To receive funding for research, universities must collaborate more with private companies. How will this affect confidence in science? Are research results still actually reliable if the research is financed by companies?

Connie van Uffelen

During his first week as Director of Research at the Netherlands Cancer Institute-Antoni van Leeuwenhoek Hospital, Professor Piet Borst was presented with a contract for research into a new medication. Being as diligent as he was, he discovered in the small print a stipulation stating that industry could decide that the research results would not be published.

Prof. Borst demanded that the stipulation be removed, otherwise he would not sign the contract. “That caused great commotion,” he recalls. “This was in 1983, when it was quite normal for every contract between industry and academic institutions to contain strict provisions restricting publication rights.”

Prof. Borst found it inconceivable and encountered enormous resistance among colleagues. “The doctors said: ‘Come on Piet, what are you worried about? Everyone is doing it. They’re decent people we’re collaborating with: they’re really not going to impede us when it comes to publishing.’ I thought: ‘Well, in that case, why not scrap that provision?’ It took months to sort it out.”

By this, the now 77-year-old professor, who still works in the lab, simply wants to say that if you dig your heels in, industry will eventually capitulate. “The last 30 years have seen drastic changes on this issue. The one cannot exist without the other,” he says. “I’m not at all afraid that bringing in more private funding will mean there will be less fundamental research.”

According to Van Pernis, Germans are far more technology-minded. “In Wolfsburg, there’s an enormous Volkswagen complex. One in five Germans has a new car delivered there, and the whole family goes to pick it up. There’s a hotel included, and they are given a guided tour of a Volkswagen museum. In this way, you generate a huge attachment to that technology.”

Van Pernis does not believe that the Netherlands is such an industrial country. “You’re more likely to distrust something you don’t know about, which is why companies should communicate much more. On the other hand, scientists shouldn’t claim that they’ve lost their freedom when a company gets involved. Nonsense.”

Devilish dilemmas

‘The scientist is the one who announces the research results’

According to a recent Eurobarometer survey of public opinion regarding science and technology, some 60 percent of Dutch people feel that scientists can no longer be trusted because they have become too dependent on industry. Moreover, 50 percent are wary of the involvement of private funding in scientific research, as this would result in a tainted image.

“IT’s the perpetual story facing fundamental research,” says Martin van Pernis. As the former chairman of the board of Siemens Netherlands, he was invited to become chairman of TU Delft’s Conflict of Interest Committee (see box). “There’s a remarkable idea free that there’s a major difference between targeted development and fundamental research, but the one cannot exist without the other,” he says. “I’m not at all afraid that bringing in more private funding will mean there will be less fundamental research.”

According to Van Pernis, Germans are far more technology-minded. “In Wolfsburg, there’s an enormous Volkswagen complex. One in five Germans has a new car delivered there, and the whole family goes to pick it up. There’s a hotel included, and they are given a guided tour of a Volkswagen museum. In this way, you generate a huge attachment to that technology.”

Van Pernis does not believe that the Netherlands is such an industrial country. “You’re more likely to distrust something you don’t know about, which is why companies should communicate much more. On the other hand, scientists shouldn’t claim that they’ve lost their freedom when a company gets involved. Nonsense.”

Prof. Borst points out that in a large number of research studies it has been established that industry-funded medicine trials delivered more positive results than when the research was funded by public money. “That doesn’t mean that industry is out trying to con anyone,” he says. “It’s just a natural inclination to think your own product is better than it is.”

Dependency

The friction is not only there with industry.
Sixty percent of Dutch people feel that scientists can no longer be trusted because they have become too dependent on the industry

The Netherlands is heavily dependent on government commissions, Prof. Borst explains. “And government is no better than industry, because government is often only looking to justify the decisions it has taken or is planning to take.”

Impossible

This was apparent in a 2010 study into political decision-making regarding Amsterdam Airport Schiphol. TU Delft’s Menno Huys and Dr Jan Anne Annema concluded that the Ministry of Transport, Public Works and Water Management had repeatedly “prevented, selectively rewritten or selectively used” disagreeable research results on the effects of growth at Schiphol.

Eight years prior to this, TU Delft Professor Gaas Berkhout had resigned as chairman of a commission investigating the noise pollution around Schiphol. The professor felt that the then State Secretary had made it impossible for him to continue his work independently: “An example of an upright person who says that if you let yourself be bullied by ministerial funding it will lead to scientific judgement being compromised,” says Jeroen van den Hoven, a professor of ethics and chairman of the Scientific and Academic Integrity Committee at TU Delft.

Sincerity is the only way to win trust, according to Prof. Van den Hoven. Transparency. Show that you’re really trying to do the right thing. This is something we’ve now made a start on at TU Delft by making secondary employment activities public.”

The Netherlands Cancer Institute applies the principle that doctors may never serve as consultants for pharmaceutical companies, Prof. Borst says. “And, in my day, if it were necessary for the basic research, the money that was paid for this went back into the institute.”

Dependency

It is important for the university that knowledge be used effectively, says Paul Allinhu, of the TU Delft Valorisation Centre. “That’s what we’re judged on. It’s true that a degree of dependency is involved towards another party, but that’s actually no different to what has been occurring for many years now. Industry has always been on the lookout for interesting knowledge.”

Allinhu does not share the concern expressed in the Eurobarometer survey. He does not believe industry determines what the universities must do. “You can stand up for yourself,” he says. “You can also say: ‘We’re not going to do it. That’s an important fact.”

Agreements

Therefore, according to Allinhu, no problems should arise at all, as long as clear agreements are made with the companies. For this, TU Delft applies the Guideline for Contract Activities. One of the principles in the guideline is the Netherlands Code of Conduct for Scientific Practice of the Association of Universities in the Netherlands, which is now being tightened as a result of TU Delft by making fraud committed by ex-professor of social psychology, Diederik Stapel.

The code of conduct contains five principles: meticulousness, reliability, verifiability, impartiality and independence. The code of conduct prescribes that scientists perform their work in academic freedom and independence. And moreover states: “the hypothesis is scientifically interesting, not only with regards to the specific interests of the commissioning party. The method employed is scientifically responsible. The commissioning party has no influence whatsoever over the research results.”

According to the code of conduct, assignments must contribute demonstrably to scientific education and research. “It is always clear who the commissioning party is of a scientific activity, what the relationship is between the executor and the commissioning party, and whether possible advisory roles or other connections exist.” The publication of scientific research results is safeguarded: “The code of conduct poses a number of dilemmas to stimulate discussion. For example: how much influence can a commissioning party have on the hypothesis of a study? And on the proposed method of approach? Can a commissioning party adjust the execution of the research and if so when? On sharing the reporting?”

When it concerns the hypothesis, Prof. Van den Hoven believes the situation is clear: “the commissioning party wants to know what is going on and is therefore principally responsible. ‘We, on the other hand,” must ensure, of course, that we carry out real contract research, with the emphasis on research,” he explains. “That’s why commissioning parties specify accordingly to us: it’s about how research is actually conducted. After all, that’s something we’re experts in.’”

The way in which reporting is done is also down to the university, Prof. Van den Hoven says. “The scientist is the one who announces the research results. The moment you start watering things down is the moment you cut into the very core of your own credibility. How then can you prevent a company from influencing results when it is paying a PhD student? Van Pernis remains unconvinced: “In that case, you don’t have to conduct the research. This might be the impression one has of the corporate society, but that’s of no use to anyone. Typically Dutch: everything done by business must be tinted. Just take a look at the traffic sign indicating an industrial area: it shows a smelly, smoking factory. We’re making it very clear that we don’t actually think much of industry.”

Integrity

Van Pernis allows students to contribute to the improvement of a product or technology, under the agreement that the company pays for their studies and subsequently hires them under the agreement that the company pays. “That would have to be agreed upon with the universities in question,” he says. “It then would depend on the individual’s integrity and on his or her environment whether everything is done above board.”

Prof. Van den Hoven has experienced in a situation in which a PhD student was on a company’s part-time payroll and the company subsequently compelled the student to do all sorts of odd jobs. “That’s not in the student’s interest,” says the ethics professor. “In which case, I would pull the plug on it and find another way of paying the PhD student.”

The scientific interest always takes precedence in the impartiality principle, argues the Netherlands Code of Conduct for Scientific Practice. “Dilemma: what should be done if researchers would like to make money on a patent that requires further research to be conducted within their own institution? Is this acceptable or should an independent body (a limited company or something similar) be established?”

“If they want to make money purely for themselves, I’ll say that mustn’t take place within TU Delft,” says Prof. Van den Hoven. “Then you should do it via a start-up or your own company and apply for a reduction in working time at TU Delft. These sorts of things are very common here.”

Prof. Van den Hoven offers as an example the robotic hands that can help picking fruit and vegetables: “One of the conditions for setting up your own company is that TU Delft is finished with the research and is in accordance; the scientific publications have been realised and it only concerns the social benefits of the robotic hand. It might be able to make a great deal of money. By participating in that company, TU Delft might be able to finance fundamental robotics research.”

Prof. Van den Hoven believes that what is important is that it is documented somewhere: “As long as agreements are made: who is responsible for it, who takes decisions on the resources, what about student projects? The devil is in the details.”

But does the scientist in question actually want to be tied to those rules? “That’s part of your responsibilities,” Prof. Van den Hoven argues. “Otherwise, we’ll need to have a firm talk with that scientist. During your annual performance interview, you must declare your secondary employment activities and sign the form. If certain activities are withheld, you’ll be committing forgery.”

This article appeared previously in Delta. Additional information has been included about the Conflct of Interest Committee and the TU Delft Valorisation Centre. See www.delta.tudelft.nl/25188