student. Let him receive the support of every member of the Section.

The Association contains many whose opportunities for seeing even the most ordinary specimens must be limited, and many whose opportunities are excellent; therefore, it matters little whether the objects exhibited are rare, or whether they are ordinary. There is always somebody who will be pleased and profited. This gives us an almost unlimited scope of activity. The man who has engaged in some special research may find his specimens appreciated by those who understand them, while one who brings with him a series of hearts or kidneys or a dozen microscopic objects forming a demonstration, will be equally appreciated by others.

The titles and the names of distinction on our present program promise much profit and enjoyment from these meetings. The thanks of the Section are certainly owing to our secretary, whose energy and wide acquaintance have enabled him to prepare it. The secretaryship carries with it little of honor compared to the onus of correspondence and responsibility it entails.

Let us ever bring the best products of our labors to the American Medical Association; let us wisely distribute our papers for our own and the general good, and while we remain a unit as a section on experimental medicine, let us also remain a power for progress in those other sections, with whose work we are so closely identified and where our advice and experience may be valuable.

THE DEMANDS OF THE CHILD BY VIRTUE OF RIGHT.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

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Among mammals, animals of the higher development, helplessness and dependence characterize the state of the young. The duration of the dependence varies with the different types of animal. Until able to care for itself the young mammal's wants are supplied by those responsible for its existence—a duty which is instinctively assumed. For the growth and development of mammals, of which man is the highest type, there must be means of nutrition, and surroundings suitable to the habits of the animal—conditions ordained by Nature, which, when not followed out, invariably produce inferior growth and physical degeneration.

The man who breeds a horse for the track, a horse to excel in intelligence and speed, one sound in body and of great endurance, the horse which is to win the Suburban, begins during the animal's fetal life to prepare him for the future. The first step is the proper care of the mother. From birth until ready for work the young animal is under constant supervision. He receives food best suited for the utmost development of the qualities desired. Cleanliness in surroundings, protection from inclement weather, and a carefully regulated system of exercise are constantly afforded. In the rearing of cattle, sheep and swine the natural requirements of the growing animal are most carefully supplied; for it has

been learned that only by such care can the highest type of adult be produced.

The Department of Agriculture at Washington and the state experimental stations issue for gratuitous distribution pamphlets and books bearing on the rearing of animals. The advantages accorded the lower animals because they have a value in dollars and cents is certainly a reasonable demand of the child.

The child is a young animal, so far as physical characteristics are concerned. In his work on "Education," Herbert Spencer remarks that the first requisite for success in life is to be a good animal; and to be a nation of good animals is the first condition of national prosperity.

In order that a vigorous adult may be produced, suitable nutrition, plenty of fresh air and cleanliness are absolutely necessary for the child. In his daily life there must be an absence of worry and anxiety, an absence, to a great degree, of responsibility, an absence of work of an exhausting nature until the adult period is reached. The child should make its first year's growth and development during the first year, its second year's growth and development during the second year, and the third, fourth and fifth, and later years of growth and development during those years. In order to make the best adult both physically and mentally, every year of the growing period must supply its quota of physical and mental development. The child will never do its first or second year's growing satisfactorily during its fifth or sixth year, nor its fifth or sixth year's growing during its tenth or twelfth year. Protracted faulty nutrition, overwork at school, employment of an arduous nature in mines, stores or factories during the developing period leave their indelible stamp on the adult, as evidenced by stunted growth, lack of endurance, lack of resistance to disease, lack of capacity for work, together with the absence of a high order of mental capacity and moral force, a condition so often found in the weakly.

Assuming that the object of a national existence is the creation and preservation of a fine stock of mankind, a review of the state's methods—of our methods, as we, the people, constitute the state—will make our shortcomings most apparent.

Instinct directs the lower animals as to the proper selection of food, not only for themselves but for their young. Instinct tells the higher animal, Man, very little. Every day of our lives, in private work among the well-to-do, and in children's clinics among the poor, we are brought face to face with the most dense ignorance relating to the most important feature of the management of a child—his nutrition. If man is wanting in the instincts, he possesses reasoning faculties, and is capable of being taught what his offspring has a right to demand. The physician must teach him.

Among the thousands of children which we have treated at the Outpatient Department of the Babies' Hospital, and at the New York Polyclinic Dispensary, but 20 per cent. of those over one year of age are of normal development, and of those under one year of age 35 per cent. are normal. These children are the offspring on the father's side of day laborers, drivers, waiters, and small wage-earners generally. The mother is a young woman of the same class and possesses considerable intelligence. She can read; she can write her name. She is familiar with the current topics of the day. She attended the public schools.

An intimate insight into the daily life of these people, such as the writer has had, will demonstrate that the large percentage of malnutrition among the young is

not due to poverty, not due to the absence of food. The children do not go hungry; the malnutrition is not due to want of food, but to want of proper food. These mothers possess little knowledge, if any, of what constitutes suitable food for a growing child. They are absolutely untaught as regards food values. Nevertheless, our typical mother of this class attended a public school. But she was never taught how her own body, or the bodies of her offspring, should be nourished. The school neglected to teach her that which to her and to the state is of the first importance.

Physicians who are members of school boards, and those who may be connected with educational institutions in any governmental capacity, should exert their influence in having students taught how to live.

To prepare for complete living is the function which education has to discharge.

Herbert Spencer, in "Education," writes:

"Is it not an astonishing fact that, though on our treatment of our offspring depend their lives and deaths and their moral welfare or ruin, yet not one word of instruction is ever given to those who will hereafter be parents?"

During the past few years cooking and home-making have been added to the New York City school curriculum, and, although the hours so employed are comparatively few, the fact that it is done at all marks a distinct advance in the right direction, the benefits of which are not yet apparent from the standpoint of results.

The young wife of the small wage-earner gives birth to a male child who, in the natural order of events, becomes a laborer, a mechanic—a small wage-earner; or he enters the Army or the Navy. In any event, whether in the public service or in private life, he is an important personage. He is in the service of the state. He is a member of the body politic; and whether he is an addition or a tax to the community, whether he stands to the left or to the right of the decimal point, whether he gives and adds his quota to the nation's strength, or whether he becomes an element of weakness, depends on his early management—particularly on his early nutrition.

I have come in contact with a great many young women of the class just referred to. I have learned their methods of living and what constitutes their children's food; and you may be surprised to know how largely ill-cooked cereals, boxed breakfast foods with the energy largely in the name on the label, bakers' bread, grocery or condensed milk, tea, beer and canned vegetables enter into the children's diet. The above foods, supplemented by cheap cake and pastry from the bakery around the corner, are what the average so-called poor child in our large cities is being brought up on. An equal expenditure of money in good milk, wheat or rye flour, dried beans, peas, oatmeal, potatoes, fresh meat, would furnish food of much greater value and produce adults of far better development and intrinsic worth.

We have observed that these mothers are anxious to be taught. They were not taught how to live in the schools. They must be taught by the doctor!

Fortunately for the human race, in small villages and in the country generally the family is better fed; not because of greater knowledge, but because of the distance to the corner grocery and the habit of the country housewife of doing her own cooking and baking.

This same young mother, who has attended the public schools, who can read and write, and who is interested in the current topics of the day, has never been taught and does not know the value of fresh air. Her rooms are

close and ill-ventilated. Neither do the great majority of them know the necessity of cleanliness. Their rooms are usually dirty. Take into consideration the unsuitable food, continued absence of fresh air, uncleanness, the forced outings in unclean streets, together with the wretched dwellings which our impossible city governments allow to exist, and you have the explanation of our 80 per cent. of defectives in children over one year of age, and of our 65 per cent. of defectives in children under one year of age. Heredity unquestionably plays a part in the child's development, but an insignificant part as compared with the nutrition and environment. Faulty nutrition produces lack of resistance to disease; it makes susceptible bodies; the large mortality among infants is due, directly or indirectly, to nutritional errors more than to anything else. Scarlet fever, diphtheria, measles, pneumonia, tuberculosis, the intestinal diseases of summer, claim most of their victims among those who have not sufficient stamina to resist the infection.

The struggle for existence is gradually becoming more acute—a struggle in which the strongest win, the weak are greatly handicapped. Physical examination is now required in many walks of life. Railroad corporations are establishing a physical standard for their employees. Recently in New York City a strike on the elevated railroad was threatened because the management insisted that the motormen should pass a physical examination. Motormen, elevator men, firemen, boat captains, engineers, all are required to be physically sound; and the public has a right to demand that only sound men shall be employed in these positions. Within the past six weeks an engineer of a New York ferryboat, an engineer of a New York & New Haven R. R. train, and a motorman on a Brooklyn trolley car fell dead at their posts—presumably with heart disease—imperilling the lives of many.

An employer in any competitive industry can not afford to employ a man or men who can not work to the standard set by the well and vigorous. Machinery must be manned by men who are equal to the task as estimated by the standard set by the strong. To be admitted into the Army or Navy, or the police service, rigid physical examinations are required.

If success in life, happiness and usefulness depend to so great a degree on a normal body, surely the child has a right to demand sufficient consideration that these may be furnished.

It is known to all that mental and physical degeneracy go hand in hand. The mentally defective who come under my care invariably are found to possess gross physical defects. That a sound mind requires a sound body is a maxim that will be disputed by none who have had to do with children.

That portion of the rising generation who will do the nation's work, fight the nation's battles, do the nation's thinking, are those who are now this day receiving what we all admit the child has a right to demand. They are getting food suited to the development of their bodies, they have the benefit of fresh air and cleanliness, and a life devoid of care. They are having the benefits of secular and religious instruction.

Those who are treated otherwise are to furnish a large portion of the future dependants, criminals and degenerates.

Manufacturers and large employers of men and women in New York City are experiencing difficulty in securing competent help. Early in April an employer of a large number of young women in New York City, wishing to

increase his force, advertised for able-bodied girls between 16 and 22 years of age. He had 250 applicants. Among this number there were 15 whom he thought worth considering; 10 were selected.

Crime among the young exists to an alarming degree in all large cities. In the recently-established Children's Court in New York City 7,647 youthful offenders had judgment passed on them during the year 1903. Of these 4,790 were convicted; 452 were under 7 years of age (the most of these for improper guardianship), 949 were between 7 and 12 years of age, 1,437 were between 12 and 14 years of age, 1,952 were between 14 and 16 years of age. Three hundred and ninety-nine arrests were for burglary; 927 were for larceny of sums under \$25; 300 were for larceny of sums over \$25.

Recently I spent a morning at our Children's Court of Special Sessions. One after another, male and female, the culprits came before the judge—perhaps 50 in all, in ages from 6 years to 16 years. With but two exceptions they were anemic, sallow, wretchedly-nourished children. They were dirty and insufficiently clad, with the marks of physical and mental degeneration most apparent. Mr. E. R. Coulter, Clerk of the Court, to whom I am indebted for many courtesies, assured me that not 10 per cent. of those who came under the jurisdiction of the court had ever experienced the benefits of decent home care. Ninety per cent. of the 7,647 were, the court records show, born and reared under conditions which must of necessity produce criminals and degenerates.

The mother of a boy who attended a West Side public school complained to the principal that her son had been robbed. Similar complaints had reached him before. At the morning exercises in the assembly room the principal asked all the boys who had been robbed to rise. One hundred and sixty stood up. Of these, forty had been robbed of more than a dollar each.

A boy, 15 years of age, recently sent to the reformatory, was the leader of a gang of fifteen thieving boys from 10 to 15 years of age. The crime with which he and his gang was charged was the "holding up" of a baker's wagon and despoiling it of its goods.

There are several such gangs in New York City. They have a recognized leader who directs the thieving operations. Of these the "Foundry Gang" and the "West Side Terrors" are perhaps the best known.

The state devotes surprisingly little attention to the care of the young child until he becomes a nuisance or a source of danger to the community. When the state takes hold the damage has already been done.

Through neglect of the children in their earliest years we make our criminals, and then we establish courts of law, reformatories and prisons to take care of them when they are a few years older.

Every child under 16 years of age should be known to the state and should be under the supervision of state officials, each for a given district, whose duty it shall be to see to it that the child receives proper instruction, decent food, decent care. When it is shown that this is not possible in the family, then he should become a ward of the state.

Start the boy right, and start the girl right, and they will come out right at the end. Ignorant mothers must be taught by district nurses. The child must be properly cared for in its earliest years and during the entire developmental period. It can be done, and for the investment the state will get returns never dreamed of. Children's courts, reformatories and prisons would

in a few generations become a part of the history of the selfish, grasping age in which we now live.

All but three states have laws relating to child labor, which are indifferently enforced. So lax have been our state governments in this respect that on April 15 a National Child Labor Committee was appointed, the chief object of which is to insist that the existing laws be respected.

It may be pertinent to remark in this connection that man, with his boasted intelligence and civilization, is the only animal which requires its young to be self-supporting.

The state erects schools which the young, under a certain age, are required to attend. The strong and the delicate, the intelligent and the dull, are required to do an equal amount of work in an equal number of hours. The hours are too long—the studies, usually, badly selected. The question of whether the child is clothed, or how fed, does not interest the state.

Urging the need of special classes for backward and delicate children, Isabel R. Wallach¹ reported there were 8,500 children in the public schools in New York City who were making no visible progress; also, that the number was being steadily increased. These children, she says, are mentally deficient; but there is not a single idiot or imbecile among them—the mentally diseased being cared for elsewhere. Freed from competition with children of higher mentality, they might do well. Their brains are capable of development under favorable circumstances. Placed from the first in classes suited to their capacity, they might attain normal mental development. Many others of these children are backward because of ill-health or frequent illness, which makes them unable to keep up with the studies of their class. Their mentality is normal, and in special classes, with short sessions, they might do well.

Even the defective laws relating to school attendance are indifferently enforced, if we may judge by the census of 1900, which shows that between the ages of 10 and 14 years there are 579,947 children who are illiterate—children between 10 and 14 years of age who can not read or write.

Legislators, public officials, men high in public office, confine their energies to a very few things. They are intense specialists. They are journalists, jurists, men learned in the sciences, men skilled in statecraft, who have not the time—who are not in a position to appreciate a threatened national peril.

These people must be taught the duties the state owes to the child, and it is the physician who must teach them.

In Great Britain physical degeneracy has reached such an alarming degree that a royal commission was appointed to ascertain the cause. The appointing of the commission was the outcome of a debate in the House of Lords, July 16 last, during which Lord Meath and the Bishop of Ripon drew attention to the terrible conditions prevailing among the poorer classes. The Duke of Devonshire, president of the council, then admitted that Great Britain's military and industrial outlook was seriously threatened, and promised an inquiry into the matter. The subject was also brought up in the House of Commons by Sir William Anson, parliamentary secretary of the Board of Education, who declared that sixty thousand children now attending London's schools were physically unfit for instruction. Sir Frederick Morris stated that 60 per cent. of the men who applied for admission into the army were physically unfit. The re-

1. New York Times, Dec. 28, 1902.

jected men were divided into three classes: First, those who were not worth taking to the medical office; second, those who were rejected as a result of medical examination; third, men who broke down during two years' service. It is estimated that there are sixty thousand men in London who are physically unfit for service.

The causes of the physical and mental deterioration in England exist in this country, but to a lesser degree.

The report of the royal commission, in explaining the causes of the deterioration, deals largely, as it must, with the care and rearing of children. The causes of the physical degeneration, as set forth by the commission, are insufficient and poor quality of food, defective housing, overcrowding, and unsanitary surroundings. The commission found that in London 400,000 people live in single-room tenements, 40,000 live five in a room, 8,000 live seven in a room. In the British Isles, 3,250,000 people live with an average of three persons in one room.

The diet of the children was much the same as in our own large cities—wheat bread, tea, beer, jam and tinned goods. The commission estimated that 60 per cent. of London children are underfed; they found that children have irregular hours and lack of sleep; that children are on the street until all hours of the night. Increase of the use of alcohol among women is put down as a cause. Children of the alcoholic are found to be neurotic, impulsive, and to lack self-control.

They report that compulsory education has been a benefit morally, but not physically. Long hours of confinement without breaks, in poorly-ventilated, overcrowded schoolrooms, without food suited to nourish their bodies, unwisely clothed, plodding for years over studies that are of no practical use. All of which applies to this country. The principle of exercises in the schools was a detriment in that delicate and robust were treated alike. Degeneration of country children was found to be less; the living quarters were healthier and the food better. The country children have more regular hours, they escape late hours, and they have the benefit of plenty of fresh air.

France, with her diminished birthrate and decreasing population, has realized for several years the cause, and more than any other country she has endeavored to remedy the evils attending the care of the young. England has had the fruits of her neglect of years forced on her. Those of use who have seen much of child life among those who have the most children in our large American cities can read ahead and see that in a few generations we, too, will be deploring as a nation the inferiority of the quality of the bone and muscle of those who constitute the most valuable national asset—the so-called poor men, the men who produce, the men and the women who work with their hands.

So far as governmental intervention is concerned, but little is to be expected at the present time. By process of evolution we are still too near our aboriginal ancestors for any broad, human sympathy. What we need, what we must teach, and what will eventually come, is "sufficient governmental paternalism to realize that it is the children of to-day who will be the American nation of to-morrow, and that they excel in importance every other national consideration."²

The Government can not select a child's parents for him; but it is responsible when the parent has to live in a sunless room in an ill-ventilated, insanitary tenement.

The Government is, of course, unable to provide food for every child; neither is it necessary; but it is re-

sponsible when the head of the family, through ignorance, feeds grossly unsuitable foods to his offspring. Insanitary dwellings, poverty, uncleanness certainly play a part in producing physical degeneration in this country; its chief cause, however, according to my observation, rests on the absence of knowledge among the masses of the most elementary principles of child-feeding.

The infant's weight increases about twenty times before the adult period is reached, and its body is built by the food it assimilates. It requires no great process of reasoning to appreciate that the child which is fed on suitable food will become a more vigorous and better formed adult than one which is fed, beginning at birth and continuing during the entire development period, on food of indifferent tissue-building qualities.

It is my observation that the mother who by accident of birth and environment is a so-called "poor" mother, and an ignorant mother, is almost invariably a good mother according to the light she possesses. She is anxious to learn, and when taught she follows instructions as well as her more fortunate sister. These women need teaching, and it is the duty of the patriotic physicians of this country to teach them. The physician can in no possible way serve the nation better than by teaching the mothers of the nation how to rear the children of the nation. Every family has its physician; and, if he is the right kind of a man, he has their confidence and affection. It is he who comes into intimate contact with the daily family life; he speaks, and they believe. In the position of the family friend and teacher of the community the physician who recognizes his responsibility and accepts the physical guardianship of the rising generation determines the character of the future spiritual, commercial and political life of the nation in that he aids the children of the nation to receive what they have a right to demand.

As a result of his having lived, and lived nobly, there will be happier homes, fewer disappointed lives, less crime, and fewer dependents.

In such a capacity, from the standpoint of national worth, the physician is the most important member of the community in which he resides—a more valuable servant to the state and to the nation than a man in any other calling. He prepares the soil; without sound bodies and normal minds, secular and religious teaching are of little avail. Where the American nation shall stand twenty-five or fifty years hence, and what position it shall occupy among the nations of the earth, depends more on the physicians of to-day than on any other profession or calling whatsoever.

Original Articles.

APPENDICITIS FROM THE STANDPOINT OF THE PHYSICIAN.*

S. G. BONNEY, A.M., M.D.
DENVER.

A sufficient apology for the introduction of so time-worn a subject is found in the startling prevalence of the condition and the unnecessarily high mortality rate. So long as the daily press continues to record frequent deaths from a disease which, at some period of its course.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

2. Editorial in N. Y. American.