

by relatively small organizations, not to mention the many inventions of independent inventors, like radio, cellophane, insulin, penicillin, streptomycin, and the jet engine.) To write off the smaller firms, as many of the Defense Department procurement people seem to have done, is thus of questionable wisdom.

This is not the place to attempt to assess the relative capacities of small and big organizations to do scientific work. But it is appropriate here to indicate that the processes employed by the Department of Defense in awarding contracts for R. & D. are such as seriously to discriminate against the smaller concerns. The existing contract procedures for R. & D., as employed by the Armed Forces, do not require any broad dissemination of information relating to anticipated contract awards. No formal advertising takes place for research and development. Only a limited amount of information seeps out through the synopsisizing requirement. As a consequence, the negotiation of R. & D. contracts is generally conducted with only a very few participants who have been invited by the contracting authorities.

The uninvited either are unaware negotiations are underway or are rebuffed if they even seek out information that would enable them to make a proposal relative to the job under consideration. Most contracts for R. & D. are thus awarded on either a sole-source basis or after discussions and negotiations with a very small number of contestants, competing with one another—not on the basis of price—but via comparison of their project proposals. The winner in this race is the firm that can produce the most glamorous and promising drawings. But at present this is largely a closed race, and only the largest companies are permitted to enter the starting gate.

In part, the secrecy of R. & D. contracting is evidenced by the fact that during the first 9 months of fiscal 1962 only 36 percent of the dollar amount of procurement awards was even publicized to small business—and this in spite of congressional policy which declares formal advertising, not just publicity, to be the usual means of Government procurement. Although Congress has made many exemptions to this general rule, in the Small Business Act of 1961 it required that all procurements which need not be formally advertised must be synopsisized in the Department of Commerce Business Daily. Yet in the first three quarters of fiscal 1962, only 22 percent of all contract awards were so announced. The problem is even more serious in the specific case of EDTR. While more detailed data would be helpful, it is known that in the first 9 months of fiscal 1962 only 16 percent of the dollar value of all research and development awards was made on a competitive basis. And actually only 3.2 percent of such awards was made on a competitive price basis. The absence of competition and the lack of effective publication go together.

As I have indicated above, the Small Business Act of 1961 makes it the duty of the Secretary of Commerce to publicize notices in the daily Department of Commerce synopsis for all proposed defense procurement actions of \$10,000 and above, with specified exceptions.

Implementing this requirement, the Department of Defense has adopted regulations which provide that "every specific procurement of research and development projects shall be publicized in the Commerce Business Daily * * *." On the face of it, this seems to open up research and development contracting to public gaze, and to give firms, small or large, that might be interested in working on a project, a chance to participate in the early stages of selection. However, another provision in the Armed Services Procurement Regulation (ASPR) authorizes contracting officers to request proposals "only from sources which have been technically evaluated and found qualified to perform research and development in the specific field of science or technology involved." Indeed, ASPR 3-107.4 provides that solicitations to enter into negotiations may be limited to a single source where prior technical evaluation has been made. But technical evaluation, though it might imply a comprehensive screening of all interested parties, fairly informed, actually involves an extremely limited process; the appropriate survey is typically made by the contracting officer (complemented by engineering personnel) simply on the basis of what information he already has at his disposal. What this means is that a firm which has previously done work in the same general area has a clear inside track on the new contract for the simple reason that it is known to the contracting official. And under the existing regulations, no other firm need be given an opportunity to participate in the award. Moreover, even where procurement is not limited to a single source, usually only a very few firms are asked to submit proposals. In these instances of limited source procurement the relevant synopsis, if and when it is published, only recites