Talk of the town

CIRCUMSTANCES of a cruel and unusual kind must prevail before radio commercials mention the word 'recession'. In downtown San Diego, radio advertisements for sales at knockdown prices were interrupted by the business news: a local company had received approval from the Food and Drug Administration to make and sell a diagnostic kit for brucellosis. The slump in defence spending has knocked the Navy town of San Diego for six — but if you're in biotechnology, it's never been better.

The biotechnology community is largely concentrated in La Jolla, just to the north of the city itself. Several research institutions — most notably the Salk, the Scripps Research Institute and the University of California, San Diego (UCSD) have spawned or attracted more than 150 biotechnology companies, all within what is effectively a campus no more than five miles across. Much of the federal funding for research in the area comes from the National Institutes of Health (NIH), which have only just woken up to the potential for tax dollars to go astray in the labyrinthine business connections that run up and down North Torrey Pines Road.

The heat is currently turned on Scripps, and its president, biochemist Richard Lerner, who is supremely good at attracting industrial sponsorship: a talent that attracts both admiration and envy. Scripps currently receives $10 million a year (about a twelfth of its budget) from the drug company Johnson & Johnson (J&J) in exchange for first rights to develop discoveries made by Scripps researchers. The contract with J&J will to be replaced 1n 1997 with an agreement with the Swiss firm Sandoz. Over a 10-year period, Sandoz will give Scripps $300 million for the right of first refusal for its products. Given that federal agencies, notably NIH, will add $1 billion in grants over the same period, concern has been expressed that a foreign company is getting first bite at $1.3-billion-worth of publicly funded research for an investment of $300 million.

Thanks to coverage by business reporter Craig Rose of the *San Diego Union-Tribune*, the Scripps-Sandoz deal (with the added spice of a congressional investigation into the lack of NIH oversight of the deal and others like it) is the talk of the town. Lerner is unrepentant: "our responsibility is to discover things that allow drugs to be made, and we need money to do that — and that's our pure and simple mission. After that, Congress and the pharmaceutical companies can argue with each other about to what extent the taxpayers are paid, and to what extent they deserve a tax break. We don't know anything about that, and we don't want into that issue. We are charged with discovery, and that's what we do for a living." The J&J arrangement had modest beginnings, says Lerner's former Scripps colleague and departmental chairman David Katz. But the final terms were rather more inclusive than originally foreseen, encompassing the work of some Scripps researchers allegedly without their full knowledge. "Rather than give implied consent by remaining, when I knew what appeared to be happening — and I disagreed with it", says Katz; "it was better for me to move on." Katz now heads the Medical Biology Institute (MBI) in La Jolla, as well as the for-profit company Lidak Pharmaceuticals, which has rights to MBI's technology.

Representative Ron Wyden (Democrat, Oregon) has got the bit between his teeth about the NIH's apparent inability to keep track of the funds it awards to institutes with industrial links. He threatened Scripps with withdrawal of NIH funding if it did not cooperate with inquiries (it is cooperating, if after initial reluctance), and has questioned NIH about oversight for funding of MBI and other San-Diego-based companies. "These strings [between industry and research] are more imaginary than real", says Lerner: "the pharmaceutical company cannot tell the investigators what to do."

Although just two minutes' drive down the coast, researchers at the Salk Institute adopt a completely different stance. "I'm not clear myself on how we relate to biotechnology firms, individually or collectively. It's an area of considerable stress" says Salk's new president, molecular epidemiologist Brian Henderson. "We are concerned about conflict-of-interest issues, the commercialization issue; how do we benefit as an institution? How do individuals benefit, and how do we do that in the face of maintaining an independent research activity that's not driven by product development *per se*, but driven by ideas? I think it's a difficult road." Henderson would stay with the Salk's self-confessed "conservative" approach until he can identify a regimen "that would benefit us but not tie us to anybody else's agenda". □

At the zoo ...

EVERY animal is a dark continent under the skin. To those whose knowledge of mammals begins and ends with the white rat, it should be sobering that only half the species of mammals have ever been karyotyped, let alone more deeply investigated.

John Phillips and friend.

For the two dozen researchers at the Center for Reproduction of Endangered Species (CRES) at San Diego Zoo, the generalizations espoused by other biologists are laughable. John Phillips, deputy director of the centre, tells how a grant proposal to study a feature of lizard physiology drew the opinion from a referee that he could find the same things more cheaply in a white rat.

At the coalface of biodiversity, where snap inferences about an alien physiology can mean the death of a species, people are used to surprises. Virologist Mike Worley and his colleagues, for example, have noticed signs of liver disease in black rhinos, with signs of what in other animals would indicate a kind of hepatitis. The rhinos are seropositive, but no viruses have yet been found; where have they gone? Is it the weird glucose metabolism of the rhino that makes it acutely sensitive to oxidative stress? No shotgun can bring down a rhino as surely as a burst of explosive haemolysis.

And why, asks geneticist Oliver Ryder somewhat rhetorically, do the zoo's Vietnamese douc langurs have chromosomal translocations that cause reproductive failure? Is it because their home forests were once sprayed with Agent Orange? Or are zoo researchers mistakenly trying to impose cross-specific misalliance? To help answer such questions, CRES has a 'frozen zoo' of cell-culture materials from 300 different mammalian species, the biggest anywhere.

The answers underpin CRES's chief objective, to understand a species sufficiently well that it breeds in captivity and can be reintroduced into the wild. The captive-breeding programme for the Californian condor has been a great success. The relict population of about 20 birds has now been built up to around 70 at the zoo's Wild Animal Park. But the zoo lives and learns: nothing can stop a condor from drinking from a roadside puddle polluted with antifreeze, with fatal results. □