

competence, support facilities, etc., are important factors in deciding to locate such facilities at Hanford. With several successful private facilities in existence, the prospects of others being established would seem to be good.

(ii) *Short-term and long-term regional effects.*—Aside from the actual flow of Federal funds to support a given research or development effort, scientific-technological activities have another important influence on the economic well-being of an area and its people. The opportunities and facilities for education at all levels usually are markedly improved. Secondary education systems tend to benefit from the presence of scientific personnel in the community. They often show marked interest in establishing high standards for the school system and at times will participate in the development of curriculums in their field of specialization. If opportunities for higher education do not exist in the community, they are often established. For example, the University of Tennessee and the University of Washington now have extension programs in Oak Ridge and in Richland, Wash., respectively.

Further, the existing institutions of higher education in a region, if they are properly motivated, can benefit considerably by the presence of a sizable Federal research and development installation in the area. Cooperative programs between such institutions and AEC laboratories have already been mentioned.

One has only to look at the many new industrial concerns that have sprung up about the Harvard-MIT and Berkeley-Stanford complexes to see the effects which strong centers of education have on the economics of an area. We can identify several factors which undoubtedly have contributed to this contribution to local economic growth by educational centers. Faculty members have often been instrumental in initiating local commercial ventures which draw heavily on the scientific competence available on the campus. In addition to such personal participation in industrial development, many faculty members also serve as consultants to industry. The availability within the local community of such highly competent technical people contributes to growth of the area. Further, industry can arrange with nearby universities for extension courses and other educational opportunities for their employees. Industrial employers often make participation in such educational activities more attractive to employees by adjusting their work schedules. Such additional education leads to more scientific and technical competence, thereby further strengthening the growth potential of the complex. Thus, the gravitation of Government contracts and other enterprises to those areas which have strong centers of graduate education and research is both evident and logical.

It is also interesting to note that there is usually a rather pronounced effect upon a community's cultural facilities traceable to research and development personnel. For example, the level of interest in and support of local symphonic activity, community drama, and artistic functions in Oak Ridge, is considerably above that of other communities of comparable size.

(iii) *Transmission of technology within a region.*—We have very little data about the transmission of specific items of technology to the commercial interests in the same area. Probably the greatest such transmission occurs through the subcontracting process. In the case