

Yale, Grof (XV)
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STANFORD UNIVERSITY MEDICAL CENTER

DEPARTMENT OF GENETICS

November 22, 1977

Dr. Leonard Krieger
Department of History
University of Chicago
1126 East 59th Street
Chicago, Illinois 60637

Dear Dr. Krieger:

Thank you for sending me the draft report of the Visiting Committee on the graduate school, dated December 2, 1977.

Although it should perhaps be noted that my participation in the study was unfortunately limited, I have no reason to dissent from the conclusion and recommendations stated in the draft.

However, I do have some observations that I would like to pass on to you for further, perhaps informal, discussion. My comments relate solely to graduate work in the natural sciences.

I would certainly agree with the emphasis placed on the quality of academic placements. It seems very likely that Yale graduates -- if they have any competence at all -- will be able to compete very favorably for second echelon positions if they are willing to accept them. The question is whether that is a role that satisfies the University's intentions for its investment in this sector. As it will take some time to collect adequate statistics based only on the Yale experience, I would suggest that the University undertake to cooperate with half a dozen or so comparable institutions in the collection and sharing of the relevant data. If there are problems that are unique to Yale in contrast to, say, Harvard or Stanford, it would be interesting in itself to know what they are!

The further development of educational policy is not entirely within the control of the University. I imagine that a substantial proportion of the graduate students are funded from federal sources and it appears certain that these will be decreasingly available for graduate education. Statistics on this point both for Yale and a group of universities would also be of some importance for our evaluation.

One can hardly discuss these questions intelligently without a somewhat sharper look at the role that the graduate student plays in the life of the department and the university. If graduate student enrollment helps to justify

claims to general university resources, it will be harder to restrain recruitment. Probably more important is the role of the graduate student in the research career of the individual professor, at least in the natural sciences. With all the inefficiencies involved in the apprentice relationship, the graduate student does after all constitute remarkably cheap labor for the level of skill, spontaneity, and freshness of outlook that he brings to the laboratory. Under the project-grant system of research funding, the graduate student becomes almost the only source of very highly skilled professional labor whose work can be directed to the larger interests of the professor. This student enters into this bargain with the expectation that his servitude is of limited duration, and that he has acquired values upon graduating that sufficiently compensate him for the arrangement. But so long as this describes the market, there is every incentive to "overproduce" graduate students in relation to the ultimate demand for the product. Universities make little provision for career structures for Ph.D. research associates, who are neither graduate students nor on the faculty, the latter presenting its own claims on future resources of the university. Given these circumstances, I doubt very much that "the problem of the graduate student" will be solved for the elite universities who do eventually succeed in placing their 'product.' I am not sure that this would be even characterized as a problem. I do think the university needs to take a sober look at the functional outcome of its educational arrangements.

In the report, I noticed little attention to the "post-doctoral student," although this category is playing an ever increasing role in the career structures of students in the natural sciences. My own experience is that it is far easier to obtain reliable evaluations and predictions of quality performance for this echelon than it is for the younger graduate students, and some thought might perhaps be given to the incentives that might facilitate increasing investment in this category as compared to the more problematical Ph.D. candidates. University statistics that do not even recognize the post-docs as "students," in assigning credit for educational effort are plainly no help. The rather informal arrangements that may end up denying the university's access to tuition income for such fellows are probably working in conflicting directions. They make it "cheaper" for a professor to take on a post-doc; on the other hand this ends up with less credit from the university's perspective.

With the numerous manpower studies going on these days, I have been disappointed at the very limited discussion of these issues of career structure; Yale could do the country a great service to help open this up. Or perhaps you can point me to sources that I have missed. I will mention the article by Zuckerman and Merton* that covers related ground in a way not obviously indicated by the title.

* Zuckerman, Harriet A., and Robert K. Merton. 1972. "Age, Aging and Age Structure in Science." In Aging and Society, edited by Matilda W. Riley, Marilyn Johnston, and Ann Foner. New York: Russell Sage Foundation. Vol. 3, A Theory of Age Stratification.

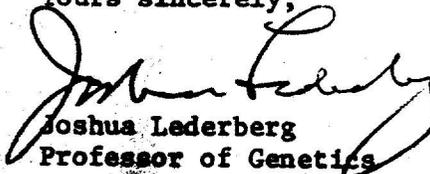
Dr. Leonard Krieger

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Will this report be the final work of the committee? My apologies again for the remoteness of my participation. Perhaps at another time and place I might have been able to be more helpful.

Yours sincerely,



Joshua Lederberg
Professor of Genetics

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