*, including the ship's rebirth as a brilliant example of how *not* to do things.³²

References as Addresses

The deteriorating importance of references as an *address*, which consequently ought to be accurate and complete, has given rise to a peculiar phenomenon. As mentioned earlier, some academics are convinced that they are not even allowed to use page numbers in citations unless there is a direct quotation. To find out where this rule came from, I again set out on a quest to learn more about an astonishing statement of fact, in my eyes even more astonishing than the "fact" that more than 1 billion sheep suffer from unfortunate leakage through their buttocks.

You do not have to look far in the Web pages of educational institutions and books on academic writing before you stumble across formulations that come perilously close to an outright prohibition of page numbers for nondirect quotations. The short version of the message is "omit page numbers unless it is a direct quotation." The problem is that such guidelines are secondary sources and refer explicitly or implicitly back to one or more standardization documents or publication manuals, which have a different message.³³ We are, in fact, again dealing with the whisper game—messages whose meaning gets garbled or lost along the way.

In the official standardization documents³⁴ and publication manuals I have gone through so far, I have yet to find anything close to a prohibition against page numbers for indirect quotations. Quite the contrary. But the way these authoritative sources discuss the issue differs in interesting ways—which may help in comprehending how the misconceptions about this prohibition originated.

Some manuals simply say that a page number must be provided when you refer to a specific section in a source, whether it is a direct quotation or not.³⁵ The *Chicago Manual of Style* requires the same but adds: "Some journals omit page numbers in citations of other journal articles except when citing a direct quotation."³⁶ In other words, the *Chicago*



Manual of Style opens up the possibility of omitting page numbers when referring to small sources, such as a journal article. The *Publication Manual of the American Psychological Association* states: “To cite a specific part of a source, indicate the page, chapter, figure, table, or equation at the appropriate point in text.”³⁷ Elsewhere in the same manual, however, we find another statement, which appears to leave behind some confusion:

When paraphrasing or referring to an idea contained in another work, you are encouraged to provide a page or paragraph number, especially when it would help an interested reader locate the relevant passage in a long or complex text.³⁸

Paraphrasing a sentence or a paragraph would necessarily imply citing “a specific part of a source,” but the second quotation nonetheless leaves an element of choice to the author: you do not *have to* provide a page number in such cases, but the APA manual nevertheless comes with a clear recommendation to do so to help “an interested reader.”

The *AMA Manual of Style: A Guide for Authors and Editors* deals with one of the so-called Vancouver styles, in which a reference appears as a numbered note in the text. This manual states that when you cite specific pages in a book, you must specify the page numbers at the end of the corresponding item in the list of references.³⁹ If you need to refer to the same source several times throughout a document, you should use the following notation in the text: ^{39(p44)}. This notation means page 44 in source number 39, which in this case is the *AMA Manual of Style*.

The notation ^{39(p44)} is actually a good example of how useful and important it can be to include page numbers also in cases with no direct quotation: source number 39 happens to be a very thick book, and even though it has a detailed index and a helpful table of contents, I spent quite some time finding my way to this little nugget of information, which I could then serve the reader on a silver platter. Readers who want to check whether I am really telling the truth can go directly to page 44 and skip having to dig through many of the other 1,009 pages in the book, as I had to.

In a more general perspective, leaving out useful or crucial page numbers represents a disregard of a basic principle in communication of knowledge: providing documentation and possibilities for verification. The prevalence of this practice probably stems partly from the basic human instinct to avoid things that are unpleasant, time-consuming, or simply boring. When those leading the herd—role models such as editors, authors, and teaching staff—cannot be bothered to do it, those following can hardly be expected to put themselves out any more than necessary.

Another possible explanation for the phenomenon of “pageless documentation” is that citations have taken on so many new roles that the original ones are simply overlooked. In some cases, the latter may even be counterproductive to an author’s interests. Accurate and complete citations, including page numbers where

Accurate and complete citations, including page numbers where needed, make it easier to expose various types of academic shortcuts, such as forms of plagiarism, unnecessary use of secondary sources, and abuse of references for promotion purposes.



needed, make it easier to expose various types of academic shortcuts, such as forms of plagiarism, unnecessary use of secondary sources, and abuse of references for promotion purposes.

The real losers in this scenario are those in the back of the herd—many of whom are interested and critical readers who have to run through poorly marked trails. Hopefully they will not be led off cliffs or into scary back alleys of Cleveland, but there is little doubt that much time, energy, and not least, scientific quality are sacrificed when this kind of reference culture is allowed to develop.

Conclusion, and a Possible Solution?

It is reasonable to assume that the access to thousands of electronic journals, books, collections of term papers, and Web pages, combined with advanced word processing programs and scanners, technically have made it easier to cut corners. An obvious means of preventing researchers and students, many of them under increasing pressure

If students and authors are forced to provide accurate references and locators, they will most likely hesitate to take shortcuts and push limits when handling their sources.

to produce papers and publications, from falling for such temptations is to require greater awareness and precision when they state from which sources, and from *where* in these sources, they get their information. If students and authors are forced to provide accurate references *and* locators, they will most likely hesitate to take shortcuts and push limits when handling their sources.

It does not appear to be necessary to revise existing authoritative manuals and

standardization documents for reference practice, at least not those that are referred to here. This leaves plenty of opportunity for us to clean up much of this mess ourselves. In most cases, we need only take the time to read and practice what is actually written in the manual we have chosen as our guide. Should the style guides leave any room for options, the various educational institutions, scholarly disciplines, and their respective journals and publishers can fully avail themselves of the opportunity to choose the expected level of accuracy and honesty that should be striven for in referencing. If local institutional requirements and publisher's guidelines are made clearer, or in many cases simply corrected, and become an important criterion for evaluating a scientific publication or paper, we can develop healthier and better reference cultures. One consequence will be better science and better communication of knowledge. Another and perhaps equally attractive result could be that we find ourselves in a situation where plagiarism is something that is carried out only by criminals and not by every Tom, Dick, and Harry—as appears to be the case in many academic environments right now.

There is a fundamental paradox in this scenario. Due to the digital revolution, it has never been easier to look up and verify, learn from, and check the relevance of sources being referred to. Instead of grabbing this opportunity to increase the quality of academic publications, a wave of scholars is doing exactly the opposite. Academia is being flooded by irrelevant, useless, and outright misleading references, and we are at risk of losing



respect for one of the most important tools we have for academic communication and the joint project of building knowledge. Why should we bother to look up and try to explore and learn from sources when so many references lead us to pointless fashion shows or sightseeing in citation clubs, to an endless chain of secondary sources, or straight into the wilderness because one single, but crucial, page number is lacking?

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A **primary source** is a firsthand report of observations or research results written by the individual(s) who actually conducted the research and made the observations.

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