GENERAL ASPECTS OF INTERDISCIPLINARY RESEARCH IN EXPERIMENTAL HUMAN BIOLOGY

By Dr. JOSEF BROZEK and Professor ANCEL KEYS
UNIVERSITY OF MINNESOTA

INTRODUCTION

Much of the recent research in experimental human biology using a “total” interdisciplinary approach has received methodological stimulation from the attempt to predict what will happen, under specified conditions, to the intact human organism. In such a program the experimenter works with one “independent” variable (environmental temperature, caloric intake, vitamins, drugs, anoxia, physical work) and many “dependent” variables covering the whole gamut of biochemical, physiological and psychological responses. This type of research differs fundamentally from much of the earlier work in psychosomatics,2 such as study of the covariation between morphological and mental traits in which statistical methods provide the sole method of investigation. The study of the effects of vitamin intake or exposure to heat is amenable to the experimental approach, also such problems are much closer to real life situations and require a more truly interdisciplinary attack.

In applied fields a genuine cooperative approach is indispensable. This is readily understandable if we realize that the emphasis is placed upon analysis and manipulation of a sector of reality, and that this reality is always multifarious. It is significant that, in modern industrial research which is concerned with the materials and the manufacturing processes, “the lone worker is being replaced by a carefully chosen corps whose various talents dovetail together and whose collective knowledge and collective analytical

1 From the Laboratory of Physiological Hygiene.
Science 100 (2606), 507-528.

http://science.sciencemag.org/content/100/2606.citation

http://www.sciencemag.org/help/reprints-and-permissions