



## HIGHER EDUCATION

# Universities Struggle With The Legacy of Apartheid

**CAPE TOWN AND JOHANNESBURG—**When New Zealand-born virologist Sean Davison recently moved from the University of Cape Town (UCT) to the University of the Western Cape (UWC), he hoped to help one of South Africa's 10 historically black universities improve its research capabilities: "It's an exciting time. I wouldn't miss it for the world." But almost before he donned his lab coat, Davison was made head of the microbiology department, and during his few months in the job he has had to deal with student mobs bent on destroying laboratories, tear gas in the corridors, and staff revolts. "The biggest problem is the racist scars. ... There is lots of political drama; it's a minefield," he says.

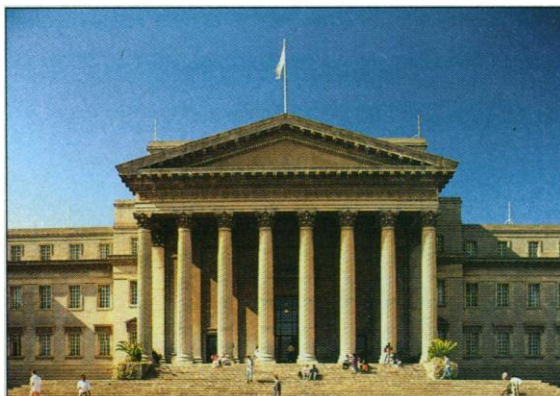
Apartheid left behind a university system deeply divided along racial lines: Each of the main racial groups was allocated its own universities. By 1990, when apartheid was ended, there were 10 black universities and 11 white, some of which taught in Afrikaans, some in English. In addition, there were 15 "technikons," also racially segregated, for vocational training. (Some liberal English-language universities, such as Witwatersrand and UCT, defied government policy and accepted some black students.)

Huge inequalities still persist in the system. Today the majority of university students and staff members are white, even though they make up only 12% of the population. Black universities, because of their legacy of underfunding, are struggling to catch up in terms of equipment, research, and quality of teaching. Black students still see the universities as white-dominated, elitist institutions and often see actions against a black student—such as expulsion for failing exams or not paying fees—as racist. "The liberal institutions have failed to capture the essence of Africa and its people," says Malegapuru Makgoba, deputy vice chancellor for personnel at "Wits," the University of Witwatersrand. "[Black universities] have suffered 40 years of neglect, and it's all coming to a head," says South African-born biologist Aaron Klug of the U.K. Medical Research Council's Laboratory of Molecular Biology in Cambridge.

Higher education desperately needs reform, but the new government has left institutions to find their own way out of the disaster.

"South Africa doesn't have the money for 21 research universities. ... Someone will have to decide what survives, but you can't just close all the black universities," says UCT microbiologist Douglas Rawlings. "The problem is how to cut one area and give to another without damaging the whole thing," says Friedel Sellschop, Wits' deputy vice chancellor for research.

The black universities under apartheid were hardly temples of higher learning—their main function was to train teachers for black schools. When he arrived at UWC in 1967, botanist



One of the elite. The University of Witwatersrand.

H. Aalbers says there were no postgraduate studies in his department. "In 1970 we started an honors program, but students only took it so that they would get quicker promotion in their teaching jobs," he says. In the 1980s a small number of graduates started master's courses, but "we had to bend over backwards to get any research going in the department." The university infrastructure too was starved of funds. "It was only in 1980 that stormwater drains were installed; before that when it rained the campus was like a lake," says UWC geologist J. Van Bever Donker.

Research funding reflected the elite status of the white universities. In 1989–90, the 10 white universities spent a total of more than 300 million rand (\$80 million) on research, while the six black universities for which data are available spent a mere 24 million rand. Research activity is dominated by five of the white universities—UCT, Wits, Pretoria, Natal, and Stellenbosch—which between them produce 80% of the South African papers in the Science Citation Index (SCI).

Universities get the bulk of their funding from a government grant calculated according to student numbers and the amount of time staff members spend doing research.

Under apartheid, however, black universities were only given a fraction of the amount they were entitled to receive. Lump sums are also given to a university for every paper by its staff cited in the SCI—10,000 rand per paper in 1989.

Although all universities now get the same fraction of their entitlement, the black universities are handicapped by decades of underfunding. Five years ago, the Foundation for Research Development (FRD), which funds basic research in the universities, launched its University Development Program (UDP) to foster a research culture in disadvantaged universities. "Funding has changed because of the UDP. ... We didn't get millions, but we have seen a change," says UWC physicist E. Zingu. Says Aalbers: "Now we can tell students you don't have to become a teacher; you can find jobs in science."

Some of the white universities have also been trying to help students overcome the disadvantages imposed by the impoverished black school systems. Both Wits and UCT launched academic support programs about 15 years ago to give black students extra tuition in areas such as English and mathematics, or to allow promising students without the paper qualifications to enter university to do a year of predegree work first. "The first cycle has just come out. It's very successful and promising," says Sellschop. Last year, 52% of UCT's first-year students were nonwhite.

While there is general support among university researchers for these moves, there is concern that some reforms are diverting resources from research and that spreading research support equally among all the universities will lead to a leveling down rather than a leveling up. "FRD is wrong to broaden research to all universities. The FRD should try to build strengths, not build up across the board," says UCT oceanographer Geoff Brundritt. And this situation is not helped by the fact that the universities haven't come together to alleviate the crisis—avoiding duplication and sharing staff and facilities.

Many now favor a more radical solution: have separate grades of university, some specializing in undergraduate teaching, others in postgraduate studies and research. "UWC is a good undergraduate university; it should redefine its functions and concentrate on undergraduate teaching, maybe drop science altogether," says UCT chemist G. E. Jackson. But scientists at the black universities have waited too long for the ability to do research to have the opportunity snatched away. "It's important to have researchers as role models," says UWC mathematician L. Nongxa. In the overheated racial politics of South Africa, such a solution would be politically difficult for the government, a factor that may help to explain its slowness in dealing with higher education's postapartheid turmoil.

—Daniel Clery