

PREFACE

DARWINIAN fitness is compounded of a mutual relationship between the organism and the environment. Of this, fitness of environment is quite as essential a component as the fitness which arises in the process of organic evolution ; and in fundamental characteristics the actual environment is the fittest possible abode of life. Such is the thesis which the present volume seeks to establish. This is not a novel hypothesis. In rudimentary form it has already a long history behind it, and it was a familiar doctrine in the early nineteenth century. It presents itself anew as a result of the recent growth of the science of physical chemistry.

About fifteen years ago I first became interested in the connection between physical and chemical properties of simple substances and the organic functions which they serve. At that time the applications of the new physical chemistry to physiology were only just beginning, and the older speculations of natural theology upon such subjects had long since