successful inauguration of a new venture depended upon receiving financial support from a foundation. The proposed program probably is no exception. However, its financial needs pose new questions to the foundations, for large sums are required over an extended period. In the past, most foundations have given only relatively small sums for specific projects and for periods rarely exceeding five years. The prospect of obtaining the requisite funds for establishing fundamental research laboratories in clinical medicine may depend upon the degree in which the foundations will allow precedent to influence their present policy. Whereas this policy may well have been a wise one in the past, an eminent authority, Dr. Alan Gregg, in *The furtherance of medical research* (1941), has advocated that "the larger foundations return to making capital grants for endowment and for both the larger and the smaller foundations to ~~make fewer grants for terms~~ of seven to twelve years instead of one to three." In so far as these viewpoints are accepted by the foundations and point to a trend in their policy, it is to be hoped that aid from them to expand fundamental research in clinical medicine will be forthcoming, at least until the public feels obliged to assume the responsibility for the support of research and thus makes it possible for the scientist to devote himself to science and not to raising funds.

The responsibility for *initiating* significant expansion of basic research in clinical medicine and for formulating a program worthy of support from the foundations or the public rests primarily with those forward-looking clinicians and basic scientists who realize that continued progress in medicine depends upon the discovery of new basic principles.

Environment and Food Intake in Man

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ALTHOUGH IT HAS BEEN ASSUMED THAT feeding habits among men are modified by differences in climate (*4*), very few quantitative, reliable studies have been reported on the effects of different environments on the voluntary food intake of men doing the same type of work.

Between 1941 and 1946 reliable data have been collected on the average day's food which healthy, physically fit soldiers (ground troops) chose to eat from the rations provided in temperate, mountain, desert, jungle, arctic and subarctic areas in North America, Europe, and Asia. Most of these data were obtained during surveys and Army ration trials conducted intermittently throughout the war. Calculations were made according to the method of Berryman and Chatfield (*1*).

The present communication is taken from a critical review of the nutrition of United States and Canadian soldiers prepared in 1946 for the U. S. Army by Johnson and Kark (*3*). Fig. 1 and Table 1 show some data on the nutrient intake of healthy, physically fit, young North American soldiers who lived and fought in different environments in different parts of the world. Each point in Fig. 1 represents the average caloric intake for groups of from 50 to 200 men who, at the time of examination, were fully acclimatized to the particular environment in which they were living and who showed no signs of nutritional deficiency. For the purposes of this discussion, data have

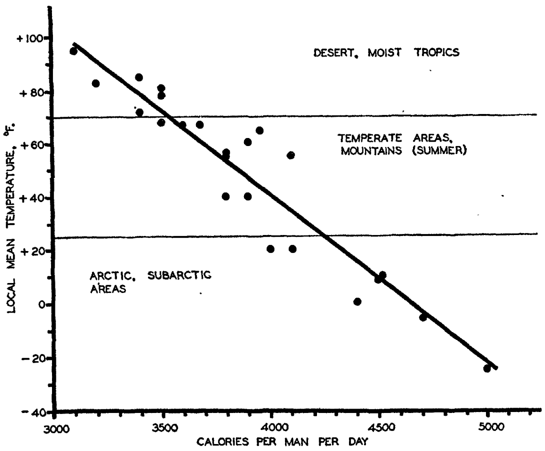

FIG. 1. Voluntary caloric intake, North American troops (averages for groups of 50 or more men).

been selected only from groups of men who were receiving an ample ration in wide variety and of such quantity that they could have eaten more if they had wished to do so. This ideal situation in the feeding of troops was, unfortunately, not always achieved. The data show a striking correlation between the average voluntary daily caloric intake and the mean environmental temperature to which the groups of men were exposed. The range was

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The subject matter of this paper has been undertaken in cooperation with the Committee on Food Research of the Quartermaster Food & Container Institute for the Armed Forces. The opinions or conclusions contained in this report are those of the authors. They are not to be construed as necessarily reflecting the views or endorsement of the War Department.

from 3,100 calories in the desert (92°F.) to 4,900 calories a day in the Arctic (−30°F.). This very large difference in caloric intake cannot be explained in terms of changing basal metabolic rates (*2*), which vary at the most by 20 per cent between arctic (Greenland) and tropical (Java) environments (equivalent to only 400 calories/24 hours); nor can it be explained in terms of difference in body size (Table 1) or in terms of different activities, since the ground troops carried out much the same tasks in all environments. We have no crucial evidence to decide this latter point, but we believe that the caloric expenditure for a given task is greater in cold than in warm climates because of the hobbling effect of arctic clothing and equipment. In addition, more heat is required in cold than in warm environments to maintain thermal equilibrium.

TABLE 1

Body Weight, Caloric Consumption, and Ratio of Protein, Fat, and Carbohydrate Eaten by Representative Groups of Ground Troops in Different Environments

Place and troops	Environment	Average body weight (kg.)	Average caloric intake/man/day	Percentage of calories provided by: Protein	Fat	Carbohydrate
Canada, mobile force "Musk Ox"	Arctic and subarctic	73.0	4,400	11	40	49
U. S. A., ground troops	Temperate	69.0	3,800	13	43	44
Colorado Rockies, infantry	Temperate mountain (9,000 ft.)	69.5	3,900	13	34	53
Pacific Islands, ground troops	Tropics	70.0	3,400	13	33	54
Luzon, infantry	Tropics	65.5	3,200	12	34	54

Table 1 demonstrates that, regardless of environment, the percentage of proteins voluntarily chosen from the rations was practically constant in all environments, and that even in the tropics the percentage intake of protein and fat was "high" by traditional criteria and not much different from what it was in the Arctic.

The chief practical implications of these data are that the same general types of rations can be provided for ground troops regardless of environment, whether cold or hot, and that greater quantities of food are needed to feed men in cold weather than in hot.

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The Terminology of Pollination

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PLANT BREEDERS INTERESTED IN pollination work realize the variations relative to the application of the terms designating the expressions of pollination. It is not the purpose of this brief discussion to draw conclusions at the present time or to offer a cure for the ills which will be apparent, but simply to present facts.

The common conception of pollination in the angiosperms is the transfer of pollen from the anther to the stigma of a flower. There are, of course, exceptions to this general conception. For example, in horticultural usage alone, particularly with reference to orchard fruits, the term is sometimes applied in a general way to designate all the influences concerned in the setting of fruit; or pollination may be concerned with both the transfer of the pollen to the stigma and its subsequent germination thereon; while again, both pollination and fertilization have been used synonymously to imply application of pollen to the stigma. We are concerned with a brief presentation of the variability in use of the most common terms—self, close, and cross—used in delimiting the process of pollination, rather than with a discussion of the numerous terms which designate the ramifications of these general expressions and are based upon the great variety of structures and mechanisms among flowers.

Much confusion has been brought to the common conception of pollination as a transfer of pollen from anther to stigma, because structural, genetic, and mechanical aspects of the phenomenon have all been considered. This state of affairs pertains more to the common terms, such as self, close, cross, and closely applied terms which designate general types of pollination, than to specialized terminology as exemplified by the classifications of Knuth (*Handbook of flower pollination*, Vol. I, 1906). Horticulturists and botanists in general seem to differ as to the exact definitions of the