

I'll take credit for that, thanks - Science.

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Scientists have been taking the cash and kudos for their students' work for half a century

In 1952, the Nobel Prize for Medicine or Physiology went to Selman Waksman, a Rutgers University biologist who discovered the antibiotic streptomycin. To most observers Waksman was a worthy recipient, having found an antibiotic that could wipe out tuberculosis, a leading killer in the Forties.

However, to others he was a devious scholar who conveniently failed to credit the work of a junior. The antibiotic had actually been discovered by Albert Schatz, his graduate student, who had toiled for four months in a basement laboratory that Waksman had not visited.

Schatz sued for a portion of the royalties on the money-spinning drug that Waksman patented; the courts agreed that he was co-discoverer and awarded him 3 per cent. Waksman took 10 per cent of the royalties.

Last year it came to light that a third Rutgers researcher, Elizabeth Bugie, should perhaps also have had her name on the patent and arguably deserved more than the 0.2 per cent royalty she received. The family of Bugie, who died last year, allege that university officials told her: "Some day you'll get married and have a family and it's not important that your name be on the patent."

Half a century and many similar cases later, the tradition of misappropriating scientific credit continues to flourish. The most common practice is for senior scientists to put their name to their juniors' research. While this is justified where seniors direct and contribute to juniors' work, it has come to happen as a matter of course in many institutions.

The convention is highlighted in a no-holds-barred commentary in the current issue of *Nature*, the weekly science journal, by Peter Lawrence, a developmental biologist at the Medical Research Council Laboratory of Molecular Biology in Cambridge. In a lengthy indictment of the way in which science recognises merit, Lawrence writes: "Students are like boosters on space rockets - they accelerate their supervisors into a higher career orbit and, when their fuel is spent, fall to the ground as burnt-out shells."

The practice does not always point to malicious credit-snatching - it is viewed as scientific etiquette by some juniors to give credit to the leader of the laboratory where the research was conducted, no matter how nominal the leader's input. Junior researchers may also be motivated by self-interest: a paper boasting a well-known name in the author list may stand a better chance of being published.

Unfortunately, one marker of an academic's success is how often, and how high up, his or her name appears on the author list. Sometimes those running research laboratories will have their name on almost every paper emerging from their institute, further enhancing their status with minimal effort.

In addition, Lawrence warns, the conference circuit - on which speakers trot the globe, giving talks - perpetuates the belief that every scientific discipline operates like Hollywood, with a handful of academic stars shining out above a pool of intellectual mediocrity. For it is rarely the underling responsible for slaving away in the laboratory who gets to present the talk.

"The etiquette of conference lectures is revealing," Lawrence writes. "A talk summarising the work of a group is usually given by the principal investigator (lead scientist), who mentions results simply as found 'in the lab'. The truth would be more like: 'done by someone in my group, I may or may not have suggested it - in any case I would like you, the audience, to take it as mine.'"

At the end of the talk, the PI thanks many people, often from a period of several years. The motivation may be honest but the effect is that nobody remembers any name except that of the speaker."

Conference organisers must take some of the blame - scientific celebrities, rather than unknown beginners, are more likely to pull in paying punters. With high-profile, international conferences costing as much to stage as a pop concert, such considerations are not trifling.

Lawrence, currently abroad on a teaching engagement, says it is too early to gauge reaction to his controversial article, though "students think it's great".

He says: "If you talk to anyone in science today, they are exercised by this problem. I am arguing for grant committees and prize committees to be more objective about how they give credit for things. The problem is that these committees often consist of grand old men who have themselves won prizes - perhaps for other people's work - and I suspect that they don't do the research they ought to."

Neither, he says, is there any current method of policing the system of scientific attribution. Lawrence says that he never puts his name to work done by others, making him one of a small band of senior scientists who can speak out against the practice without appearing hypocritical.

However, not everyone agrees with Lawrence. An anonymous advance response to Nature pointed out: "... my fear is that the majority could be tarred by the sins of the minority ... the PI has to do an enormous amount of work to bring in the funds, provide the research facilities, ensure that everything is conducted legally and guide the project. Done right, as it usually is, both the PI and junior scientists benefit."

Another anonymous critic observed: "I think that quite often PIs should be given credit - it is not by chance that some labs are productive and others are not, and I don't think it is just clever selection of the best students, either."