

mentation in the lower animals is an important factor in the great struggle for survival. One proof of this is that albinos in all species are apt to be defective in keenness of sense, thereby being placed at a great disadvantage in the competition for existence with their fellows. Pigmentation, especially in the organs of sense, seems to be essential to their full development. As a result, with the coincident disadvantage due to their conspicuous color, such albinos are ruthlessly weeded out by the processes of natural selection; their non-existence in a state of nature is noticeable. Darwin and others cite numerous examples of the defective senses of such non-pigmented animals. Thus, in Virginia, the white pigs of the colonists perished miserably by partaking of certain poisonous roots which the dark-colored hogs avoided by reason of keener sense discrimination. In Italy, the same exemption of black sheep from accidental poisoning, to which their white companions were subject, has been noted. Animals so far removed from one another as the horse and the rhinoceros are said to suffer from a defective sense of smell when they are of the albino type. It is a fact of common observation that white cats with blue eyes are quite often deaf.

"Other examples might be cited of similar import. They all tend to justify Alfred Russel Wallace's conclusion that pigmentation, if not absolutely necessary, at least conduces to acuteness of sense; and that where abundantly present it is often an index of vitality. This eminent naturalist even ventures to connect the aggressiveness of the male sex among the lower animals with its brilliancy of coloring.

"Applying these considerations to man, evidence is not entirely wanting to support De Candolle's (1887) thesis that 'pigmentation is an index of force.' Disease often produces a change in the direction of blondness, as Dr. Beddoe has observed; asserting, as he does, that this trait in general is due to a defect of secretion. The case of the negro, cited by Ogle, whose depigmentation was accompanied by a loss of the sense of smell, is a pertinent one. The phenomenon of light-haired childhood and of gray-haired senility points to the same conclusion. A million soldiers observed during our Civil War afforded data for Baxter's assertion that the brunette type, on the whole, opposed a greater resistance to disease, and offered more hope of recovery from injuries in the field. Dr. Beddoe finds in Bristol that the dark-haired children are more tenacious of life, and asserts a distinct superiority of the brunette type in the severe competitions induced by urban life. It is not for us to settle the matter here and now. The solution belongs to the physiologist. As statisticians it behooves us to note facts, leaving choice of explanations to others more competent to judge. It must be said in conclusion, however, that present tendencies certainly point in the direction of some relation between pigmentation and general physiological and mental vigor."

FOOD VALUE OF MUSHROOMS.

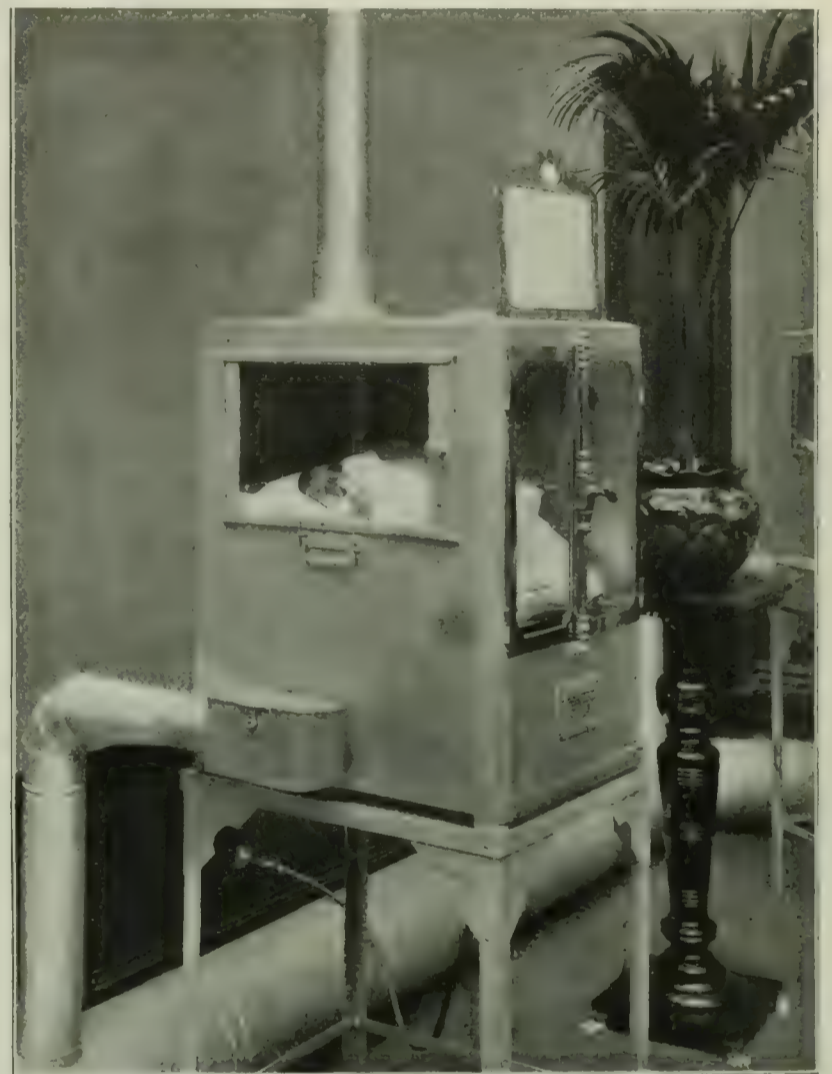
WE have been told a good deal recently about the great store of valuable food that is daily going to waste in the shape of edible mushrooms, and we have been urged to make more use than we do of these fungi. But it appears from some recent investigations that the nutritive value of the mushroom is not very high after all. The researches were made by Prof. L. B. Mendel, of Yale, and described by him at Ithaca, N. Y., at the tenth annual meeting of the American Physiological Society. Professor Mendel's investigations were made in pursuance of a plan inaugurated by a commission organized a year ago by the society, at the suggestion of Dr. Weir Mitchell, to investigate the physiological properties of the edible and poisonous fungi. This commission now consists of Professors Chittenden (Yale), chairman, Abel (Johns Hopkins), Pfaff (Harvard), and Bowditch (Harvard). *Science*, February 18, in a report of the meeting, describes Professor Mendel's experiments as follows:

"Chemical analyses were combined with experiments in artificial digestion, and special attention was given to the amount of available (digestible) proteid present. The latter was found to be not over two or three per cent. in fresh mushrooms, which shows that the prevailing idea of the great nutritive value of mushrooms is not yet justified. They may be valuable as dietetic

accessories, but they do not deserve the term 'vegetable beef-steak.' Their nitrogen is largely in the form of non-proteid bodies. The amount of fat, cholesterin, soluble carbohydrates, crude fiber, and inorganic substances contained in them corresponds in general with that found in other vegetable foods, such as peas, corn, and potatoes. Professor Chittenden reported the results of some preliminary experiments upon the toxicity of some species of poisonous mushrooms, made by Dr. W. S. Carter (University of Texas). In view of the great interest now shown in the edibility of mushrooms, the investigations of the commission, which are being actively continued, will prove of immediate practical value."

THE SAVING OF INFANT LIFE.

WE gave a few weeks ago a brief notice of Dr. Lion's incubators, and we are now able to present our readers with a more detailed account of the use and results of this method, by which the lives of so many feeble babes have been saved. The article from which we quote is taken from the editorial pages of



AN INCUBATOR AND ITS PRECIOUS CONTENTS.

The Health Magazine (New York, January). The impulse that led to the perfection of the incubator system is explained by the author to be the much-discussed decrease of population in France. He says:

"The vital statistics of France show an appalling mortality among infants. One hundred and fifty thousand premature births occur annually, ranging, according to place and condition, from 15 to 30 per cent. of the birth-rate, and this estimate does not comprise the entire number of weakly children, who are almost doomed to death from their birth. French specialists assert that of the number of infants born at a normal stage, over 50,000 are unendowed with sufficient vitality to live beyond the earliest days of babyhood.

"He who devises measures to overcome the decimating of the population from excessive infant mortality arising out of the ravages of disease, unfavorable environment, or existing social evils, is truly a benefactor of his race. The infant-incubator is the outgrowth of a loyal impulse on the part of Mr. Alexander Lion to save his nation from threatening depopulation. Ruminating

one day on the perilous condition of his country from a demographic point of view, it struck this patriotic and humane person that the holocaust among prematurely-born infants would be largely diminished if the helpless atoms could only be kept sufficiently warm. Accordingly, in 1891, he invented his *couveuse*, or modified incubator. The success attending this new departure in infant-life preservation has been surprising.

"Formerly, as the London *Lancet* remarks, no very serious efforts were made to prolong the ephemeral existence of these unwelcome little strangers. They were rather hopelessly allowed to pine away and die, under the impression that they could not possibly survive; but human life has of late become so valuable in France that no breathing waif need now be abandoned as an irretrievable derelict."

The pictures that accompany the article show the workings of the system in New York, where it has been very successful. Of the incubator itself the editor says:

"The Lion incubator is composed of a paralleloiped of metal, standing upon iron supports. It can be disinfected without de-



ENTRANCE TO THE LION INSTITUTE, NEW YORK CITY

terioration by means of a steam-stove under pressure. Ventilation is obtained by means of a tube of about three inches in diameter, with a chimney of the same size. A screw placed on the top indicates by its rotation the strength of the current of air. The front of the incubator is fitted with a glass window, through which the child may be seen, while on the left is another glass window, which enables the mother or nurse to attend to the wants of the infant and, if necessary, to remove it. The baby is laid in a metallic hammock, placed in the center of the incubator, thus enabling the warm air to circulate freely about it. A thermometer placed at the level of the infant's head regulates the working of the apparatus. The heating is effected by means of a siphon through which the hot water circulates and which communicates with a reservoir at its side. A special system of pipes allows the air to pass directly from the exterior into the apparatus. In these pipes the air is filtered before it enters the incubator. The temperature is automatically regulated by a very ingenious device, and the current of heat is increased or diminished as required and without variation.

"The incubators are placed gratuitously at the disposal of the poor, without distinction of creed or nationality, but those who can afford to pay are expected to do so. They are under the permanent supervision of competent doctors. Other hospitals in the different cities, such as Washington, Baltimore, Chicago, and elsewhere, will be opened, and in all probability a regular service

will be organized for the rearing of infants at the dwellings of the parents, so as to avoid as much as possible the separation of the mother from the child and to be able to make use of the *couveuse*, or incubator, immediately."

Some of the results of the work are as follows:

"A prematurely-born child, if exempt from hereditary disease, rarely dies in the Institute, provided it weighs not less than two and one-quarter pounds—that is, about one third of the normal standard—and provided, also, that its installation in the *couveuse* is accomplished with the least possible delay and exposure. At this stage of the untimely bud's frail existence a chill is almost certainly fatal, so the transfer from the lying-in bed can not take place too soon or be carried out too carefully.

"When one considers the astonishing results attained by the use of the incubators in foreign cities, in their valuable service to the cause of hygiene, the utility of establishing in every city an infant asylum or maternity with baby-incubators can not be doubted. A report made from the records of the Paris Institute shows that of 185 prematurely-born infants received, weighing from one and three-quarter pounds to six pounds six ounces, 133 left the institution healthy and in good condition, 48 died, and 4 were still under treatment and progressing favorably.

"Experience in Paris and the larger cities of the Old World has demonstrated that the annual death-rate of baby 'prematures' and 'weaklings' for three years prior to the discovery and introduction of the Lion incubators averaged 800 in every 1,000, and that during the three years of their employment the death-rate from this cause has fallen to 150 per 1,000 in each year. Therefore, Parisians now send all of this class of new-born babes to the local Lion Institute, which is sustained financially by municipal and private contributions. In both London and Paris philanthropic women have formed 'Ladies' Infant-Saving Associations,' and our American women will doubtless emulate their example."

SENSE OF FEELING IN A LOST LIMB.

WE refer a sensation at once to its source in the finger-tips or the ear or the nose, or wherever it may be, and so expert have we become in recognizing the source that we localize the sensation itself there, thinking of the sensation of touch as being in the skin of the finger instead of in the brain, where it actually is. Hence he who has lost a finger refers directly to the absent member any irritation of the nerve that formerly connected with it, and can scarcely believe that it is not in its old place. This phenomenon is familiar enough and many are the superstitions to which it has given rise, but it is only of late that it has received serious scientific study. A recent work on the subject is that of M. Abbatucci, published in Paris, which has called forth a paper by Professor Pitres, contributed to the *Annales Medico-Psychologiques* of that city. We quote below part of an abstract from *The National Druggist* (March). Says that paper:

"M. Pitres shows that the illusion of the existence of a limb (in place of one which had been amputated) may go so far as to cause many accidents. In the majority of cases the illusion is so perfect and vivacious that it constantly deceives the intelligence of the individual, so imperiously does it force itself upon him. Some of those who had lost a limb, questioned by M. Pitres, declared that they felt the amputated limb frequently more really and substantially than they did the one still attached to the body. Sometimes they get to believing more firmly upon the existence of the phantom limb than upon those members that remain, as in the case of a patient of Dr. S. Weir Mitchell, who declared: 'I state only the truth when I say that I am more conscious of the existence *in place* of the limb that I lost, than of the one that I saved.'

"Many of Professor Pitres's patients made analogous declarations. 'Parbleu!' said one, 'I know mighty well that I have no right leg—yet, when I try to analyze my sensations, I feel that leg there. Why, I feel the foot this minute more distinctly than I do the left one, which is there before my eyes. It (the phantom) hurts me, while the other does not. If I could not assure