



On Secrecy

Daniel Moerman

Editorial

As an anthropologist, I have had to learn a good deal about botany (and particularly about botanists) to edit *Economic Botany*. One thing I've learned is that botanists are mighty prickly sticklers (one might describe them as rosaceous) when it comes to the details of plant names. Genus and species must be properly spelled, in italics, and authorities must be given with the proper abbreviations. When this isn't done exactly right, people get, well, sharp. And voucher specimens are *de rigueur*; without them, you just don't have anything. After all, without a voucher, how can we be sure what you are talking about?

There is one exception to all this. It occasionally happens that I will receive a paper all about the human uses of plants, with no plant names at all, or sometimes, with half the plants named, but not the other half. Such obfuscation is not an error, or an oversight, but deliberate. It usually (but not always) happens with plants used medicinally. And it is also usually the end result of some sort of ethical policy designed to protect the intellectual property rights of a group of informants who may thereby somehow profit financially from the development of a drug to cure cancer or AIDS. While it is occasionally done openly and with a bold explanation, occasionally it is done more furtively, as if no one might notice.

One version of this practice is that authors decide only to identify plants that have already been named in the botanical literature as having some sort of use similar to, or the same as, the one about which they have learned. This suggests that there is some sort of understanding of ownership (the "property" part of the equation) at play.

This might be reasonable by analogy to the notion of "prior art" in patent law. Note that I am not a lawyer, and I may be stretching the analogies here. Regardless, the key to prior art is that, in ordinary patent law, one can't patent something that someone else has already developed. One

can't expect to get a patent for a spring clip mousetrap since they have been around for centuries, that is, there is "prior art" regarding the idea on which the trap is based. You can manufacture your new trap, but you can't have a monopoly on it.

There are two keys to a patent: the first is novelty, the absence of prior art, and the second is disclosure. That is, the clever idea you have come up with (using plant x for disease y) must be published, and cannot be held secretly. The historical justification for this *quid pro quo*, enunciated centuries ago by Thomas Jefferson, among others, was that the purpose of granting monopolies was to "Promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries" (US Constitution, I.8.8, 1787). Hence, copyright and patent. Of course, the point of copyright is to protect written work, but it wouldn't make much sense (or "promote" much of anything) if one kept his writing secret. And, the *quid pro quo* for a patent is the obligation to disclose the nature of the invention (the word "patent" is derived from the Latin *patere*, "to lay open.")

Correspondence

Daniel E. Moerman, University of Michigan-Dearborn, 6516 Cherry Hill Road, Ypsilanti, MI 48198, U.S.A.
dmoerman@umd.umich.edu

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Jefferson and other progressive thinkers realized that the key to development of knowledge was openness, not secrecy. I contend that an approach to plant knowledge based on secrecy is wrong and damaging, and should never be entered into by any scientist unless it is absolutely necessary.

Consider some of the unintended consequences of secrecy. Suppose Louise goes to the Huggermuggers, and finds that *Alpha beta* Moerman, used for shingles, is not in the literature. Now, it's hard to know how she knows that since, of course, it's essentially not in the literature she is familiar with. It could be published in some source written in Swahili, or Romanian or Hindi. But suppose Louise is very well read, and it really truly isn't published anywhere. The inference is that no other native group uses it, so it is truly a use without "prior art." So, she publishes an article about the wisdom of the Huggermuggers, obscuring somehow the use of *Alpha beta* for shingles, and, in the process, obscuring the voucher sheet back at the herbarium.

Six months later, Jim shows up to do research with the Hongerpungers, neighbors in the next county to Louise's group. He finds that *Alpha beta* is used to treat shingles. He doesn't find it in the literature, and so he publishes some blah blah, obscuring the use of *A.b.* for shingles.

Repeat several times.

Now we have 5 different groups under the misapprehension that they are the sole owners of valuable intellectual property regarding *Alpha beta* and shingles.

It's also the case that no one with the know how or experience to determine if *A.b.* actually does have any action against *Varicella zoster*, and how it might be utilized to their benefit (or to any of the people who presumably discovered this information) knows about *A.b.* And if one did find out somehow about one of these cases (by some ethnobotanist presumably breaking his vow of silence, i.e., creating a serious ethical gaffe) then we could expect that the four others, sooner or later, would be really really annoyed, although I don't know what they could be annoyed about, given that they were advised to keep their knowledge secret, which they did.

Note that the relevant issue here, the justification for patent law, grants a short term monopoly (17 to 20 years is typical) to the discoverer of something presumably useful if the secret, discovery, and creation, is publicly

shared, minimally in the United States by publication in the Patent Gazette (now online for all to see at uspto.gov; details vary by country).

So secrecy is, generally, the antithesis of protection. There are exceptions, like trade secrets, for example, the formula for Coca Cola®. But that hasn't stopped dozens of other companies from coming up with essentially undistinguishable products. (I once heard the president of Coca Cola say "It's not hard to make a soft drink. The challenge is to sell 2 billion glasses of it a day.")

I don't think this "don't publish it unless it's already been published" trick really works. I think it is a bad idea. Suppose Fleming, the discoverer of penicillin said, "Well, this is for my culture, and no one else can use it. I'll just allow it to be used by fellow Scots. For anyone else, it's a secret." (Fortunately, it didn't work out that way; I just found an Internet site offering penicillin tablets for 40 cents a piece.) Unfortunately, sometimes governments require such secrecy as the price of doing research. Likely, the relevant actors have a highly inflated notion of what these secrets are worth (learned, probably, from exaggerating ethnobotanists, although that term may be redundant). Perhaps such places simply should not be research sites.

Reiterating, secrecy (think "classified documents") is always a bad thing, or at least it always has bad consequences (even if it may have some good consequences, too, on occasion). Transparency is almost always good, but it may have some bad consequences, too (consider Elliot Spitzer; although if you look carefully, what ultimately did him in was his attempt to conceal, to keep secret, his expenditures.)

I maintain that a) any ethical arrangement involving secrecy is bound to have a bad result sooner or later, and hence should be avoided whenever possible, and b), in ethnobotany, it is best to assume before the fact that there is always prior art, even if you can't find any evidence of it. (Absence of evidence is no proof.) It is always best to assume that others know this "fact" (x is used to cure y). Anyone who has ever read more than one list of useful plants knows that they inevitably seem to overlap by about half. Read one more and they all overlap by about two thirds. Keep reading, and there is no such thing as an "endemic" (as in "endemic knowledge.") This seems to me to be the basis for a rich and important ethical principle.