

Letters

Santa Cruz: Another Dimension

Luther Carter's article on the University of California, Santa Cruz (15 Jan., p. 153), was a refreshing presentation of what we are trying to do and of the almost idyllic physical conditions under which we are doing it. Although he avoided much of the false emphasis which has characterized many other writings on the same subject, Carter did miss one important aspect of Santa Cruz, namely, the modest but growing program of graduate work and the research atmosphere, particularly in the sciences. To complete the picture, therefore, these notes should be added.

Even in the first year of Santa Cruz's activity, graduate work was begun in biology and astronomy—biology because there were a number of senior faculty, some of whom brought graduate students along with them, and astronomy because the whole staff of Lick Observatory transferred to Santa Cruz and decided to commence teaching at both graduate and undergraduate levels. In the same year a broad graduate program was begun in psychology, philosophy, and history called "History of Consciousness." Chemistry followed the very next year. Graduate work now is being offered in six sciences, with a seventh imminent, in two fields of humanities (history and literature), and in psychology in the social sciences. Several doctorates have been awarded—the first as early as 1967. Many graduate students are affiliated with the colleges, some as residents, some to be in contact with their sponsoring professors, some merely by preference. Plans for closer interrelations between graduate students and the colleges are being developed.

The research activities of the faculty are substantial and serious and have attracted considerable support. Sloan fellowships for research have been awarded to Professors Ruby, Gaspari, Scott, and Dorfman in physics, to Coe in geophysics, and to Bernasconi and McMurry in chemistry. Seven faculty members are fellows of the National Academy of Sciences, and 74 have research grants amounting in aggregate to more than \$3.25 million. The organization of Santa Cruz by broad divi-

sions rather than by departments facilitates interdisciplinary work. Two journals, *Accounts of Chemical Research* and *Revue d'Histoire de la Guerre Mondiale*, are edited at Santa Cruz by Joseph Bunnett and George Baer, respectively. At present six postdoctoral fellows are in residence in biology, seven in chemistry, and nine in other fields. Lick Observatory astronomers, of course, have a long-established research program and many visiting associates. The university library already has more than 250,000 books, and, with a daily interlibrary loan exchange with Berkeley, is now a well-organized research facility in both scientific and nonscientific fields.

In addition to its collegiate program of undergraduate education, therefore, Santa Cruz is rapidly taking its place as an active research institution.

KENNETH V. THIMANN

MATTHEW SANDS

Office of the Provost, Crown College,
University of California, Santa Cruz

Children of Interracial Matings

In "Intellectual development of children from interracial matings" (18 Dec., p. 1329), Willerman, Naylor, and Myrianthopoulos suggest that environmental factors depress the intellectual performance of Negro children because they claim to have found that interracial children with white mothers scored higher on the Stanford-Binet IQ test than interracial children with Negro mothers. However, their statistical analysis does not warrant this inference.

Instead of testing the independent effect of maternal race, they combined it with the effects of sex of the child and the mother's marital status and tested the three effects collectively on measured intelligence in a nonorthogonal three-way analysis of variance. Since others have found significant effects of the child's sex and the mother's marital status on IQ (1, 2), it is not surprising that when these effects are combined with the effect of the mother's race, there is an overall significant effect of the three factors. However, whether or not the mother's race has

a significant independent effect cannot be established in this kind of analysis.

In addition, they report two further misleading analyses. The simple regression slope cannot be interpreted for the three effects since each effect is confounded with the other two effects. And, since the first analysis revealed additive main effects, that is, no interactions, it is clear that the two-way interactions involving maternal race they found upon further analysis (leaving out sex in one and marital status in the other) can be attributed to confounding of the effects of the factor left out with maternal race.

Willerman *et al.* cautiously state: "Interpretation of the race effect should be tentative since the number of interracial subjects is small." Actually statistical significance tests take sample size into account (3). The problem is that their analysis does not warrant this interpretation at all.

HERBERT J. WALBERG

College of Education,
University of Illinois, Chicago 60680

References

1. M. Deutsch and B. Brown, *J. Soc. Issues* **20**, 24 (1964).
2. J. E. Singer, M. Westphal, K. R. Niswander, *Child Devel.* **39**, 103 (1968).
3. D. Bakan, *On Method: Toward a Reconstruction of Psychological Investigation* (Jossey-Bass, San Francisco, 1967).

Willerman *et al.* focus on an environmental explanation while ignoring a possible source of genetic bias in their data involving paternal influence.

Table 1 of their report suggests that the highest educational level among the four types of parents in interracial matings is found among Negro fathers. While they average one-half year more education than the remaining groups (not statistically significant), the fact that 12 years is for practical purposes the upper limit of free public education suggests a ceiling effect may be influencing these data.

Perhaps more significant is the fact that this highest educational attainment level occurred in the group that, because of several factors, generally attains the lowest educational level of the four parent groups used in the study. Table 1 presents the median education level attained by Negroes and whites over 25 years of age found nationally (excluding the South, since the two southernmost hospitals in Willerman's study provided no cases), and in metropolitan areas, obtained from the 1969 census report on educational attainment (1).