

Together or Separately?

Asst. Prof. Agnieszka Pollo

Jagiellonian University, National Centre for Nuclear Research

Is cooperation in science always beneficial, or can it be a burden?



Any time a body of research is being evaluated, whether for an individual or an institution, the question arises: How should publications written collaboratively be considered? Especially those that list not two or three authors, but two or three hundred, or even thousands of names?

There are two extreme schools of thought here, both convinced they are right. The first maintains that true scientific work is always an individual endeavour. If the concrete contribution made by a particular researcher to a given publication cannot be clearly identified, that means it was non-existent or negligible. Adherents of the opposite view argue that without broad collaboration, big experiments and large-scale research would be impossible nowadays.

One frequently cited argument is that the big scientific discovery-makers of the past published independently and somehow managed to do their own experimental work. But it is easy to forget that still quite recently, scientific practices used to be quite different in terms of what we would now call research ethics. Scientists published less and worked more slowly (which in fact was not so bad), and no one expected junior researchers or lab assistants to be listed as co-authors of articles, even if they had indeed substantially contributed to the results.

Today such situations would be considered unethical, and rightly so. No one would want to return to such customs. But in that case we need to reconcile ourselves with the fact that there are types of discoveries and research work that cannot be done independently nowadays. Who is more important – the person who posits the research hypothesis? The one who figures out a way to test it experimentally? The one who plans out the experiment or observation? The one who designs and builds special apparatus? The one who spends many days and nights sitting next to that apparatus? The one who later pounds away at processing the experimental data? The one who interprets the data? Who compares them against other results? Against theoretical predictions? Or the person who actually writes up the article? In a large experiment, there are sometimes not individuals but whole teams responsible for each of these stages. Each stage involves painstaking, time-consuming work with no guarantee of success. Whose name should be left off?

It is often said that one can end up listed among the names of such a multi-author publication without ac-

tually having done anything at all. While some individual cases of this probably occur, they are not in fact frequent. All the other hardworking authors know perfectly well that every additional name reduces their own visibility, and will certainly not be eager to underwrite someone whose presence brings no benefit.

The quantity of publications produced is also sometimes a topic of jealousy. Yes, good collaboration can sometimes “write” more during the course of a year than a single, even very hardworking author. But this is quite a modest advantage. Often, one has to invest several difficult years, or even a decade or more, to later reap the harvest of multiple articles a year. Legendary cases of hundreds of publications in a year occur only sporadically.

What about the visibility of Polish groups working on large international projects? There’s no hiding it – in experimental research, it is usually the project leader who wins a Nobel Prize. Aside from an ingenious idea, the leader also has to have money. Usually big money.

How many “big research infrastructures” do we have in Poland? To what extent are these facilities capable, on the world scale, of being a focal point of international collaboration? Which ones are capable of making breakthrough discoveries, impossible anywhere else? Unless the funding situation in Poland changes for the better, this situation will not change. This is not so much about salaries as about strategic, long-term thinking about scientific investments – perceived as investments, not simply as expenditures.

Polish involvement in big projects builds not only scientific potential, but also economic potential. It creates a foundation that can then serve many purposes, but which is still quite fragile in our country – it can be all too easily shattered or squandered by means of a single decision. Yes, research collaboration does come at a price, but this is an investment that pays off. If we harness Poland’s potential well, if we put the experience we have gained through involvement in the best international teams to good use, then one day we might see the creation of major Polish research facilities where someone might do work worthy of a Nobel Prize.

So what’s the answer to the question in the title of this essay? Obviously, we should publish both together and separately! Science is amazing in that there is no single right way to go about doing it. ■