Who did what? The human side of the science enterprise

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In 1996 a regrettable public controversy broke out concerning one of the truly important research achievements of Swiss science: the discovery, in the Basel laboratories of Sandoz, of cyclosporin A, the immunosuppressant that has played a major role in advancing organ transplantation [1].

Like most biomedical research, the investigative work which led to the final production of a marketable drug involved a team of scientists of different orientations and skills, in this case from microbiologists and chemists via pharmacologists, cell biologists and immunologists to clinical researchers. It was not serendipitous research, as we learn from the review published on p. 299 [2]. Rather, it was a targeted search in extracts from fungi for an immunosuppressant without cytotoxic side effects – which was eventually found in a preparation whose main effector was subsequently purified and called cyclosporin A.

Recognition of the immunosuppressive action of this substance – the chief effect sought for – was clearly a decisive step, but not the only one: the absence of general cytotoxicity appears to have been just as important in view of its subsequent clinical application.

The controversy was not about the drug but about fair public recognition of the contributions made by the different players in the early phase of its discovery. This raised the problem of fairness in the reporting of research results in the published literature, on which recognition of such research achievements is based. Naturally the public wants heroes: honours and prizes are usually awarded to individuals. This being so, it is understandable that the contribution of the one scientist most directly linked to detection of immunosuppression in this compound, J. F. Borel, was singled out and abundantly honoured. This was the circumstance which led to the public charge of unfairness from the one-time leader of the research group, H. Stähelin [1].

As the controversy appeared to raise issues of scientific ethics in a Swiss research institution, the Swiss Academy of Medical Sciences investigated the published record and issued a detailed report [3] in which it concluded that the question could not be decided without insight into the internal laboratory documents.

The Academy therefore suggested an investigation along these lines to the President of Novartis. It is highly laudable that two independent and highly respected senior scientists were entrusted with this task, the outcome of which is reported on p. 299 [2]. The report concludes that the portrayal of the early history of cyclosporin in the published literature lacked balance and thus left a somewhat distorted picture. It is noteworthy that this conclusion confirms what emerged from scrutiny of the published record [3].

On the basis of this investigation it must therefore be acknowledged that in the actual discovery of cyclosporin's immunosuppressant activity the research group led by H. Stähelin played a decisive role, to a large extent by establishing a test battery including the haemagglutinin test which made possible the discovery of immunosuppression. The merits of J. F. Borel in furthering cyclosporin A, first in the laboratory and then in effectively promoting the early clinical trials, need not be questioned. However, they must also be viewed in terms of the team effort required to screen potential compounds for immunosuppressive activity.

What lessons can be drawn from all this?

In the present age of complex research projects involving large numbers of scientists, the principle of fair sharing of responsibility and recognition must be strictly observed by all players: fairness on the part of the chief in giving his co-workers the chance to have their special contributions recognised and even rewarded in the public arena, and fairness on the part of the co-worker in recognising the benefits he has received along the pathway to success. These principles were not sufficiently respected in this case. The view from inside the science enterprise may sometimes be distorted, and ambition may add a further slant to one's own perception of one's role. But it does not pay in the long run to avoid the question "is my view of my role fair?". There is no harm and no loss of pres-

tige in acknowledging partnership in a research project: otherwise honesty is at risk. And this is highly damaging to both the scientists and the entire research enterprise, which must, to a very great extent, be built on trust.

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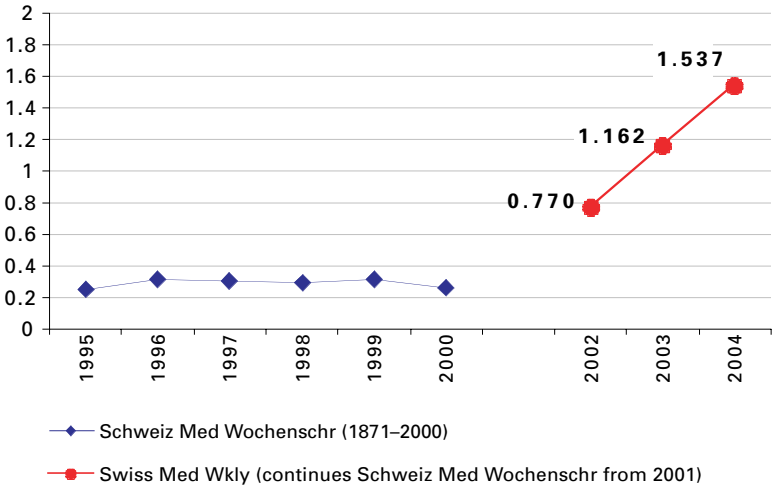

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