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South American science at a crossroads

Researchers in South America have a unique opportunity to advance their position in world science, provided they champion necessary reforms of universities and research agencies.

The outlook for South America's political and intellectual life offers more genuine grounds for optimism than has been the case for decades. Democracy is more reliably ensconced in Argentina, Brazil, and Chile than ever before, while low inflation and trade liberalization are transforming the continent's economy. All this presents a unique and unrepeatable opportunity for the region to attain its rightful place in the world of science.

As Fernando Reinach of the University of São Paulo explains in this issue (pp 647–648), the opportunity involves sizeable risks for the region's large and talented scientific community. Through decades of political instability, protectionism, occasional hyperinflation and frequent military dictatorship, the situation of scientists and other academics has been ambiguous at best. Nationalist governments have made reasonably strong investments in research and development while accepting low standards of performance. Academics have taken refuge behind constitutional protection of intellectual freedom, fiercely resisting outside influence.

It was understandable during much of the recent past that academics viewed tenure and a degree of self-government as more important than instilling competition in the universities. But the result today is a university sector with no external oversight and little incentive to excel in research. As Reinach points out, this sector is not immediately well-placed to support the science and technology requirements of the region's new economy, in which old state-run industries have been exposed to domestic and foreign competition.

The same applies to the disproportionately large number of scientists in the region who work for government research laboratories. The national council for science and technology (CONICET) in Argentina, for example, spends nearly all of its money on 3,000 staff scientists at its own institutes, leaving only a paltry amount for external grants. The Argentinian government is justly suspicious of CONICET's claim that all its work is being properly peer-reviewed (see *Nature* **391**, 525; 1998).

Universities have poorly developed ties with the continent's newly energized industrial base, which may go outside for technical help. Government-funded scientists often work at universities but do no teaching. These gaps between science, education and commerce must be closed. Otherwise there is a serious risk that the universities and the scientists will slip into irrelevance.

Moves are already under way in the region that will modernize and strengthen its science base. A new National Agency for the Promotion of Science and Technology has been established in Argentina, for example, to distribute extramural research grants. The Inter-American Development Bank played a significant role in this initiative — as did the World Bank in a comparable project in Brazil (see *Nature* **391**, 317; 1998). An important objective of both exercises is to develop a structure for rigorously competitive peer review.

David Sabatini, an Argentinian who chairs the department of cell biology at New York University, has meanwhile come up with an imaginative proposal for a chain of regional centres of excellence in the life sciences, sharing the resources and talent of Argentina, Brazil, Chile and possibly Mexico as well. Fifty years of European experience suggests that such joint ventures between nations can be an effective means of generating political cohesion, as well as scientific excellence.

Such initiatives can pay generous dividends in a continent blessed with a large and talented scientific community which, although largely educated in the United States and in Europe, is strongly inclined to return home to do science. That community must now lead extensive reform of the region's universities and scientific institutions, rather than entrench themselves against it. □

Mirage in the Senate?

Enthusiasm for science is strong in Washington, but enthusiasm for necessary choices is not.

This month's US Senate budget resolution is the best pointer yet to what next year's science budget will contain, and the signals it sends are mixed. On the one hand, the resolution specifies a generous increase for research at the National Institutes of Health. On the other hand, it does not do much for research at other agencies.

The budget resolution groups together the National Aeronautics and Space Administration, the National Science Foundation and the civilian research activities of the Department of Energy in a category called 'general science, space and technology'. The Senate resolution offers a small increase to this element of the budget next year, followed by steady decline for the following four years. But it includes an amendment stating that it is 'the sense of the Senate' that spending on scientific research should double over the next ten years. The science community can thank Representative George Brown (Democrat, California) for pointing out this incongruity (see page 637).

To be fair, President Bill Clinton did no better in his February budget, which boosted science and other favoured programmes with money which he did not save elsewhere. The Senate has now entered into the same spirit, unanimously passing a non-binding motion to double spending on scientific research in a budget resolution that will, in fact, leave appropriators hard pushed to come up with any increases at all for key science agencies.

The best hope for bridging the gap between rhetoric and budget lines is still the so-called 'tobacco settlement', which each day looks less like a public health measure and more like a tool to satisfy Washington's spending addiction by means of new and regressive taxation. It is regrettable that neither the administration nor the Senate has had the courage to meet their stated spending priorities from within the limits to which they themselves agreed under last year's balanced budget agreement. □