## SCIENCE AND INVENTION

## CHILDREN'S LIVES SACRIFICED TO IGNORANCE

T IS a curious fact that, altho we are willing to spend large sums of money to find the causes of mysterious diseases such as cancer, we do not exert ourselves to save life in ways that are quite obvious. Infant mortality, always large, has not been materially decreased of recent years, and

yet we have the necessary knowledge to cut it down to a very small minimum. Why do we not act upon this knowledge? The reason, according to Dr. L. T. Royster, of Norfolk, Va., writing in *The Journal of the American Medical Association* (Chicago, August 20), is simply because a knowledge of the means of preventing infant mortality has not been sufficiently disseminated among the people. He goes on:

"If this is true, and I am thoroughly convinced that it is true, the question resolves itself into the best means of distributing such information as will aid in this campaign, to all people of all classes and conditions of life, showing them what are the causes of mortality, the results of bad management, and how best to apply the knowledge of the means of prevention to the accomplishment of the desired end."

Starting with the medical profession itself, Dr. Royster asserts that courses on pediatrics are at present far from adequate, the subject being generally treated as an unimportant side branch. As a result "many doctors are either too ignorant or too lazy to attend properly to the needs of infants during the first year of life"; and consequently " they turn these helpless creatures, especially the artificially fed ones, over to a nurse who may or may not know anything about their care." They may even do worse than this, and

recommend an ignorant mother to use some patent food or condensed milk without knowing or trying to find out whether the food is suited to the particular case in hand. These doctors seem to the writer to be little short of criminals, as their negligence results in the loss of many infant lives that might easily have been saved. "Such men as these are either unwilling to admit that they do not know how to feed infants or they are afraid of losing a few dollars by referring the case to some one competent to take charge."

How may these ignorant or careless practitioners be reached? Through the parents, says Dr. Royster. When they understand these things, as they will in a remarkably short time, if properly instructed, they will demand more attention to their children on the part of the physician, who will be compelled either to study for himself or to seek aid from those better informed. Of course the key to the whole situation is the instruction of the mother. We read:

" It is not an uncommon occurrence for a mother to state that she has had seven or eight children and that she has raised only one or two, the rest dying in infancy. . . . Nor is this to be wondered at. Many a woman becomes a wife and subsequently a mother without having had instruction in any of the many difficulties with which she is to be confronted, with the natural consequence that she is soon surrounded by a galaxy of sympathizing and self-opinionated neighbors who are pouring into her open ears a detailed account of miraculous cures ef-

fected by this or that remedy, which she receives and uses with an avidity born of desperation and bred of the ignorance of which she is the unfortunate heir. As the natural result of this the stricken mother has the misfortune to see her offspring wilt in her arms, where she invariably keeps it, until at last the physician may be called only in time in most cases to sign the death certificate. The influence of 'grannies' is gradually passing at least among the better classes of society, and yet their superstitions are still apparent in many of the so-called home remedies in common use. The fear of fresh air for the

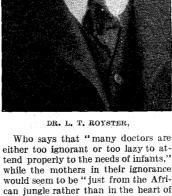
well, to say nothing of the sick infant (especially those sick with eruptive diseases) is still so prevalent as to make us involuntarily ask the question whether the value of fresh air has even begun to be appreciated by most people; while the methods of feeding and handling which are generally practised are so obviously indicative of ignorance that we might well imagine we are dealing with mothers just from the African jungle rather than in the heart of American civilization."

The success of the movement for the prevention of tuberculosis by a campaign of popular education has been so satisfactory that there is no reason why the same methods should not be used to keep our babies from dying by the thousand. As before noted, the mother is the first person to be reached. Much may be done by popular lectures and magazine articles; but after all, Dr. Royster admits, the majority of mothers never see a magazine or hear a lecture, and must be reached through other channels. He suggests that the well-conducted dispensary and milkdepot is an efficient aid, since it is attractive to the classes that we desire to reach, and since instruction and advice given therein can be followed up in the home by a competent visiting nurse. Among other necessary features of the campaign, he mentions the regulation by law of working-hours for

the prospective mother and for the mother who is nursing her babe, and the enlistment of the public school in the fight. He says:

" Hygiene is taught in the school in a general way, hygiene of the home and public hygiene, but the hygiene of early life, that which bears directly on the life and health of the infant, is The girls of our schools to-day are not only the neglected. mothers of a short generation hence, but many are the 'little mothers ' of the poor at present. Why should they not be taught the care of the child and the general principles of feeding? The only reason is that its importance has not been sufficiently recognized. Some effort has been made in this direction in the playgrounds under the teaching of the caretakers there employed; but this instruction has not been taken directly into the We all know the powerful influence of whatever is schools. taught in the schools and the rapidity with which the pupil carries the lesson into the home and how reflexly the parent is influenced by the child's knowledge. Why should such an opportunity as is here afforded to spread information regarding the care of the infant be allowed to pass? This is especially important among the foreign element which grasps with such remarkable avidity anything which looks like improvement and suggests the acquirement of American civilization.

The signs of the times, Dr. Royster concludes, already point to better conditions, and one of the most hopeful of them is the attitude of the press, which, he says, is fully alive to the importance of the issue and bids fair to aid most effectively in fighting it out.



American civilization.

## NATURE AND NURTURE

HE OLD but vital question of improving the race by deliberately modifying heredity and environment is discust under the above title in a recent pamphlet by Prof. Karl Pearson, of the Galton Laboratory for National Eugenics, of University College, London. Professor Pearson calls this "The Problem of the Future" in a subtitle, and goes far toward justifying this phrase. The pamphlet has already caused much discussion, we are told by an editorial writer in *The Lancet* (London, August 13), who goes on to say:

"There is a school which believes and declares that in three generations the descendants of any sort of parents can be made into anything—into persons of the highest culture or the most approved conventionality. These pseudo-thinkers forget . . . that inherited ill-health or disease, which has much to do with individuality, can not be eliminated at will. 'Dissipants,' as the Americans now call them, will give birth to a progeny of vicious tendencies; insanity dies very hard, if it does not increase. Such a serious condition as deaf-mutism may become intensified. Cataract and epilepsy in some forms progress cumulatively. Nothing could be more luridly instructive than the pedigrees published in Professor Pearson's book. One such shows how a single blind man originated, in four generations, 15 blind de-

scendants. In another-we purposely do not quote the extreme cases-we note '20 abnormals in four generations, the product of two degenerates whose right to reproduce their kind should have been challenged by man from the start, as it would have been refused a priori by Nature.' It is the business of the biometrican to attempt to establish laws with regard to these matters, or at any rate to supply matter for intelligent anticipation. Nature, of course, is, in the opinion of some, the grand eugenist. The optimistic Longfellow called her a kind old mother, but, in their opinion, she is really a surgeon. And savages are the successful survivors of her age-long series of operations. We may here quote from a communication which has reached us re-cently on this very topic. The

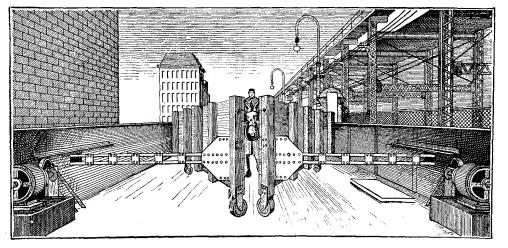
writer says: 'In North Queensland, in the Arctic regions, in Central Africa, the savage tribe witnesses to the truth of the eugenic theories. The savage is a ruthless eugenist. He de-stroys the weakly as often as not at birth; he eats what the tribe can not support. Cannibals have a keen eye for the weak and the superfluous, as well as for the obese and unwieldy, and cannibals, unhampered by social wreckage, are persons of magnificent physique and often of high intelligence and good tribal morals. Witness the Papuans as described by Dr. C. G. Selig-mann in his last book. The teeth of savages excite our envy; they are the direct result of the survival of the fittest. To eat raw or tough meat in quantities and to support life thereon in a severe climate the savage needs the teeth of a wild animal.'... We still quote the formula about the greatest good of the greatest number, but many of the more thoughtful among us are inclined to revise this rough-and-ready teaching in the light of modern science, and substitute for ' the greatest number,' best.' The greatest good of the best-that seems to be the aim set before the scientific reformer to-day. It is an aristocratic aim in the finest sense. Yet it does not militate against the democratic increase of the best."

MOVING PICTURES IN TURKEY—Turkey in rejuvenation is turning eagerly to all sorts of modern mechanical devices, among them the cinematograph. George Horton, United States Consul at Salonica, writes as follows in a report printed in *The Daily Consular and Trade Reports* (Washington, August 20):

"There are four moving-picture shows in operation in Salonica, and another is soon to be opened. About 3,500 people attend these shows nightly, paying an average admission fee of 2 piasters (8.8 cents). The films are obtained in Italy and France, and are mostly rented from the concerns that furnish them. The most popular films are those that tell a story in a series of scenes, either sentimental or humorous. Timely pictures of events that have attracted public attention also draw big crowds, as, for example, King Edward's funeral. At one time some American films were in use here, representing hunting-scenes, battle-ships, etc., but these have entirely disappeared. Cinematograph shows are popular in the other big towns of this district and it may be said that the business is booming. There are no regular theaters in any of these towns and moving-picture shows have the amusement field practically to themselves. There is no reason why Americans should not get their share of this business if they would take the trouble to look after it."

## A GATE TO STOP RUNAWAYS

DEVICE to check runaway horses has been devised and put in successful operation on the Williamsburg Bridge, New York, which on account of its wide roadways and lack of trolley-cars seems to have acquired an unusual record in the matter of runaways, far exceeding the number on the Brooklyn Bridge. In four years 185 runaways took place, 53



A GATE TO STOP RUNAWAYS, On the Williamsburg Bridge, New York. Invented by a laborer on the bridge.

horses were killed and 47 injured, while at the same time 96 persons were injured. Says *Popular Electricity* (Chicago, August):

"On April 14, 1910, a 'runaway gate,' the idea of a laborer on the bridge, was put into operation. The device consists of two leaves built of plank as shown, 40 feet long and 6 feet 9 inches high, mounted on wheels. The officer in charge needs only to close a switch which sets in operation motors which cause racks and pinions to push the two ends of the leaves toward each other, forming a V with the opening facing the direction from which traffic is coming, except that a space . . . through which a man may pass is left at the apex. In the one runaway which occurred since its installation the horse started 150 feet distant, and by the time it had reached the gate the leaves were nearly closed. The horse breaking away from the harness passed through the opening without injury, leaving the wagon in the apex of the V. The leaves swing back parallel with the sides of the bridge when not in service."

LIVING PUMPS IN TREES—The cause of the ascent of sap in trees has always been a puzzling question to botanists, and none of the explanations hitherto offered has been perfectly satisfactory. Recent investigations made by a Dutch botanist, Mr. E. Reinders, support the view that the sap is raised by a pumping action of the living elements of the wood. Says a reviewer in *Nature* (London, August 11):

"Mr. Reinders proceeds from the fact ' that manometers [pressure-meters] placed at different heights up the trunk behave quite independently of one another. Sometimes one shows