air they respire, may, to some extent, counteract the influences exerted by food of inferior quality, and the other deprivations to which they are subjected; but the extent to which Scrofula prevails amongst this class of the community, marks the privations they sustain, and indicates with sufficient distinctness, that their food, if sufficient in quantity, is in quality, at least, insufficient to preserve the man, engaged in active labour, in healthy vigour.

And when the decreased duration of life in our Manufacturing, as compared with the Rural Districts is considered, it may be safely assumed, that the working man was, perhaps, never subjected to the same evil agencies as now act upon health and life amidst our Manufactories. Great alternations of prosperity and adversity, sudden and extreme vicissitudes, large earnings to-day, succeeded by half or no work to-morrow, uncertainty of occupation, irregular habits, prosperity inducing intemperance and creating factious wants, whilst unaccompanied by those habits of providence which would prepare for the evil day, not far off;—all these, and many other such influences, operate with far more intensity on the manufacturing labourers, than the atmosphere they breathe, or the courts and alleys they inhabit; and according to the intensity of those influences they increase the general mortality, instead of developing the slower and chronic derangement, which assumes the form of Scrofula, and which is rarely induced by active agencies, but is manifested when the whole economy has been gradually and slowly contaminated.

The frequency of Scrofula amongst the classes of society who live in wealth or comfort, has been supposed to militate against any view of the disease, which assigned to insufficient food or improper feeding, a large share in the production of the disease. But diseased nutrition may co-exist with sufficiency of food, and even with seemingly judicious feeding, and is, perhaps, as frequently found in the pampered child of luxury as in the cottage of the peasant.

CHAPTER X.

TREATMENT.—PREVENTIVE MANAGEMENT.

To prevent, or to cure Scrofula, is the practical object of all our investigations upon the subject of the disease; and as prevention is better than cure, we will first indicate those precautions which may often retard, and in some cases altogether prevent, the manifestation of Scrofula, and will next suggest those methods of curing the disease when it shall have been manifested, which experience has shown to be the most successful.

Among the means of rendering the occurrence of Scrofula less frequent, well assorted marriages hold a prominent place. By well assorted marriages, I mean those contracted by parties in health and vigour; their children are more likely to be vigorous, and therefore less likely to suffer from Scrofula than the offspring of diseased or debilitated parents.

Lugol says,* in speaking of persons unhappily afflicted with Scrofula, "That the legislation of ancient Sparta was not probably less tolerant than our own on the subject of marriage; but we must recollect, that it ordered the sacrifice of such children as were born too feeble to become useful in the defence of their country. This custom, which is revolting to us, at least spared the new-born child the infirmities attached to a suffering existence; and besides that, it had the advantage of preventing those individuals from reproducing children, whose fate would be still more unfortunate than their own; it was, in fact, a means of restraining marriages to such persons as possess good health." Lugol adds, that, "Instead of pitilessly sacrificing children, who at the time of birth do not appear to possess qualities likely to make them robust citizens, it is much more humane, and much more worthy of advanced civilization, to arrest the evil at its source, by interdicting marriage to sickly and infirm persons."

* Page 168.

Lugol's proposal to establish legislative restraints upon marriage, and thus render health and vigour necessary qualifications for wedded life, may be less repulsive to the humane tendencies of modern civilization, than were the stoical principles of Spartan government; but his suggestions would be as little tolerated in the social condition of our times, as would the code of Spartan laws, and we must look to other means than these, for preventing or arresting the development of Scrofula.

Every child should derive its first food from the breast of a healthy woman; but many children cannot obtain this supply. The mother may be weakly, but if she has milk, she often chooses to nurse her child; and if she flags, from the drain upon her, she fortifies herself to meet it, by the use of as large a quantity of stimulants as may be necessary to support her failing strength; but such feeding often deteriorates her milk and lessens its nutritive power, so that the child's nutrition suffers. Or, the mother's supply may be cut off, then, if the circumstances of the parent admit of it, a foster-mother may be obtained, and the evil be thus partly remedied. But a foster-mother may not be, indeed, by the many, is usually not, attainable, and artificial feeding must be substituted. We have already shown, that under even favourable circumstances, that is objectionable. But when driven to it, the object we must seek to obtain is, to place the child, as nearly as may be, in the same condition as it would be if suckled at the mother's breast.

The fluid which mostly resembles Woman's milk, is that of the ass; but the supply is so small, that, practically speaking, it cannot enter into our consideration as a substitute for the milk of the mother. The ordinary substitute for the mother, is the cow; and we have already seen how greatly her milk differs from that of Woman. It may be diluted, but though richer than woman's milk, in certain materials, it is poorer in others; and if dilution reduces one element to its proper standard, it leaves another below it; and the milk of the cow, even then, continues to be very unlike the child's natural food. Further, it usually happens that many cows concur to furnish food for a single child; the milk of twenty, or even fifty cows, may be mixed together, and although the milk of one cow may not disagree with the child, the mixture of two or more may. Besides, before the child gets the milk, it has usually

been drawn many hours, often long enough to undergo a complete separation into parts, and it is no longer a homogeneous fluid, like that which the child draws from the mother's breast. Before it is used, it is often subjected to a heat sufficient to coagulate the albumen, and is thus rendered more difficult of assimilation. Those evils might, to some extent, be remedied, though in practice they will usually continue. The milk may be obtained from a single cow, and may be properly diluted, may be given before any separation has taken place.

It is true, that by many, the precautions which are suggested will be found impracticable; and it is probable, that even when practicable, they will often be neglected. The evil against which they are to operate, is of slow growth, or the warning would meet with more attention.

But supposing the fluid itself to be unexceptionable, the mode of taking it is usually objectionable. The nearer the administration of the food can be assimilated to the act of sucking, the better; because, the act of drawing the food from the woman's breast causes a pressure upon, and an excitement of, the salivary glands of the child; saliva then flows into the mouth, and is mixed with the food, which is thereby rendered more fit for the process of digestion; and unless that effect accompany artificial feeding, one of the essentials of proper nutrition is not accomplished. Supposing the food to be well chosen, the bottle with such a nipple as is prepared by Weiss, from very fine cork, may fairly represent the ordinary organ, and the mode of taking artificial food becomes in this way less objectionable. But the fluid taken from the mother's breast, undergoes change from month to month. And in one month after delivery, the milk is different from that which is furnished six months later. The casein increases, and the sugar diminishes; so that the admixture, which might be proper at the early period, would not be equally proper at the later one. Then, the natural food of the child is very quickly assimilated, and soon passes rapidly out of the stomach, so that frequent feeding is necessary; if this be neglected, the stomach gets irritated, and nutrition is deranged. After nine to twelve months, a more animalized food is required; and although beef and mutton may, undiluted cow's milk may not be an improper description of nourishment.

It may be objected to this view of the case, that the Irish child, when he ceases to take food from his mother's breast, which he frequently does not, before the second year, subsits on a less animalized and much grosser food than the milk with which she furnished him, and that other children are reared on similar food. But, unless counteracted by other agencies, and probably even then, I believe that children so fed are less robust, shorter lived, and die in larger proportion, than those who, when deprived of the mother's milk, are supplied with food of a more nutritious character.

Important as is a healthy nutrition to insure vigour and arrest the growth, or even destroy the germs of disease, it is impossible to frame a universal standard of food, inasmuch as what is best under one train of circumstances, may be far from best under another. Climate, and other agencies, in this, as in other respects, require judicious changes of diet, and render particular modifications proper. The Irish child commonly takes nourishment from his mother's breast, through much of the second year; after which, potatoes, with or without a little milk, or buttermilk, are his ordinary food. And the value of life is less, and the chance of Scrofula greater in him than in the child of the English agricultural labourer, (whose food is a mixture of bread and potatoes); although in air and exercise, the Irish child is at least as well off as the English.

It has been maintained of late that animal food is injurious to man, and that vegetable matter is his proper food. Into this controversy I do not propose to enter, further than to remark that, whether he belong to races that consume little or no animal food, man's organization makes it evident that his economy is adapted for its assimilation. Although in the dental organization there are no doubt differences, owing perhaps to the varying habits of different people; yet we do not find in any race the want of incisors, or canine teeth; and between those races, who for centuries have consumed little or no animal food—the Hindoos—and those who for an equally long period of time have consumed much—the American Indians—there is in this respect little substantial difference. I therefore cling to the notion that the Hindoo, as well as the Irishman, would be better for a moderate admixture of animalized food.

To me it appears inconsistent to maintain the necessity for animalized food during the first year of life, when the calls upon the child's system are certainly not greater than they are in the subsequent three or four years of life, and to contend that in the succeeding period, rice, or potatoes, or bread, uncombined with animal substances, are his proper food.

Under arrangements supposed to be the most favourable as to feeding, it must be admitted that Scrofula may arise; but were they really the most favourable, there are still cases in which animal food daily may be prejudicial. I recollect asking M. Menière, who presided over the Sourds Muets, at Paris, whether they gave all the children animal food twice daily. His answer was, "No, if it were given to new comers who had not been accustomed to it, it would, or might induce mesenteric disease." Even when a child has always been within the reach of plenty, circumstances may occur to make animal food, if given every day, injurious. Bad teething, or any debilitating disease may irritate or enfeeble the mucous surfaces, so as to unfit them to bear the daily stimulus of animal food, and nutrition thus may languish, and scrofula may be thus produced in a child, who has been brought up in the midst of plenty, and who has come into the world healthy.

Good feeding is a term which will convey a different impression to different minds. By good feeding, I mean in our own climate, a due admixture of animal and vegetable food. What the admixture should be, must vary with the individual, and with surrounding circumstances; one will require more, another less. The healthiest collection of children I ever saw, had but little animal food, but they had it daily, and they presented a minimum of sickness, with a minimum of mortality. Food well chosen, and digestion well performed, will produce good chyle, and this will find its way into the circulating fluid, but the influence of good air is then necessary.

The stomach having been supplied with appropriate nourishment, the lungs should be furnished with good air, and of this they should have a sufficient supply, by day and by night. This being essential to the well being of the individual, it is not enough that he should live in a country, where the air is pure; but he must inhabit rooms, where a due supply of such air is found. Every facility must therefore be afforded for the respiration of pure air, and there

are few places where this cannot be obtained. That it does vary in different places is true, but unless in very confined situations, those changes are scarcely appreciable, which are brought about in the proportion of the elements of which it is composed. At the same time, it is certain that emanations capable of exercising an injurious influence on human beings may be diffused through it; may, though not always, be cognisable by the senses, and yet their existence may not be demonstrable by chemical analysis. But it is not always in virtue of its purity that air is salubrious. A person may flag in Devonshire; he may come up to London, and there quickly rally. Thus much is certain, that at every period of life, frequent change of air and of scene is desirable. It is with the lungs as with the stomach, a single article of food uninterruptedly taken, however good, will tire the stomach and enfeeble digestion, and occasional change of place seems essential to vigorous health.

A friend recently mentioned to me a case of "Scrofulous Ophthalmia" extremely obstinate, frequently relapsing under every plan of treatment employed, in which the child was taken from London to a place on the southern coast. At the same time the medical man to whom the patient was consigned had a similar and equally obstinate case under his own charge, which he sent to the London Surgeon. Both cases got well rapidly, and this without any sensible change in the plan of treatment.

It is not, however, enough to provide the means for making the blood pure by the influence of good food and good air; but means must be taken to make it circulate through the body with the necessary vigour. This it is which gives the value to the games of children, whereby active exercise is provided. Three things are therefore necessary to produce perfect health in a child, even when born of the ordinary vigour: good food, good air, good exercise. Give the child these, and no matter what may be the ailments of its parents, or the climate in which he lives, you will do much to build up a vigorous and healthy man. In England it is among the Rural Population that the conditions to which I have alluded are most fully realised, in as far as concerns air and exercise; but after the child has been deprived of the mother's breast, its food is almost exclusively vegetable. Taken as a class, it is amongst this portion of our population that life has the highest numerical value;

but it is among them that scrofulous swellings are most commonly found.

The practical question with which we have now to deal, is not to contrast the good or the evil which surround those two great divisions of our labouring poor, namely, the dwellers in Rural Districts, and the children of Factory Labour, or to show that it would have been better for our social economy if the one, or the other occupation preponderated to a greater extent than it does; but to inquire how the evils may be mitigated, or the benefits increased of that particular stage of social progress in which our lot is cast. For whatever charms may be found in the primitive manners and habits of the patriarchal age, it is not the lot of the many in our own land to possess much acquaintance with those manners or habits.

The air we breathe may be contaminated, the exercise we take may be constrained, the food we consume may be inappropriate, and the value of life become less than it might be, and than we know it to have been, in the early history of our race, but is not much of our altered condition inevitable? It is true that by various modifications of the prime conditions of existence, the evil effects of a single agent may be lessened, though not perhaps completely neutralised. Good food may strengthen a child, so as to enable him to resist the combined influences of impure air and deficient exercise, for a much longer time than would be possible for a child less well fed, of which ample proof has been given; and the same remark applies, though not with equal force, to the agency of air and exercise. The food which is found sufficient to maintain in health the rustic's child will not enable the child placed in a Workhouse, or inhabiting a crowded Town, to struggle against the evil agents by which he is surrounded. The one will require the greater nutrition afforded by animal food, whilst the other may derive stimulus, sufficient to give him a greater duration of life, from other agencies, although nourished by food into which animal tissues do not enter. It is in proportion to the completeness with which the conditions to which I have referred can be carried out in Towns, that the health of such communities can be improved.

In our own country, the tendency of our social condition, is to lessen the opportunity for exercise in the open air, and to

collect children together for the purpose of education, or training, or occupation, and the results of these practices upon the physical character of the child, are, I think, unfavourable.

A great social experiment is now in progress, from which most important consequences must follow. The truth seems deeply fixed in the minds of thinking men, that the character of our people is to be determined by the education or mental training they receive in childhood; and as the conviction is strong that the work cannot be begun too early, children are collected into Infant Schools, almost as soon as they can walk. And as I have had large opportunities (by which I have endeavoured to profit) of estimating the effect of such training upon the bodily health of the child, I will now express the conviction at which I have arrived.

I believe, then, the effect is prejudicial. I know that the health of those infants, who are suffered to amuse themselves as they please, during the day, is better, *cæteris paribus*, than that of those children who have been for many months regular attendants at Infant Schools. And the reason of the difference I apprehend to be this, that in children, the blood is vigorously circulated through the entire frame, by means of the exertion of the muscular system, and this exertion of the muscular system can only be maintained, by providing such amusement as will keep the body in motion. The listless walk around the school-rooms, though repeated many times a day, will not quicken the heart's action, and will not warm the hands and feet. And so long as the hands and feet, and the surface of the body remain cold for many hours of every day, so long the child will have congestion of some internal organs; and a state of permanent disease is readily induced; digestion is ill-performed, nutrition is defective; and if this state of things be long continued, Scrofula may be the consequence.

After the period of infant life has passed, the evils of the system pursued in Educational Institutions, whether for the rich or poor, of training the mind, without sufficiently exercising the body, is not lessened. Of the three conditions to which we have referred, even among those who are not poor, one only—feeding —is ordinarily realised. There is often too much crowding, both

by day and by night, and too little exercise. The result is, delicate complexion, the cold chilblained extremities, the languid circulation, which often accompany childhood, but which are so unnatural at that energetic period of life. The periodical and measured walk, whether taken daily or weekly, by no means imparts to the system the needful muscular energy. Exercise ought to be energetically and cheerfully taken, it is best in games, it should be unconstrained, and it should not wear the aspect of a daily task. Indeed, unless education is so managed, that complete exercise of the muscular system shall alternate with and occupy as much time as the mental exercise, vigorous bodily health will rarely be attained.

Mr. Carmichael says: "From observations I have made on other Institutions, for instance, St. Thomas's Parochial School, and the Bethesda School, to which I was medical attendant, I came to the conclusion that depriving children of that active exercise in the open air, which is so necessary to their health and development, is almost as injurious as improper nutriment. Let a healthy child have sufficient exercise, and his powers of digestion are so sharp, that he will perhaps assimilate the most inappropriate diet: otherwise the majority of the children of our poor would become scrofulous: deprive him of his liberty, and his nutriment will remain undigested, and occasion all the symptons I have mentioned. The children of boih schools were fed, clothed, and taken the best possible care of, with this exception, that from the want of play grounds, they were prevented from the enjoyment of active exercise; and although free from disease at the time of admission, near one third of their number was found exhibiting the symptoms of Scrofula. They were marched out, no doubt, when the whether permitted, once a day, in a sober funeral-like procession; but let no person imagine that such dismal, boarding-school exhibitions, are sufficient for the health of children."

In the course of my investigations, I have had abundant opportunities of satisfying myself that the dull routine exercise which is provided for children, in certain establishments, does expose them to the risk of Scrofula. It is not convenient to point out the Institutions to which I refer, but it may be sufficient in this place to state that even where the children are fairly fed, and that the

rooms they inhabit are spacious, but their exercise is not unconstrained, or suited to the character of children, there much Scrofula is found.

Mr. Turnbull, after examining the children of the Austrian Military School, at Wienerisch, Neustadt, says "the instruction is imparted on a system of fixed regularity, and with a special view to practical utility. All that may tend to excite the imagination being here, as elsewhere, as far as possible excluded. The day rooms are large and commodious; the dormitories are particularly good, being spacious halls, excellently clean and well ventilated, in each of which are beds for 30 to 40 pupils, all separate. The food is good. The sedentary studies are never continued for more than an hour, or an hour and a half, without an intermission of twenty or thirty minutes, and due exercise in the open air is regulated and enforced. Yet with all these regulations and advantages, the youths had not to my eye a fresh and robust look. They were said to be healthy, but they generally, and especially the elder ones, appeared puny and sickly. There seemed nothing in the air of Neustadt to render them so; and if the fact be as it appeared to us, I should rather ascribe it to that great German sin of over regulation, which supervises not only all their studies, but likewise all their so-called regulations. Amid modern theories of education, and which prevail in other countries besides Germany, few perhaps are more particularly erroneous than the system which would always be teaching something; always in every form of play seeking to impart instruction. The gymnastics and equitation at Neustadt becomes thus as completely matters of study, and are probably performed with as much gravity of attention as the task of mathematics, or of history, because they are performed under the eye of the teacher. In the inaptitude of youth for any long continued application, nature herself points out the expediency of alternate repose to the mind, of entire vacancy of thought; but man too often endeavours to counteract this wise disposition by ever endeavouring to engage the attention by some new object of instruction. The animal spirits, those delightful harbingers of health and energy, mental and corporeal, are stunted in their very spring when the boy is debarred from those alternations of idle, thoughtless independence in his sports, which is not less essential to the formation of his future character than the practice of his severer studies. The mind is frittered away by the multitude of pursuits, and filled with a number of crude and confused ideas. It becomes paralysed by over work, or precociously and morbidly active by over excitement. A being of dull and orderly correctness may be produced by such discipline; or the memory may be overcharged, (to the probable ruin of the reflecting power), so as to delight unthinking relatives with the multitude of acquired ideas: but as the lad has wanted the freshness of youth, so he will probably in after years be without the vigour of manhood."

If the preventive measures which have been recommended were efficiently carried out, Scrofula would unquestionably be less frequent than is now the case, and when present, be less formidable. Unhappily, however, a large part of the population can only partially employ the preventive remedies so dsireable; and by many who might adopt them, the more important of those remedies will be disregarded. Scrofula will therefore continue to be developed, and when the disease is manifested, our efforts must be directed to the cure or relief of the patients.

CURATIVE TREATMENT.

To remove from the constitution the taint of Scrofula has ever been regarded as a great difficulty, by some persons even as an impossibility. Lominius, therefore, only expressed the opinion which prevailed in his time when he said, "Strumæ magno negotio tolluntur." Yet the hope of discovering a specific has always been cherished; and scarcely a quarter of a century passes without the introduction of some agent, whose power over the disease is said to be absolute. But we have arrived at the middle of the 19th century without the discovery of a single medical agent upon which we can rely for the cure of the disease.

The unsuccessful search for specifics—the failure of the viper's flesh, the scorpion, the lizard, the cauterization of the ear, the touch of the dead felon's hand, the drinking out of human skulls, and various pilgrimages—paved the way for one of the most singu-

lar superstitions which ever held in subjection the human mind, namely: "The Touch."

SUPERSTITIOUS PRACTICES FOR THE CURE OF SCROFULA.

The employment of superstitious practices as a means of healing, seems coeval with the earliest historic records, and their influence is intimately connected with the power exercised over the body by the imagination.

The people of Britain and Gaul sought from the Druids the cure of diseases, not alone because of their high esteem for the wisdom and learning of the priests, but from a belief that an intimate connexion subsisted between the art of healing and the rites of religion. The 13th and 14th chapters of Leviticus contain laws for the treatment of lepers by the Jewish priests; and the Sacred Scriptures narrate cures effected by prophets and other holy men; whilst, even in our own times, in Mohammedan countries, the sick are taken to men of reputed sanctity, by whom they are touched, and certain verses of the Koran are repeated over them. The cures effected by our Lord and his disciples, resulted from the immediate exercise of miraculous powers, and are not to be confounded with effects originating in superstitious influences.

One of the most ordinary rites of healing, was touching the sick. Thus, Naaman expected the Prophet Elisha would strike his hand over the place, and recover the leper. Pliny says, that "Pyrrhus cured a diseased spleen by placing the great toe of his right foot upon the left hypochondrium of a patient, who lay down before him."* Tacitus and Suetonius say, that "Vespasian cured two persons at Alexandria, one blind and the other lame, by touching them." And the power of curing Scrofula by the touch, has been said to be a peculiar attribute of the Sovereigns of England and France; but the claim to a successful exercise of the touch has not been confined to those monarchs, and the following narrative describes a cure attributed to a Norwegian King, who reigned from about 1015 to 1030.

In the younger Edda, which, according to Snorro Sturleson,

* Book VII. chap. 2.

was published between 1178 and 1241, is the Heimskringla Norege Konunga sögor, or the History of the Norwegian Kings. In the 7th Book, Chap. 200, containing the life of King Olaf Haraldsson, (or as he was afterwards styled, Saint Olaf), we find the following narrative. "When the King was at Gadariki, a widow's son, with a swelling in his neck (kuerka sull), sick almost to death, was presented to him. The mother of the young man had been with the Queen Ingigerda and had taken her son with her. The Queen said to her, 'You have no physician. Go to King Olaf, say to him, he is here the best physician, and beg him to lay his hand upon the swelling, and he shall be well.' The woman did as the Queen desired her. When she came to the King, she told him that her son was sick to death with the swelling of the neck, and begged him to lay his hand upon the swelling. The King said to her, he was no physician, and that she should go and seek one. The woman, however, said that the Queen had sent her, and desired her to tell the King to use the remedy that he knew, and that he was here the best physician. Then the King laid his hand on the lad's neck, and held the swelling until he could move his jaw freely; then he called for bread, laid it crosswise in his hand, and put some into the lad's mouth. He swallowed it, and all the pain soon vanished from the tumor, and in a little while it was well, to the great joy of his friends and neighbours."

The compiler of the Heimskringla expresses his belief that the touch was not unfrequently practised in Scandinavia, and that it was derived from the mystical practises of the Druids in curing disease.

When the touch was first exercised by the Sovereigns of France, I cannot satisfactorily ascertain. Forcatulus attributes it to Clovis; and it is vouched by some French authors, that the power was conferred on Clovis by St. Rémi, Archbishop of Rheims, A.D. 496, after the Battle of Tolbiac, Barbier,* and Zentgraff,† and Hilscher,‡ attribute the practice to Clovis and the Merovingian Kings, Dupleix and Daniel,§ do not think it was possessed by any

* Les Miraculeux Effets de la Sacree Main des Rois de France pour la guerison des Maladies, &c. Lyon, 1618.

† De Tactu Regis Franciæ, &c. Viteb., ed. 3, 1675.

‡ Progr. de Cura Strumarum Contactu Regio Facta. Jen. 1730).

§ Tome I. p. 1032 et 1128.