As the theory has gradually evolved in his mind in the course of his work along Freudian lines. we may be permitted to briefly state the fundamentals of the Freudian system, to begin with. Prof. Sigm. Freud traces all mental derangement to repressed wishes chiefly of an infantile sexual character, which try to act in an autonomous way from the unconscious mind. Once they are brought up to consciousness they are supposed to yield to reason and persuasion, and lose their irrational and morbid character. These unconscious infantile sexual cravings tend to express themselves in various ways, such as dreams, phantasies, errors and slips of the tongue and pen, accidents, outbursts of temper, humourous sallies, crimes, etc. The ego is supposed to exercise the censoring influence on all unconscious dynamic mental contents. Merely bringing back to consciousness of an unconscious wish does not affect a cure, the emotions attached to the unconscious desire should be *lived* over again. The above in brief is the orthodox Freudian position. Let us now set forth the departure from this proposed by Dr. Bose.

Dr. Bose observed, in the course of his extensive practice in Calcutta, certain phenomena which appear to have been overlooked by the Freudians in the Western countries. He noticed that the symptoms of mental derangement, do not disappear even when the patient has accepted the truth of the physician's psychoanalytic interpretation. On the other hand, he noticed a curious transformation in the symptoms, which leads one to suppose that every wish in the unconscious is accompanied by its opposite. The nature of the symptoms changed in such a manner as to indicate the operation of the Opposite of the original wish. As the analysis proceeded, the opposite wish comes into the conscious mind and the primary repressed material loses its significance. When in turn the Primary wish is brought to consciousness again, the Opposite wish would similarly lapse into the Unconscious. Dr. Bose found that this *See-saw mechanism* as he calls it, goes on with striking regularity, but with a gradually decreasing intensity of the Opposite tendency, and an increasing frequency of oscillation, till a time comes in the course of the treatment, when both the Primary and the Opposite wishes would simultaneously emerge into consciousness —and it was only then, that a real and complete cure is effected by the Psycho-analytic procedure; all other cures aim only at the symptoms and not at the causes underlying the derangement.

According to Dr. Bose's new theory of the Opposite wish there is no need to postulate the mysterious Censor, who is supposed to keep guard at the threshold of consciousness. The theory of the Opposite wish explains all the facts of repression, mental conflict, in a simpler manner than the doubtful structure built up by the Freudian school, which need to be propped at many points by special arguments. Identification, Projection and Reversal, which are usually supposed to be Primary activities of the ego, defying further analysis, can be understood in simpler terms, if we accept Dr. Bose's theory of the Opposite wish. His theory in short does away with the multiplicity of formulations invented *ad hoc* to explain away special difficulties.

We may congratulate Dr. Girindrasekhar Bose on the notable contribution he has made to our understanding of human nature.

M. V. G.

ZOOLOGY:

PROF. GOPALA AIYER, proficient as he is in this branch of biological study, and with his record of work round the British coast and in the Mediterranean Sea, is entitled to speak with authority on a matter, which has so far received only very scanty attention in India. Unfortunately, geographical and climatic conditions, the present financial position and probably also a certain apathy on the part of the Government and the people of India have together conspired against the fulfilment of the ardent wish of the naturalist in India, the exploration of the Indian marine resources.

Prof. Gopala Aiyer begins with a very illuminating account of the history of the growth of marine biological research in Europe. The pioneer work of the famous expeditions of the "Challenger", "Albatross", "Michael Sars", "Discovery" and others has added not a little to our knowledge of the conditions of deep sea. The first point of importance that has emerged out of the untiring work of this noble band of naturalists in charge of these expeditions is the striking uniformity of the laws that govern life in the sea. The relationship that exists between marine animals and their medium is much more simple than that between land animals and their medium. Indeed the uniformity of composition of the aquatic medium has brought about this uniformity of structure of the organisms that live in it. It is probably this simple relation between marine animals and the sea that has made experimental biology such a success. But the marine investigator is faced with other problems of really great importance and difficulty, inherent in the medium on account of its constant movement resulting in a far from satisfactory knowledge of the fauna and flora of the sea.

The problem of the food of the countless myriads of organisms found in the sea is the first that attracts our attention and for which an effective solution is offered by the plankton. Numerous workers have unanimously affirmed that plankton which consists mainly of Diatoms and Copepods offers the staple food of marine organisms. A seasonal variation in its occurrence is one of the main characters of plankton and various explanations are given for this. Probably like all natural laws this one also is based on a very fine adjustment of environmental conditions. But a far more striking feature of plankton is its abundance in colder seas and its relative rarity in tropical waters. Though several explanations are offered to account for this phenomenon, it is probably true that in case of waters with an abundance of nitrate food and other nutrient salts, plankton is also abundant. While, however, tropical plankton is rich in species, that of the arctic and antarctic waters is rich in individuals. This is probably due to the more sustaining nature of the colder waters due to a reduced rate of metabolism.

The relation between environmental conditions and life's processes is at once clear and

mysterious. It is a matter of common knowledge that increase in temperature means increased rate of metabolism, which, in itself, acts as a powerful inhibitor of growth in size. This is probably why larger animals abound in the colder seas. Indeed, various aspects of life-history, growth and development, reproduction of animals and their distribution, all show a very curious correlation with changes in temperature. Probably second only to temperature comes sunlight. The bearing of this factor on life in the sea is one of supreme importance and indeed is the factor that governs the vertical distribution of animals. However, the fact that plankton is to a great extent dependent on sunlight is admitted. And when we realize the intimate relations between plankton and the larger forms of life in the sea, the importance of sunlight as a governing factor of life becomes at once obvious. But there exists a whole host of animals far down in the dark leaden depths of the ocean where hardly any light penetrates, whose life is one great and continuous uniformity. How profoundly these animals differ from the surface forms in structure, in bionomics, in behaviour and in development is a matter of common knowledge. While salinity is a factor far less important than either temperature or sunlight on account of its comparative changelessness, it is near the coastal lines that any deviations may occur, due to the encroachment of fresh waters. And consequently it is these shore animals that have adapted themselves to a certain extent to the changing salinity of the medium. Further than this, salinity is incapable of acting as a guiding factor of life in the ocean.

The problem of the sea-shore is of such importance that literature on this aspect of marine biology is growing rapidly. The sea-shore combines such a variety of physical and biological factors and with such regularity that it has been rightly called the hot bed of evolution.

Prof. Aiyer makes no mention of the life at the sea bottom, the animals of the abyss, the enormous number of factors that governs the lives of these animals, their apparently changeless but extremely interesting environment, their form and size, their distinctions and peculiarities. But probably this is the most difficult aspect of the research of the sea, characterized by danger and fallacious argument.

Prof. Aiyer concludes his admirable summary of life in the sea with a very vigorous plea for an all-India marine biological station and suggests, very rightly, Pamban as an ideal place for such a station. The need for such a station is admitted but it is the great factor of co-operation that is required in India to-day to make this need an accomplished fact.

B. R. S.