climate with the Lick 36-inch (91-centimeter) in the period 1900 to 1950 (before the 40-inch fell into relative disuse). There are a number of reasons for this. The 40-inch Yerkes refractor, at the time of its completion, was the world's largest telescope. Yerkes was operated as a research institution and not as a teaching institution and the staff astronomers were notably competent in making use of every non-cloudy hour. The directors of the Yerkes Observatory have been extraordinarily able astronomers with international reputations and a long record of important discoveries to their credit. There is little question, however, that the two most outstanding men in this highly selected list have been George Ellery Hale and Otto Struve. In each case, these gifted and far-seeing men established other observatories in good climates, and with revolutionary effects on American astronomy.

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Why Not a Draft For Applied Research?

There are several reasons for supporting a special draft for young scientists, a draft in which each physical and behavioral scientist would serve for a 3-year period in a laboratory engaged in applied research. This period should begin 2 or 3 years after he obtains his final degree so that he would have enough training under his belt to make a useful contribution likely, while being young enough to be openminded, productive, and not yet fixed in a major position.

1) Such a draft would give a great impetus to a branch of research that is shunned by many scientists, yet which needs attention desperately. The problems of cancer, atherosclerosis, mental disease, dentistry, prosthesis, population control, crime, poverty, and pollution need much more than the lip service and wistful glances of the basic research scientists. Efforts by the Public Health Service to attract scientists to work actively, rather than peripherally, in such fields have been quite disappointing.

2) Such a draft would divert the strong currents now building up to draft science students from college without consideration of their future contributions to the country. An indiscriminate lottery draft for the armed forces would create far more havoc in scientific progress than my proposed "applied science draft." As it is, the present system of threatening the students in the lower segment of each college class is highly demoralizing.

Is such a scientist draft practical? Can scientists with a basic trend of mind be induced to serve their term enthusiastically? Obviously goofing off in a research laboratory for 3 years is easily done—some do this all their lives! Others will say that there simply are not enough sensible ideas around for productive research in the applied fields. This guess can be countered by pointing to the enormously productive diversion of basic scientists during World War II, when thousands of such scientists entered the applied fields of weapons, antibiotics, and war systems research.

Where would our young scientists serve their term? There are many laboratories in and near hospitals where ties could be set up between clinicians and applied scientists. The President's program for setting up huge applied health centers would fit in perfectly with this scheme. Funds from federal poverty programs could be used for the social scientists. As it is, such funds are crying for want of use and direction by such people. Many laboratories are currently in the applied, publicly-supported research field and could absorb many "draftees."

Is such a draft inequitable or impractical? No doubt it is inequitable, like all systems and life itself, but it doesn't strike me as an extreme hardship. Of course there are borderline problems where one would question whether a draftee could contribute enough to make the project worthwhile. Or questions as to whether a given research project is basic or applied. And there is the possibility that a potential scientist would study English literature instead, and thereby avoid both the military and scientific drafts. These problems do not seem too serious. No enterprise can be operated without people and boards to make decisions and rules. Isn't it time that the basic scientists stopped wishing for practical spin off from their work? I think they all know that their ivory towers are being assailed by forces which they can and must fight.

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