

The Raging Bull of Berkeley

Anthropologist Vince Sarich thinks genes explain a lot about some very complex human behavior—and that makes some people so mad they think he shouldn't be teaching

"IF YOU CAN BELIEVE THAT INDIVIDUALS OF recent African ancestry are not genetically advantaged over those of European and Asian ancestry in certain athletic endeavors, then you probably could be led to believe just about anything."

So begins a provocative lecture on race by the outspoken anthropologist Vincent Sarich. His audience consists of about 400 freshmen and sophomores, students in his introductory course on physical anthropology at the University of California at Berkeley. For many of them, the course is far more than an intellectual luxury: They take it to fulfill the university's science requirement.

"The distributions with respect to klutziness and jumping ability differ among groups," Sarich continues. "There is no white Michael Jordan, one of the best basketball players ever to play the game, nor has there ever been one."

Race, sex, and science—or is it pseudoscience?—have been the subject of intense controversy on the Berkeley campus since last November, when more than fifty students disrupted Sarich's course, accusing him of teaching homophobic, sexist, and racist material. After that, some students demanded that Sarich—a tenured professor—be fired. In the aftermath of the disruption, the anthropology department convened two committees, one to review Sarich's course material, the other to deal with student complaints. Even the university's chancellor, while con-

demning the disruption, stated that a "careful investigation" would follow if allegations of discriminatory remarks in the course were brought forth.

Just who is Vincent Sarich, and why are so many people mad at him? First of all, Sarich is an eminent physical anthropologist whose work—done with his colleague Allan Wilson of Berkeley's biochemistry department—has led to fundamental changes in our understanding of human evolution. Sarich, Wilson, and others put the idea of a "molecular

clock" that measured evolutionary changes on a firm foundation. Sarich then used that work to postulate that human beings, chimps, and gorillas diverged much more recently in evolutionary terms than most researchers had believed—enraging many paleoanthropologists. Most of the recent evidence indicates he was right—chimps and human beings are much more closely related in evolutionary terms than the old model held. But those disputes were on Sarich's own scientific turf. The recent controversy touches on areas such as race, sex, intelligence, and the genetic basis of contemporary human behavior, where Sarich is hardly an expert. Indeed, except for a few papers on schizophrenia, he has never published in this field.

That's part of the problem say the critics. They argue that Sarich is teaching an out-and-out advocacy course in areas he doesn't know much about. As a result, he's not preparing students for advanced anthropology courses—only subjecting them to his own controversial opinions. Furthermore, some say that Sarich is brutalizing the black, gay, and even female students in his courses, and that other teachers must help undo the trauma he causes. Percy Hintzen, professor of Afro-American studies, says his own course on race and ideology "acted as a release mechanism for the emotional and psychologi-

cal devastation of having to listen to Sarich."

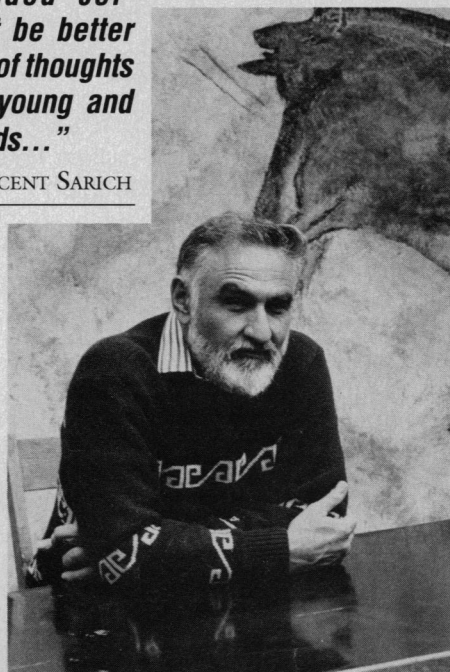
Sarich and those who defend him acknowledge that he teaches an advocacy course. Indeed, he says in his lecture that "at some point one gets tired of arguing with one's closed-minded colleagues. Instead it might be better to inject these types of thoughts into young and impressionable minds so they can turn around and ask various other people (professors, for example) what they think." But Sarich claims—with some justification—that he does cover opposing points of view. What is more, he and his defenders claim, others teach advocacy courses too. Yet because those courses fit better with the prevailing—largely liberal—political orthodoxy on the Berkeley campus, they don't come under attack. Sarich is being attacked, they say, simply because he is willing to discuss subjects—such as race, gender difference, and intelligence—that have been rendered taboo by a conformist mentality at Berkeley.

The current uproar didn't actually start in Sarich's class. It started in the pages of the September issue of the Berkeley alumni magazine, in which Sarich published an article with the guaranteed-to-offend title "Making Racism Official at Cal." In the article Sarich argued that whites were being discriminated against in admission and that efforts to culturally diversify the student body were creating "tribalization" on campus. A two-tier system was forming, he said, with whites and Asians in the first tier and blacks and Hispanics in the bottom. The costs of such a policy, he said "are obvious and large; the benefits, if any, difficult to perceive, and certainly undocumented."

The article provoked an intense and acrimonious debate at Berkeley and in the San Francisco newspapers. In California, which will soon have a nonwhite majority, affirmative action is a touchy subject. Competition to get into Berkeley, the premier state university, is fierce: Last year, 2,300 high school students with 4.0 grade point averages were turned away, and until recently minorities haven't had much access (90% of the faculty—the slowest segment to change on campus—is white). In addition, minorities felt singled out by Sarich's article, because although the affirmative action program in-

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—VINCENT SARICH



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Is Vincent Sarich Part of a National Trend?

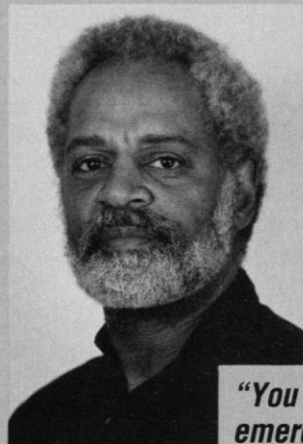
Berkeley sociologist Troy Duster thinks Vincent Sarich's controversial Anthropology 1 course is part of a national trend toward explanation of complex human behaviors in genetic terms that began in the 1960s and is now reaching fever pitch. And Duster isn't alone in that view.

Duster, who specializes in studying shifts in the nature/nurture controversy over time, thinks those shifts are often correlated with societal changes. After World War II—and the Holocaust—Duster says, there was a rapid move away from the “nature” side of the ledger. But social developments and technical advances—in particular, the advent of molecular biology—sent the pendulum swinging back the other way by the '60s.

But it isn't geneticists who are leading the latest trend, Duster argues, it's psychologists and other social scientists. Educational psychologist Arthur Jensen of Berkeley has become well known for his claims about the genetics of intelligence and race; psychologist Richard Herrnstein of Harvard is noted for arguing the genetic basis of intelligence, crime, even unemployment.

The trend acquired its current impetus, Duster claims, from the remarkable success of molecular genetics in identifying the basis of single gene diseases. “Once you found Tay-Sachs in the Jews, sickle cell anemia in blacks, beta-thalassemia in Mediterraneans, cystic fibrosis in north Europeans, you suddenly had a folk logic emerging in both the scientific community and those who knew about these developments. If sickle cell anemia is race-specific, then maybe criminality or intelligence is.”

These ideas have gained considerable credence on the borderline between science and popular opinion, says Duster. “There has been an explosion of articles in both the popular literature and also some scientific journals which explain behavior in terms



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of genetics and biology or biochemistry.”

“We're almost back to the idea of pre-formation,” adds Berkeley biochemist Richard Strohman, referring to the 18th-century notion that a little person was tucked inside each sperm. “The lay public is under the impression that DNA controls everything.”

The debate over genetics and intelligence, along with other complex human traits, isn't limited to the lay press. It's also penetrating academic campuses, where it gets caught up in debates over academic freedom and responsibility.

At the City College of New York, in March 1990, students disrupted the introductory philosophy class of Michael Levin. The reason? Levin's views on race and genetics. “It has been amply confirmed over the last several decades,” he wrote in a letter to *The American Philosophical Association Proceedings*, “that, on average, blacks are significantly less intelligent than whites.” Ironically, at City College Levin has an opposite number: Leonard Jeffries, Jr., chairman of the African-American studies department, who thinks the additional melanin blacks have gives them both physical and neurological advantages over whites.

And last year, at the annual meeting of the American Psychological Association, J. Philippe Rushton of the University of Western Ontario said blacks have smaller brains than whites, “which may underlie some of the differences among the races in educational performance.” As human beings entered the colder climates of Europe from Africa, says Rushton, “they encountered environments that selected for increased social organizational skills and sexual and personal restraint, with a trade-off occurring between brain size and reproductive potency.”

In spite of the exaggerated claims, Duster says, it would be wrong to reject all claims of genetic influence on behavior. He cites, for instance, autism, where twin studies provide overpowering evidence that the condition is genetically based. Yet he warns against sliding down what he calls “a slippery slope of logic” [that] could quickly conflate the molecular genetics of sickle cell anemia with an extraordinarily complex issue called crime.”

■ P.S.

cludes many nonracial categories (rural versus urban, for example), Sarich focused exclusively on race. In a widely quoted statement, he wrote: “Unfortunately, the levels of qualification, preparation, or motivation are not randomly distributed with respect to race and ethnicity.”

A month after the article appeared, the protesters disrupted Sarich's anthropology course. None of them was a current student in the course, although some had taken it before, and others claimed they had read the verbatim transcript of the lectures Sarich offers as a study guide. The protesters attacked Sarich's stand on affirmative action and the content of his course. Posters appeared on campus: “No more racist bullshit

in the name of academic freedom.” In an op-ed piece, one faculty member accused Sarich of “attempting to destroy the self-esteem of black students in his classes.”

All of this naturally focused microscopic attention on the content of Sarich's Anthropology 1 course. In the course Sarich teaches that human behaviors—including those as complex as crime, college performance, gender roles, athletic ability, even career choice, can be understood in terms of our genetic makeup, which is in turn formed by evolutionary forces.

Sarich lectures a good deal about both racial and sexual differences. The starting point of the course is what Sarich calls the “reproductive game,” an evolutionary pro-

cess that he says makes males intrinsically greater risk-takers than females. Males can sire many more children than females, so they will “play a higher risk game because there is a greater ultimate potential gain.” Higher risks means both winning and losing more often.

In contemporary society, Sarich argues, this translates into a male predisposition toward crime, “the ultimate risk behavior,” and also means males end up most often at the top—and the bottom—of college classes. The most masculine men are rewarded with women and the most feminine are more likely to become homosexuals. The homosexuals tend to enter, among other careers professions such as hair-dressing, where they

are "advantaged in dealing with female choice and psyche."

Yet Sarich says genes don't have the final say; there is also free will—on which he puts his own spin. "It is neither nature nor nurture which is determining behavior but it is the effects of nature and nurture filtered through you as an individual—and it is you as an individual that has final control over those effects." In that form, many researchers can agree with the proposition. But Sarich takes it to extremes. Schizophrenics, he says, are responsible for their condition because they haven't "resisted" the disease, and homosexuals "choose" their sexual orientation.

Culture, while generally de-emphasized in Sarich's course, does play some role there. That blacks and Hispanics perform less well than whites in our educational system, he says, "is not a racial thing. In fact, very little of it is racial—that is, genetic." It's cultural, Sarich argues. These ethnic groups don't stress education.

Some of Sarich's colleagues say many of his arguments don't hold water scientifically. "It's not good science, it's not bad science, it's not science at all," says Nancy Scheper-Hughes, a colleague and vehement Sarich critic who does research in a number of the areas covered in his course. Sarich's lectures, says Scheper-Hughes, rely primarily on anecdotal evidence rather than on scholarly studies.

Stanford population geneticist Marcus Feldman describes Sarich's analysis as a series of opinions that don't have any evidence to back them up. "These kinds of simplistic statements take no account of cultural evolution and the interaction of cultural and biological phenomenon."

Among geneticists, says Berkeley molecular and cell biology professor Richard Strohman, "Those of us who have followed Sarich's [teaching] are amused—that you can explain large swathes of behavior by a simple genetic paradigm....We don't even understand the genetic basis of development in the worm, let alone humans."

Sarich, however, contends that he is simply providing a counterbalance to what is taught in many other campus courses—courses that slight the genetic contribution to human behavior. "The wrong person is being challenged here," he says. "There is far

more discussion of...social, cultural, and free will influences on human behavior in my class than there is of biological influences of human behavior in any one else's." Other classes denigrate evolutionary biology, either explicitly or by omission, he says. "You can do that with impunity because [the influence of the environment on human behavior] is the ruling idea in the field."

Furthermore, Sarich argues, those who accuse him of genetic determinism are missing a major theme of his course: that genes influence—but do not determine—behavior. "The most frustrating aspect of discussing causation of human behavior is: as soon as one raises genes, the students append determinism. It's not what I do, it's what people come in with."



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As to the charge of intellectual heavy-handedness—a charge that's been made by some other faculty members—Sarich says that's off-base too. He says students are only required to understand, not accept, the course material and that balance comes in when students take other courses. He adds that he holds an optional, open-ended discussion session where students can bring up any topic they wish, and their comments are often brought up in subsequent lectures. Furthermore, an examination of the course transcript shows that Sarich does bring up opposing views—although often in a critical fashion.

Nevertheless, Berkeley anthropologist Laura Nader refers to Sarich's course as "indoctrination," pointing to the fact that there is no textbook (the course reader is 138 pages—slender compared to those in some courses) and no questions allowed in lecture. Adds Scheper-Hughes: "I don't want to say there's mind control going on, but the information is extremely restricted." There is, for example, minimal attention in lectures and readings devoted to basic genetics.

There is also no lecture or readings on basic human evolution, which is among the lacunae that have led some faculty to contend that Sarich simply doesn't do an adequate job of preparing students for upper-division courses in the field. "It's a question of competence," says Nader. According to Michael Nunley, current teaching assistant in the course, a great majority of students couldn't give a brief, satisfactory definition of natural selec-

tion on the midterm exam.

But even his critics acknowledge that Sarich does cover some of the basic material in introductory anthropology. Says Margaret Conkey, another departmental colleague: "He's not teaching English literature." And the teaching assistants who run the discussion sections fill in some of the gaps. Conkey thinks students are getting perhaps a third of the information needed to go on to higher level anthropology courses.

Sherwood Washburn, the eminent Berkeley physical anthropologist who hired Sarich—but who has since soured on him—thinks the basic problem is simply that Vincent Sarich "likes to raise hell. He purposefully picks topics that will get the students mad."

To this charge, Sarich pleads guilty. "Of course I like to raise hell," he says. "I like to illustrate points by dealing with subjects that are as controversial as possible." He argues that such choices make his class both intellectually exciting and philosophically relevant. "I don't think anyone's ever accused my class of being boring." He carries around a stack of complimentary letters from students attesting to that fact.

But the flamboyant personality of Vincent Sarich aside, the imbroglio he's at the center of raises important questions for the academic research community. First of all, is he being treated fairly? Even his critics admit few professors could withstand the kind of scrutiny Sarich is getting. Says Stephen Smale, a Fields prize winner in mathematics and 1960s free-speech activist who ran into plenty of criticism himself on campus during the Vietnam era: "I don't mean to defend Sarich by any means, but I'm sometimes more upset that people hold him to different standards." Smale cites sociology, energy and resources, even physics, as subjects where advocacy courses—with a liberal bent—are taught. "I see this huge attack on him tending toward a more conformist campus.... I find it interesting to have someone like this on campus, saying things that are very much against the prevailing views."

Tom White, an evolutionary biologist who is familiar with Sarich, some of the critics, and the much thumbled Sarich lecture notes, thinks the critics have some biases themselves. "I think that some of his critics quote only the lecture material they find objectionable when Sarich is actually giving opposing arguments in order to challenge the students to think about and form their own conclusions on these subjects."

"Sarich is almost unique in that department in having a molecular or genetic perspective," says White. "You'd hate to eliminate that which is necessary for getting educated in anthropology today." White faults Sarich for presenting opinions, including ste-

reotypes, as scientific theories, but says that the last third of the course, in which Sarich talks about the primate fossil record and molecular evolution (Sarich's areas of expertise), "is a credit to the department."

Beyond the issue of fairness lurk deeper—and much more difficult—questions of how to handle the case of an eminent scientist who teaches material others object to. One of the few things most members of the faculty and administration agree on in this case is that the disruption of Sarich's course was wrong. "If you don't like what a person is saying or teaching, you cannot silence him by closing his class by violence," says vice-chancellor John Heilbron, who is in charge of academic issues at Berkeley. Indeed, the Academic Senate Committee on Academic Freedom condemned the disruption, and disciplinary action is proceeding against the protesters who have been identified.

But the issue of academic responsibility—of what should be taught in science courses and who should decide—is tougher to settle. Perhaps because it might have a chilling effect on academic freedom, there is no well-established procedure for monitoring the content of courses at Berkeley. The review established by the anthropology department was one such effort, but that ended after the Vice-chancellor "suggested" that the Academic Senate's Committee on Courses was the appropriate forum for a review.

Yet Fiona Doyle, chair of that committee, says that authority over curricula is delegated to the department, which has the expertise to judge course content. To make matters worse, the anthropology department at Berkeley—a hotbed of fractious debates and personal animosities—is so splintered that it has no chairperson. "Nobody is really in a position of authority," says Stanley Brandes, head of the department's executive committee.

Although no one on the faculty takes very seriously the protesters' demands that the tenured Sarich be fired, some have floated the idea that he not teach the introductory course, but only courses relevant to his specific expertise or electives. If the department does decide to take that step, Sarich could appeal to the university's Committee on Privilege or its Committee on Academic Freedom.

For the administration, the controversy has been unsettling. "We're in a land where we haven't many guideposts," laments vice-chancellor Heilbron. Sarich is going on sabbatical next semester, and is not scheduled to teach Anthropology 1 next year. "The span of attention at Berkeley may not last a year and a half," says Heilbron, "but the issues are perennial."

■ **PAUL SELVIN**

Paul Selvin is a postdoctoral researcher in biophysics at UC Berkeley.

U.S. Backing for Fusion Project Seen

In the next few weeks, the Bush Administration is expected to announce that the United States will continue its participation in a major multinational effort to design a fusion energy test reactor. The first phase of the project, involving preliminary design work on the machine, the International Thermonuclear Experimental Reactor (ITER), was completed in December. The next stage—advanced design and R&D—is expected to cost \$1 billion, and the Department of Energy has been keeping fusion researchers guessing about its willingness to ante up. There are now signs, however, that the Administration has decided to back the effort.

The strongest evidence of the Administration's intent is that some \$40 million for the undertaking, sources say, is included in the fiscal year 1992 budget that President Bush will present to Congress in early February. In addition, although formal negotiations have not yet begun with the other partners in the venture—the European Community, Japan, and the Soviet Union—government and industry officials say most of

the planning for the second phase has been worked out through unofficial discussions.

Another positive signal for ITER is an announcement by DOE last week that it has chosen San Diego, California, as the U.S. candidate for a site for the project. The European Community and Japan are expected to offer their own candidates next month, and a final selection would come later in the year.

"Right now things are looking pretty good for ITER," comments John Clarke, the former director of the Office of Fusion Energy and, until recently, chairman of the ITER Council, which has been overseeing phase one. A total of \$200 million has been spent over the past 3 years to produce the conceptual design for the reactor. There is no commitment on the part of any country at this point, however, to actually build the \$6-billion device. That decision will not come for 5 or 6 years, when the final design is completed and better cost estimates are in hand.

■ **MARK CRAWFORD**

Mark Crawford is a reporter with New Technology Week.

High Noon in Utah

Utah officials seem to be running out of patience with Stanley Pons, the chemist who claimed to have discovered cold fusion nearly 2 years ago. The University of Utah, Pons' employer, has given him until 1 February to hand over the raw data from experiments that Pons claims prove the existence of cold fusion. And the Fusion Energy Advisory Council, which oversees the \$5-million investment that the state legislature made in cold fusion research at the university, may withhold the rest of Pons' share of those funds if they are not satisfied with his data.

The state has already spent \$4.1 million, says Randy Moon, Utah state science adviser and a member of the advisory council. The council is now deciding whether to release the rest to the university, which in turn would give about 20% of the money to Pons and the remainder to the National Cold Fusion Institute in Salt Lake City. The problem, Moon says, is that the university has not provided the council with complete information about results from cold fusion research conducted so far. The university, in turn, blames Pons. John Morris, associate vice president for academic affairs, says the work from the cold fusion institute is "fundamentally sound," but the university has not been able to evaluate Pons' work because it "didn't have the details."

To solve the problem, the university convinced Pons and his lawyer to agree to turn over Pons' raw data to Wilford Hansen, a physicist at Utah State University and a member of the advisory council. According to the written agreement, Pons promised to give Hansen part of the data by 14 January and the rest of it by 1 February. Hansen says that Pons met the first deadline.

But the advisory council is not waiting. It has given the university until 22 January to announce how it proposes to spend the rest of the funds. If Pons' data are unconvincing, the council may not approve any spending plan that includes support for Pons. And, Moon adds, unsatisfactory data from Pons could endanger the whole effort. "The thing that got everybody excited was the excess energy from Dr. Pons' experiments and, darn it, that's what we invested in."

Meanwhile, Pons has quit his tenured professor position at the university and accepted an 18-month contract as a research professor. Three months ago, Pons requested a sabbatical from the university, saying he wished to concentrate on research, but that fell through. Morris gave no details on the negotiations that led to Pons' new relation with the university, but did say that the university did not force him out.

■ **ROBERT POOL**