

Mr. Freund found many factors contributed to begging; crippled beggars alone are subject to the following: unscrupulous or thoughtless friends or relatives who hope to share in the money received; the unthinking public; condoning by police and courts of the practice and the attitude of the public which seems to justify begging by a cripple; legalization of begging under the pretext of selling cheap merchandise; development of the habit of begging; the pleasure of the irresponsible life; the natural despondency which follows an accident and makes a rehabilitation difficult. Many of these factors apply to other types of beggars as well as to cripples.

-----

#### ELECTRIC INCUBATOR BEST HEN SUBSTITUTE

An electric incubator is the most satisfactory substitute for a hen, according to Edmund Burke, chemist at the Agricultural Experiment Station at the University of Montana.

Temperature is the most important factor in hatching eggs, he has found. The temperature of an electric incubator can be more readily controlled to simulate the temperature conditions under the hen than the older types of hot air incubators. It has been found that eggs hatching under a hen vary several degrees in their temperature on top and on the bottom. Why this is desirable is not known, but the fact remains that, up-to date a responsible motherly hen hatches a higher percentage of chicks than any incubator.

English experimenters have tried to imitate this condition by covering artificially hatching eggs with a thin sheet of rubber to keep the top warmer. They claim a highly increased per cent. in their hatch but the experiment has not been repeated in this country.

Mr. Burke found in his experiments that the carbon dioxide and moisture given off by the body of the hen during hatching are necessary elements in the chemical changes that render the calcium of the shell available for the bone formation of the embryo chick. The electric incubators were found to be superior in reproducing this condition also. The amount of moisture and carbon dioxide could be more easily controlled than in the hot air types and the quantity of each admitted to the eggs approximated more nearly the amount given off by the hen with a consequent increase in the hatching percentage of viable chicks.

-----

#### GORILLA'S STRENGTH DUE TO PITUITARY ?

It is possible that the pituitary gland is responsible for the difference between men and gorillas.

The gorilla is, from the point of view of the structure of his anatomy, man's nearest relative. Contrasting man and his ape cousin in a lecture recently given before the Royal College of Surgeons, Sir Arthur Keith, M. D., F. R. S., said that man has stayed in a state of physical development corresponding to a gorilla's youth. In his evolutionary career man has moved in the direction of brain while his next anthropoid neighbor has progressed in the direction of brawn.

About forty or fifty years ago, he stated, when cases of abnormal growth were just beginning to be studied, some observers were struck with the fact that patients suffering from such a malady, now known in medical parlance as acromegaly, underwent changes similar to those occurring in the maturing phases of a gorilla. There was an immediate inclination to explain such phenomena as an evolutionary reversion to an ancestral state now represented in the bodies of gorillas, really back to the ape stuff, in short.

Sir Arthur says of this explanation:

"It seems more legitimate, in the present state of our knowledge of the action of hormones on the growth of the body, to regard gorilline characters, whether they occur as a normal manifestation in the life-history of the gorilla or as an abnormal manifestation in the life-history of the acromegalic, as being due to an increased action of that element of the pituitary gland which influences the processes of growth."

This argument has been opposed on the ground that the gorilla does not possess an unusually large pituitary gland, but this contention is refuted by calling attention to the obvious complexity of that body which produces many substances the influence of which cannot be determined "by the crude use of scales or microscope".

Careful study of abnormal growth cases show the influence of the pituitary gland on the growth of the muscular, bony and alimentary systems, just the systems which undergo so great a degree of increase during the later stages of the development of the gorilla.

"We may therefore legitimately infer," concludes Sir Arthur, "that, in the evolution of the gorilla, the pituitary has played a prepotent part. The evidence, as it stands, is enough to justify the student of man and ape in believing that he has obtained a real glimpse into the machinery of evolution."

-----

#### SMALLEST BACTERIA REVEALED THROUGH COATING WITH GOLD

A new and original method, by which ultra-microscopic particles a thousand times smaller than those observed with the aid of ultra-violet light may be rendered visible, is described by Prof. H. Bechold of the Institut fuer Kolloid-forschung at Frankfort-on-main. Prof. Bechold is already very well known in scientific circles as a colloid chemist. The method is based on the discovery of Sir. W. B. Hardy, F. R. S., that negatively charged colloidal particles combine firmly with certain metals.

Prof. Bechold began by immersing paratyphoid and other bacilli visible under the ordinary microscope in a solution of gold chloride, and subsequently reducing them to ash on a microscope slide, so that only their gilded shells remained. These could then be used as centers for the deposition of further gold from a suitable solution.

The method was next applied to solutions of egg albumen, the particles of which are much too small to be visible even under the ultra-microscope. Nothing