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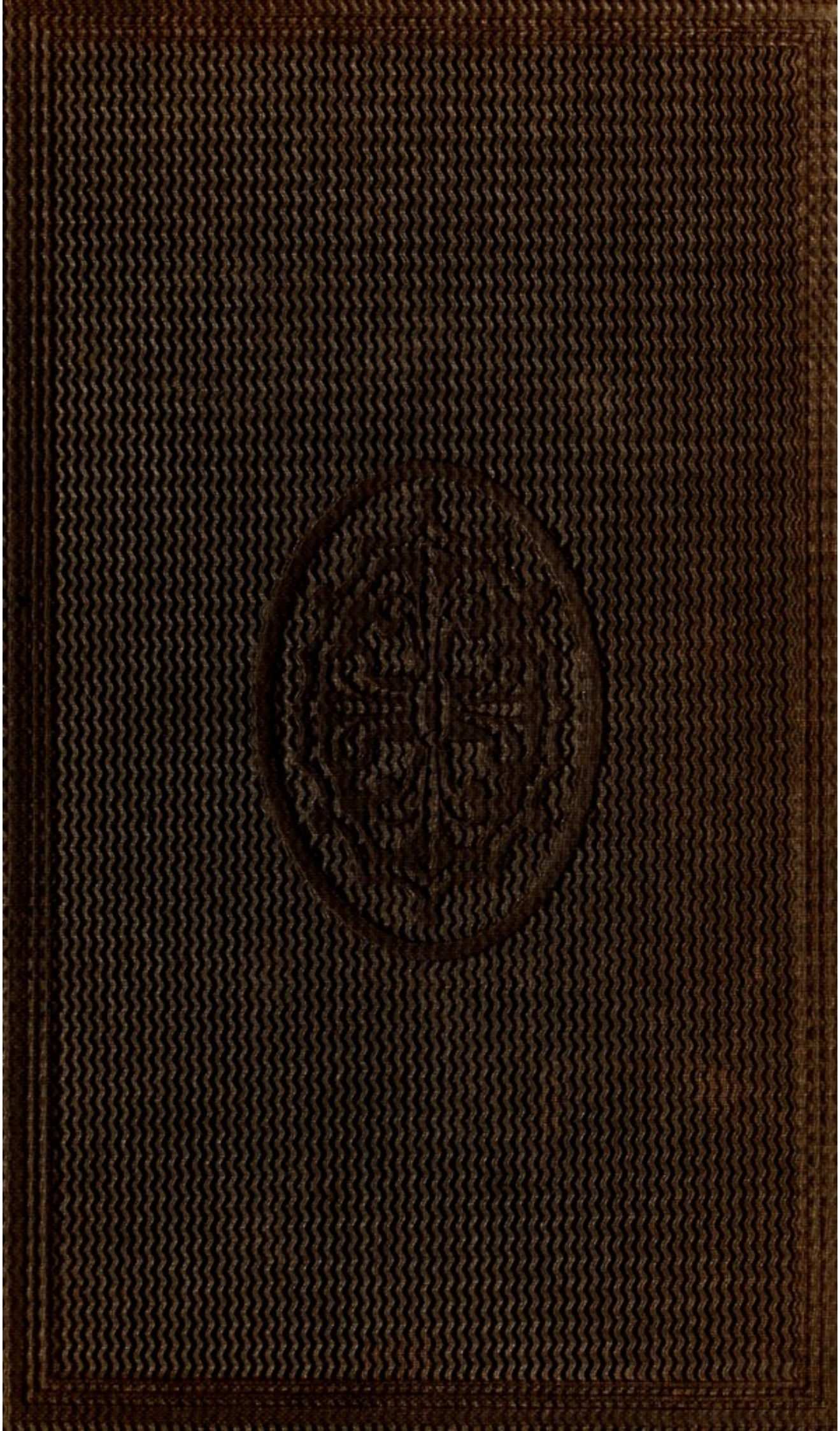
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ELEMENTS OF HEALTH,

AND

PRINCIPLES OF FEMALE HYGIENE.

BY

E. J. TILT, M.D.,

SENIOR PHYSICIAN TO THE FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, AND TO THE PADDINGTON FREE DISPENSARY FOR DISEASES OF WOMEN AND CHILDREN.



PHILADELPHIA:

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PREFACE.

FOLLOWING in the footsteps of Drs. James Johnson, Andrew Combe, A. T. Thomson, Mayo, and Southwood Smith, we have added another volume to the popular works on health; but with this difference—that while our distinguished predecessors have had principally in view the health and diseases of Man, we have devoted our chief attention to the constitution and affections which are peculiar to Woman. As there exists no work on this subject, the present volume is intended to supply the *desideratum*, and we trust, therefore, that, notwithstanding deficiencies, it may be found acceptable.

EDWARD JOHN TILT.

INTRODUCTION.

"If it be possible to perfect human nature, the means must be sought in the study of medicine."—DESCARTES.

OUR object in the present work is to seek the improvement of the physical condition of man and the prevention of disease: it is therefore necessary, before proceeding in our task, to glance at man's nature, and to point out the various partial attempts that have been made to effect this end.

Bernardin de St. Pierre has defined man to be a religious animal, and this definition comprises his two great characteristics. He is made, like other animals, of flesh and blood; he is endowed like them with feeling, with motion, and with admirable instincts; but, in addition to all these faculties, he has something which they have not; he is gifted with reason, and is able to understand the laws of the creation.

If we seek to analyze more minutely the nature of man, we find, in the first place, that he is able to live, to feel, and to move: in the second, to perceive, to judge, and to determine: in the third, to sympathize, to desire, and to love. In other words, man's life is threefold; and these three

modes of existence are so intimately interwoven as to constitute the inseparable unity of each man's individual life. While, therefore, we admit the unity, we must study each of its three component parts, which give witness to each other's existence; for all other modes of studying man must lead to a partial, and consequently false, knowledge of his nature. Now, if we reflect upon our own selves, or if we study the actions of those around us, we observe many imperfections; and a more accurate study would convince us that the three elements of man's living unity are at present dangerously attacked:

The body, by disease and deformity.

The mind, by ignorance, prejudice, and sophism.

The moral principle, by many kinds of vice.

If, turning from our present condition, we take a retrospective glance at man as revealed to us in history; if we appeal to the written documents, the mythologies of all nations, and the voice of traditionary lore, we find that all alike proclaim man's degeneration, and point to a period when his body was more beautiful and gifted with longer life, when his mind was endued with superior knowledge, and his heart more free from vice. The conviction of this degeneration is even shown by the partial attempts at improvement made by the various families of the human race when rising from a barbarous condition to one of more or less advanced civilization. Nothing is so evident to the self-examining human mind as that the health of man depends on the health of each of his three component parts: that "the mind and body are like a jerkin and its lining, so that by rumpling the one the other must be rumpled." The Greek, the Roman, and the Jewish histories teach us what attempts were made before the coming of Christ to improve each of the three elements of man.

MORAL ELEMENT.—Man's moral degeneration should have been restored by religion; but while a review of the Greek and of the Roman histories shows to what an extent the moral sentiments had degenerated, (a fact well proved by the obscenities of their poets, and by the low standard of moral feeling with which the most virtuous characters of antiquity were satisfied,) it will be seen that to their gods they attributed every species of abomination, and that religion did not conduct them to morality, a spurious description of which was taught by philosophers. But man's moral degradation did not rest there. It was considered just to make one class of men the slaves of another; and women were only released from the heavy corporal labour imposed upon them by barbarous tribes, to minister to the passions of man without being even able to obtain the plenitude of his love. Well might Plato despair of man's moral regeneration unless there came from heaven "some promise and divine revelation, on which, as on a vessel fearless of shipwreck, he might happily accomplish the journey of life."

MENTAL ELEMENT.—The mental degradation should have been restored by philosophy; and a noble attempt was made to do so in Greece. Modern philosophers have not so much discovered any new mental principle as they have given new names to those already clearly expounded by Plato and Aristotle. In all that Bacon, for instance, has well done, he has but followed Aristotle, although often inveighing against him, because he only knew him by the scholastic exaggeration of his disciples. Bacon thought himself the restorer of science, when Copernicus, and Galileo, and Vesalius, had already shown by their great discoveries the excellence of the principles recommended by him.

Although Plato and Aristotle, those two Herculean pillars of philosophy, show to what an extent the restoration of

the mental faculties was pursued by a few, still, with regard to the general mass of mankind, this was imperfect, and most of those who gave their time to the study of philosophy, carried it into sophistic subtleties, while science, properly so called, or the knowledge of the nature and laws of the materials and the forces of the globe, was almost a dead letter.

PHYSICAL ELEMENT. While the two most important elements of man's nature were thus left imperfect, the cultivation of the health, strength and beauty of the human body was, under the superintendence of medical men, carried by the Greeks and Romans to a height of perfection never practised either before or after. Lycurgus was desirous of obtaining the greatest amount of physical strength, and this he insured by inspecting all new-born infants and destroying those who seemed weakly, by withdrawing children from the enervation of maternal influence, by hardening both sexes, by not permitting marriage until a mature period of life, and by discountenancing all poetry and music which were not of the severer cast.

Athens, desiring beauty as well as strength, learned how to temper her gymnastic exercises by the softening influences of arts and eloquence; but even then the former were the most essential part of education. When we compare the little importance attached to the games of youth in our present state of civilization, and how little interest the majority of men take in cricket and other games, we can hardly imagine that the gymnasia and public baths were perhaps the most important institutions in the towns of ancient Greece and Rome; and that at these, all the year round, would wealth and talent congregate, either to take part themselves in various exercises, or to view with heartfelt interest the feats of others. We know that these establishments had medical men attached to them, and that they as minutely

directed the exercise and the food of the male population, as is done amongst us for half a hundred prize fighters or jockies. Nay, more. The cultivation of the human body held its Olympic jubilees at Delphos, and received its apotheosis in the living marbles of Apelles, Phidias, and a host of unknown sculptors, whose recovered works crowd our galleries, and show the effects of careful training upon the health and beauty of the human body. The public health was equally well attended to. Varro and Vegetius will convince the learned of the truth of an assertion which will appear evident to all from the gigantic public monuments still extant in Rome, and by the knowledge that both Greeks and Romans had found out the means of causing large armies to move suddenly from one climate to another without their being decimated by epidemic diseases, which, as we have been so often taught by experience, are always sure to vindicate the infringement of the rules of health. While in Greece the precepts of medicine were thus for the first time brought successfully to bear on the preservation of man's health, a still more surprising spectacle had been previously presented by the Jewish lawgiver, who framed his sanitary regulations in so masterly a manner, that the people by whom they were observed have had a vitality unknown to other nations. It would seem also that their observance has often preserved the Jews untainted when surrounded by epidemics in the Middle Ages; and when we consider that in all Christian countries the most numerous class of society vegetates in the midst of perennial filth, we cannot but regret that cleanliness should not have been enjoined as a religious observance to the Christian as well as to the Jew and the Moslem.

It would take us too long to prove that this has been the most successful attempt ever made to improve the condition

of man; for while the health, private or general, was carefully watched over, the mind was not left uncultivated, and the moral sentiments were directed and governed by the same principles which ought even now to be our guide.

It was in the reign of Augustus, and when, in imitation of the Greeks, the Romans had given extreme attention to the luxurious cultivation of all the physical capabilities of man, that Christ came into the world. Considering this event only in a philosophical point of view, all must admit it to have been the most important since the creation; still it will be seen that for a time it caused hygiene to be neglected. We shall proceed to state in what way.

I. The moral element of man, hitherto so degraded, assumed an unknown improvement from the doctrine of Christ. The divinings of a few Stoics were then realized, for the mass of mankind became willing to admit that it was right to forgive injuries, while at the same time were learned the new doctrines of humility and the knowledge that "wisdom is ofttimes nearer when we stoop than when we soar." The seeds of human liberty were sown, however long a time they took to come to fruit, and fruitless still are they in a great nation which boasts of being Christian.

Woman was raised to a state of fellowship with man: the blind, the infirm, and those whom Paganism had brutally ejected from the cradle—the disinherited of the power and beauty of manhood, were all adopted by Christianity; and Plato's aspirations were fulfilled, for man was taught how to pray.

II. The mental element of man participated in the improvement of his degraded morality. The intellectual faculties became more often enlisted in the cause of truth, and oftener kept clear of the sophistical entanglement of the Greeks.

III. But, in strict accordance with that spirit of reaction always to be met with in human things, in proportion as the bodily element had been exalted by the Pagan, so the Christians thought it necessary to debase it. The avoidance of many gymnasia and public baths, where the first Christians found practices contrary to their faith, first estranged them from the task of cultivating the body; and then an undue interpretation of certain passages of Scripture brought the Christians to believe that it was right to vilify it. They therefore tormented it by scourging, afforded it insufficient and miserable food, clothed it in rags, and, like Diogenes, took as much pleasure in filth as the voluptuaries by whom they were surrounded did in the anointings and in the perfumings of the bath. For centuries this system of exaggerated self-martyrdom was considered meritorious and agreeable to God; its effects are even now felt in the nineteenth century in Protestant England, and shown in the difficulty of reforming any of our bad sanitary arrangements, and in the great antipathy Englishmen in general have to bathing. The neglect of hygienic precautions was followed by a similar want of observance of the rules of *public* hygiene. Cities were built without regard to cleanliness, in a manner calculated to deteriorate public health; and as the result, Christendom was ever and anon depopulated by fearful epidemics.

When, in consequence of the diminution of religious zeal and a gradual diffusion of knowledge, the fanatical persecution of the body subsided, it was followed by a long period of comparative neglect of the measures most conducive to health, beauty, and longevity; and out of this epoch of hygienic inaction we have hardly yet escaped. During the whole of this time Hippocrates was revived and taken for a guide by medical men; but notwithstanding the immense importance attached by him to the means of preserving

health, the medical faculties of Christendom had bowed to the common prejudice of the age, and it was only at the close of the last century that in the Faculty of Medicine at Paris was first instituted a lectureship of Hygiene. With regard to our own country, no one contradicted Dr. Thomas Beddoes, when, in 1778, he stated that "preventive medicine, the destined guardian of infancy, youth, manhood, and old age, adapted to the interior of families, has as yet no existence;" and the accomplished physician, Dr. Combe, who has laboured successfully to fill up the desideratum, says, in his "Physiology applied to Health and Education:" "The little regard that has hitherto been paid to the laws of the human constitution as the true basis on which our attempts to improve the condition of man ought to rest, will be obvious from the fact that, notwithstanding the direct uses to which a knowledge of the conditions which regulate the healthy action of the bodily organs may be applied in the prevention, detection, and treatment of disease, there is scarcely a medical school in this country in which any special proviso is made for teaching it, the pupil being obliged to elaborate it for himself from amidst information communicated to him for other purposes. Some medical men sooner or later work out this knowledge for themselves; but we have no hesitation in saying that these are exceptions to the general rule, and that the greater number pass through life without a conception of its value in the prevention and cure of disease."

Mr. McCulloch, in his account of the British empire, (vol. ii., p. 712–13) gives a table which strikingly shows the gradual improvement of the public health in London during the last two centuries:

Years.	Annual Mortality per cent.
1629—35	5·000
1660—79	8·000
1728—57	5·200
1771—80	5.000
1801—10	2·920
1831—35	3.200
1831—41	2.522
1851	2·340

The population in the liberties of London, enumerated in 1631, was 130,178; the deaths in the liberties during the eight years 1628–35, were 54,299, of which $\frac{1}{24}$th were still-born: excluding these, the annual mortality was 5 per cent. This represents the mortality of years free from pestilence, but not the absolute mortality of the period, which for the 24 years 1620–43, was 7 per cent., and shows, therefore, the fatality of diseases in years intercurrent between epidemic years. The mortality of the period 1660–79, is an approximation to the mortality and diseases of London in the Middle Ages, although it includes 14 years subsequent to the Great Fire, and to the last epidemic. The mortality of London, in the seventeenth century, did not differ very sensibly before the French revolution from the mortality in the current years 1629–35: the mean expectation of life at birth, 1728–37, was calculated by Mr. Simpson to be 19·2 years, while in the ten years 1771–80, it was 19·6 by Dr. Price's table. Nearly 5·2 and 5·1 deaths happened annually out of 100 persons living. The mortality of London in 1801–10 had considerably diminished, and was estimated by Mr. Milne to be 1–34·19 annually—2·92 per cent. The annual deaths in the 18 years, 1813–30, are stated by Mr. Edmonds at 2·82 per cent.: and as the deaths reported in the bills, 1831–35, were $\frac{1}{8}$th more than the deaths in the five years preceding, the mortality has been assumed to be 3·2 per cent. in this period, including

an epidemic year. The mortality of the period 1831–41 is calculated upon the deaths registered in 7 years, 1838–44, and the population enumerated, 1831–41. (See the Registrar-General's Report, eighth and ninth, p. 168.)

With respect to Nottingham, Mr. Farr has shown, in the eighth Report of the Registrar-General, p. 324, that in 1735–80 the mean duration of life was 30 years, or 7 or 8 years less than the lifetime of the inhabitants of Nottingham at the present period.

The great sanitary improvements suggested by medicine during the last fifty years, have been attended by similar results in other countries. In France, for instance, at the close of the last century, the mean average duration of human life was not twenty-nine years, whereas it is now thirty-three. Another table inserted in Mr. McCulloch's statistics of the British Empire, will most forcibly show the progress that has been made during the last century in the management of infancy.

	1730–49.	1750–69.	1770–89.	1790–1809.	1810–29.
Total births, ...	315,156	307,395	319,477	386,393	477,910
Total deaths under five years,.....	235,087	195,094	180,058	159,571	151,794
Dying per cent. under five years.	74·5	63·0	51·5	41·5	31·8

Here, it will be observed that the deaths under five years have fallen gradually from 74½ to 31·8 per 100: and it appears from the Registrar-General's Returns, that the decrease is still going on, and that it is now only 25·8 per 100.

But while rejoicing at what has already been done, we must not be blind to what still remains to be effected. The

gradual prolongation of the mean duration of human life, in this and in other countries, does not show that any great improvement has been made in the mode of living of the educated classes, tending to the general prolongation of the race; but that the condition of the bulk of nations, the lower orders, has been greatly improved. In the same way, the decline of mortality amongst children does not in any way prove that they are more judiciously brought up by the educated classes now than they were fifty years ago; but that the conditions detrimental to early life, to which the lower orders used to be subject, have improved; and that the management of infant health in lying-in and foundling hospitals has been better understood.

The fear of the cholera gave us a Board of Health. There has been a great deal of talk of purifying the Thames, and about a supply of clean water to drink; the legislature has at last interposed to remove the cattle-market from Smithfield; will prohibit intramural burials, and effect many other sanitary improvements when the public mind has been convinced of their urgency. But if the defective state of public hygiene in this country is to be regretted, the ignorance of the best means of improving and preserving the health of individuals, is doubtless the chief cause of the imperfect state of our civilization; for it saps the happiness of families, and increases the number and intensity of hereditary complaints.

We know that our views as regards some of the fashionable pleasures of society may be considered Utopian by many of our readers; but we would beg them to reflect a little on their reply, should they be asked, "If they are quite satisfied with society as it is now constituted? Notwithstanding the advanced state of our civilization, do they not yearn for progress towards a more natural, a more rational, state of things?" To be logical, one must do so,

for it will not do to blink principles when they jar with fashion.

We agree with one who has not ineloquently said,—"It is a mistake to confound, as is commonly done, civilization with over-refinement, as if they were identical. The noblest improvement of society which the hopes of the philanthropist anticipate, is a condition different from the so-called civilization of the present age. Over-refinement is the vice which stands in the opposite extreme to barbarism. In a state of barbarism the body is generally vigorous, though the mind is dormant. In one of over-refinement, the mind and body are alike vitiated. Instead of the body lending a healthful tone to the mind, the two are reciprocally the slaves of each other. Whatever deranges the body disturbs the mind; and the sensitive mind is not less frequently the cause of derangement of the body."

Doubtless the moral sentiments require fostering to the utmost; doubtless the mental faculties deserve all the improvement we can give them consistently with health; but the faculties of the body are equally deserving of great cultivation.

The improvement of the body and the extension of human life have occupied the consideration of both philosophers and medical men. Philosophers have supposed this result attainable by the use of salt, as did Lord Bacon; or by that of oxalic acid, or other strange chemical compounds; but common sense confirms the saying of Descartes, that "the improvement of human nature can only be sought from medicine."

None but the members of the medical profession can thoroughly know mankind. Are we not consulted about man even before he is born? Are not we the first to receive his infant nakedness? We are further consulted as to his education; and when he attains to manhood, we become the

confidants of his joys and of his frailties; nor, as he advances in life, are our advice and friendship less necessary. How many golden opportunities then are offered to us for dispensing the blessings of health and happiness, for improving, not only the individual health, but the health of nations, and for glorifying our Great Creator by adding to the beauty, the intelligence, or the moral rectitude of his chief work! How many golden opportunities are offered to us, and how many do we throw away!

A Greek philosopher and physician had so just an appreciation of the nobility of his mission, that he called the physician "the hand of God." Are we Christians to have a less exalted notion of our duties than the pagan Hierophilus?

In our estimation, the great means of improving the human race must be sought in the improvement of the health of woman, for she is the matrix in which the human statue is cast. Improve her health of body, of mind, and of heart, and the human race would advance to perfection; deteriorate her, on the contrary, and in the same ratio does it degenerate.

There is nothing new in this idea. Lycurgus was fully convinced of its truth, and therefore directed that as much care should be taken to invigorate women as men. In fact, though not followed out, it is a matter of common observation that weak and delicate women give birth to children who, if they survive the perils of childhood, remain weakly and delicate all their lives. If the influence of the mother's constitution is thus forcibly shown in that of her children, the influence of her mind is no less evident. Napoleon said the future destiny of a child was always the mother's work; and this sentiment has been that of many philosophers, who have noticed that every great man has had a mother above the ordinary level of mental capacity. It will be likewise

felt by all, that the degree of fixity of moral principle through life depends principally upon the manner and upon the earnestness with which such principles have been inculcated by a mother.

Such is the important influence of woman on mankind; but, before alluding to her present position, we must glance at what history teaches us has been her fate in society.

In the barbarous tribes of former or of our own times, we find woman the slave of man. She does all the hard work of life, while her master fights, or idles away the time of peace. In the Pagan civilization of former or of modern times, to however great a height of perfection it may have attained, woman, though released indeed from the drudgery of labour, is only considered an object of amusement, and is denied, not only the undivided possession of her natural rights in this life, but also the hopes of future happiness promised to her lord. A brighter day dawned for woman when she became the mother of the Saviour of the world; and his doctrines brought about the emancipation of the sex, not by slow degrees, as was the case for other slaves, but from the first preaching of the Gospel. Our Saviour's respect for woman, and his honourable notice of many in the New Testament, was imitated by his disciples, and by the Christians of the first three centuries, who willingly accepted as copartners of all human endowments those who so often shared with them the fiery doom of martyrs, and received with them their meed of immortality. This example was followed in subsequent ages, when too many female saints were daily invoked for woman not to be considered of a nature identical to man.

Christianity alone has permitted a French poet, without much exaggeration, to say of woman—

"Compagnes d'un époux, et reinos en tous lieux,
Libres sans déshonneur, fidèles sans contrainte,
Et ne devant jamais leur vertu à la crainte."

Christians in all ages have believed, as we do now, that woman is endowed with the same faculties as man, but that while some faculties are more developed in man, others are more so in woman, as we shall see hereafter; but that, in the aggregate, woman is so formed as to be dependent on man. This dependence is, indeed, so clearly written in woman's organization, and is so thoroughly admitted, that the woman who is considered the most fortunate in life has never been independent, having been transferred from parental care and authority to that of a husband.

What then is the part destined to woman? It is not only to be the matrix in which humanity is cast, but also the *nutrix*, the chief nourisher and supporter of mankind, whether to an infant seeking milk at her breast, or to suffering humanity requiring love's watchful tenderness to restore it to health. Thus, when we speak of woman's proud position in the world, it is not comprised in the mere facts of conceiving, bringing forth, nursing, and fostering the child; but she is the mother of his intellect as well as of his body, and has to preside over its dawn, so as to enable it to remember itself, and to disclose its latent powers by the means of language. She is, likewise, the mother of the moral man, and has to call forth that moral "light which every man brings with him who cometh into this world," and to develop sentiments which, if fostered in early life, will never be eradicated.

But all women are not destined to be mothers; and it would be taking a very narrow estimate of the admirable utility of woman in the circle of society, to fancy her useless unless a mother. Humanity is not only a race requiring to be immortally perpetuated, but it is also a patient

covered with sores, parched up with fever, and tossing about for weeks, months, or years upon a bed of sickness. Who but woman can watch by his side, assuage his pangs, pour comfort into his very soul, and bring him to life again? Is it not as meritorious to preserve life as to give it? And this is what most women have it in their power to do, and really accomplish, whether married or single. For this reason, doubtless, women have been endowed with a greater degree of vital tenacity than men, and for the same reason there are always more women than men alive in the world. This assertion is proved by the following extract from the population returns for 1841, given in *The Companion to the British Almanack* for 1844. It is an analysis of the ages of persons living in Great Britain, distinguishing those resident in the principal towns from the other parts of the country. Under the head of England we find the following figures:—

	Principal towns.		Remainder of Country.	
	Males.	Females.	Males.	Females.
15 to 20 -	420,967	465,662	310,932	291,825
20 to 25 -	408,210	501,524	271,249	281,310
25 to 30 -	353,103	408,871	220,682	226,879
30 to 35 -	329,789	366,926	201,325	203,116
15 to 35 -	1,512,069	1,742,983	1,004,188	1,003,130

Thus it appears, that though, in the remainder of England, the number of young men and young women, from fifteen to thirty-five, is very nearly the same, in the principal towns there is an enormous disproportion; in fact, 230,912 more young women than young men. This excess of females continues through all the subsequent periods of life. Scotland exhibits very much the same results. In another table, showing what would be the number of persons of the several specified ages, supposing the number of males and

females whose ages were returned to have been 10,000 respectively, we find the following figures for England and the metropolis :—

	England.		Metropolis.	
	Males.	Females.	Males.	Females.
15 to 20 -	1,004	989 -	905	934
20 to 30 -	1,719	1,851 -	1,970	2,174

That is, in a given number of each sex, there are many more young women between fifteen and thirty living in England, than there are young men of the same age; and this disproportion is much greater in the metropolis than in England at large. Another table is still more to our purpose, as it gives the actual numbers of males and females in the metropolis, divided into their different ages. We find in it the following figures:—

	Males.	Females.
15 to 20 -	79,031 ·	93,011
20 to 25 -	89,770 -	116,326
25 to 30 -	82,315 -	100,155
30 to 35 -	78,244 -	92,193
	329,368	401, 685

The disproportion continues through every successive stage of life; but, confining ourselves to the period between fifteen and thirty-five, we find, in the metropolis alone, 73,312 more young women than young men.

The same fact receives an additional practical illustration from the Reports of the Registrar-General, which show the less per-centage of females than of males dying of disease out of the same given number of each sex. This rule, which, with some slight oscillations, holds good throughout life, cannot be explained by the special influence of a function peculiar to them, because it is found to precede the establishment of this function, and after the change of life the rule is still proved to hold good, by the greater number of women than of men who attain to longevity.

The greater vital tenacity of woman is not confined to

England or to temperate climates alone, for Mr. Tulloch informs us that in the West Indies the black women resist fever better than the males; and Humboldt has made the same remark in relation to the native tribes of Mexico. The former also mentions, as a fact, for which he could give no good reason, that European women suffer less from being in tropical climates than men. In confirmation of the law to which we have alluded, we may remark that when a nation is destined to dwindle and become extinct, the number of women becomes less than that of the other sex. This is now the case amongst the natives of Australia, and particularly with the Maori population of New Zealand; a fact which we find stated in the Report of Dr. Wilson, the colonial surgeon of New Plymouth, and for which we are indebted to our friend Mr. Gordon Gairdner. Whatever may be the cause, it seems a providential arrangement; for, as amongst the bees there is a large number of imperfectly developed females, called labourers, nurses, and, improperly, neuters, which are indispensable to the well being and multiplication of the humming communities, so with us, that large proportion of women, who have not been called upon to be mothers are, nevertheless, most useful to the welfare and multiplication of the human race, to whose many wants they minister, and whose weakness they strengthen, their milder influence tempering and softening the asperities of the stronger sex.

Such being the defined duties of woman, do we place her in a position to fulfil them, so that she may herself enjoy and diffuse around her the greatest possible amount of health and happiness? So far as the cultivation of the moral sentiments is concerned, we do not see that there is any very great room for improvement; but with regard to the development of the mental faculties, we shall hereafter show that there is indeed great progress to be made; so that those

women who do not marry should no longer be left as they are now, generally speaking, without any resources for the mind to fall back upon, to the great detriment of the bodily health. So far as regards the physical capabilities of woman, it will be seen that they are often imperfectly developed in childhood, interfered with by ignorance and prejudice at puberty, during the whole period of the performance of the function peculiar to woman, and even at its cessation. For it must be well understood that the physical health of woman is the best base of her strength of mind and sound morality, and that on it rests the strength of constitution of future families, of nations, and of mankind.

The greater comparative influence of the reproductive organs of both sexes, is clearly shown by one of the Reports of the Registrar-General; wherein it appears, that while, out of 100,000 deaths from all causes, but few were attributed to disease of the reproductive organs in men, nearly 20,000 women were said to have owed their death to diseases of those organs. This calculation refers to women belonging to all classes of society; but we believe that, owing to a variety of causes, the health of women in the upper classes suffers in proportion to the state of higher civilization to which society has attained. We cannot base this belief upon figures, but we can test the effects of the numerous influences of civilization on the health of women, by comparing the relative mortality of both sexes of the whole population, with the experience of insurance offices, derived *only* from the wealthier classes of society.

We have already stated that the returns of the Registrar-General show all through life a greater degree of vital tenacity in women than in men, a fact which will be made evident to the reader by the tables at the end of this work.

In other words, when we take all classes of society into consideration, a larger per centage of men die every year than of women. This rule is, however, reversed in the upper classes; for the united experience of seventeen insurance offices, embracing 93,905 policies, shows that from 20 to 50 the mortality is considerably greater for females than for males, although all the lives were selected with equal care. From 50 and upwards, these returns show that the mortality is less among women than men. Guided by these data, all insurance offices, with, we believe, but one exception (the Eagle,) ask as much to insure the life of women as that of men; and they are justified in doing so, so long as our fair countrywomen pay so little regard to the preservation of their health.

If, then, it is the rule that more men than women should die every year, and if this rule be reversed to the disadvantage of the upper classes, between the ages of 20 and 50, or in other words, during the whole period of the activity of the reproductive system, it clearly shows that there must be great mismanagement of the function peculiar to them. Educated women receive the same, or even better medical attendance than the poor; and their circumstances, to all appearances, ought to maintain better health. There must, then, be something wrong, some hidden influence, to work this calamitous end; and is it not greatly dependent on the enervating fashion which guides their education, and the ignorance in which they are left respecting the proper management of themselves?

In drawing attention to the urgency of a better management of the health of women at all ages, we only assert what we shall prove over and over again; and we cannot even claim novelty for our assertion, for in 1838 Madame Necker de Saussure, in a work on education, made the following remarks :—

"The victims of maternity multiply daily; youthful widowers often afflict our sight. Physicians often forbid mothers from nursing, so much would it weaken both them and their nurslings. Numerous orthopedic (or deformity-correcting) establishments—sad and uncertain remedies for a defective education—are evidences of its fatal consequences. How does it happen that, in an age remarkable for the progress of medical science, the application of hygiene to women should be so much in arrear, of that half of the human family on whom the health of the whole race essentially depends? To her will be due the existence of a healthy, active, and vigorous generation, or of one soft, vacillating, enervated, and subjected to the empire of excessive nervous susceptibility, such as characterizes so many women of the present day."

The application of hygiene to women is still in arrear; otherwise a competent authority in such matters, the "British and Foreign Journal of Medicine," in reviewing a work of ours, "On the Preservation of the Health of Women at the critical Periods of Life," would not have stated that "nothing would give us greater pleasure than to see a work on Female Hygiene;" neither would the "Dublin Medical Press," in noticing the same work, have urged us to "continue in the almost untrodden path we had struck out." We cannot but feel flattered that, while some high medical authorities pronounced the book alluded to as destined to be useful to the junior members of the profession, others have spoken of it as the best guide to enable mothers better to perform their sacred duties; and in appropriate parts of the present work, we have still further sought to establish the rules on which rests the right management of the health of woman—with what success will be shown hereafter. We can only plead, at present, that on account of the feelings of delicacy by which the inquiry is beset, as well as from

the fact of the function peculiar to women having to a great extent long surrendered to domestic prejudice and blind routine, the task of explaining the rules of the right management of their health is attended with much greater difficulties than are met with when legislating for those functions which are common to both sexes; but the impossibility of complete success is not a sufficient motive to prevent our doing our best to give advice relative to functions, on the due performance of which depends not only the health of the body, but the integrity of the mind; not only the integrity of the mind, but also the power of restraining natural instincts within their just limits.

CHAPTER I.

"La vie de l'homme est une grande education dont le perfectionnement est le but."—DEGERANDO.

WHERE yesterday there was suspense, anxiety, or terror, to-day there is peace, happiness, and joy, because a child is born; a poor weak thing, requiring all a mother's loving care to retain possession of a life which, for many months, will be chiefly spent in eating, sleeping, or crying. The utter helplessness of man in his infant state leads us to admire the strong instincts by which his life has been protected; instincts common, indeed, to all animals, but strengthened in man by the voice of reason suggesting to the mother that the tender bud of thought and feeling she nestles in her bosom may in a few years repay her for all her toils and anguish, that she may see him attain to the full power of manhood, endowed with strength, capable of knowledge, and instinct with love. This bright picture of futurity lends a charm to the most irksome duties of a mother; it is this which tinctures, with something of solemnity, attentions which, if not ennobled by some strong motive, would be repulsive to her nature; it is this, joined to religious feeling, which tends to the preservation of the human race.

A child has entered into the world: let us then follow him through his whole career, until full of days he quietly descends into the tomb. Before, however, beginning this history of events most frequently chequering the life of man, it would be well to glance at some very important objects of inquiry.

I. The degree of strength with which the infant begins life.

II. The constitution he has received from his parents.

III. The diseases to which he has been made heir. In considering these points, we must bear in mind that we are all nine months older than we are reputed to be; for life begins with *conception*, not with *birth*. Logically speaking, we should therefore begin by treating of the preservation of health during this prefatory period of life, but as in so doing we should be obliged to anticipate what must be said hereafter of the mother, in whom man first finds a home, we will waive that period, and observe, that if these points could be fully ascertained from the birth of man, their solution would furnish the necessary indications to increase or diminish the vital impulse first imparted to the child, to modify his constitution, or to set up barriers against impending disease. Medical science, it is true, cannot at present fully satisfy all these inquiries, but those sincerely desirous of knowing how best to foster the perilous years of childhood, may derive many valuable suggestions from it; suggestions which, if acted upon, would doubtless much increase the health and happiness of mankind.

I. The degree of vital intensity may be surmised from many things. In harmony is strength, and an harmonious proportion of limbs and body promises well. The intensity of the infant's cry is another sign of strength; so is the early lifting of the head, the straightening of the back, the avidity for the breast, and the degree of strength with which it sucks.

II. The constitution of the new-born babe may be inferred from its likeness to one or the other of its parents or the manner in which the prominent features of both are blended. It is indeed singular how strong a likeness may frequently be traced between children just born and one of their parents,

a likeness sometimes pleasing, at others approaching towards a caricature. This likeness, generally speaking, becomes greatly diminished when the infant's skin has been filled out by a few weeks of healthy nursing.

III. The complaints to which, in all probability, a new-born babe will hereafter be most liable, can only be learned from a knowledge of its parent's constitution, and of the complaints by which they and their ancestors have been afflicted; for as features, tones of voice, mental and moral peculiarities, are transmitted from parent to child, so may certain complaints be likewise transmitted, such as small-pox, &c., &c.; and it more frequently occurs that they may imbibe the aptitude to be afflicted with disorders occurring at certain periods of life, such as consumption, gout, &c.

Every reader will doubtless feel the extreme importance of hereditary tendencies, and must own how intimate is our dependence upon those who gave us life. How much cause, then, have some to bless the memory of their parents, while others cannot without anguish think of the tenure upon which they hold a life they did not covet! If we glance at this bitter theme it is because the knowledge of medicine convinces us that a more scrupulous attention to the rules of hygiene, as advocated in this volume, must tend to improve the condition of the human race, and diminish the number of hereditary complaints entailed by thoughtless parents on their offspring. But we shall return to this subject when treating of marriage, and the rules which should govern that important step.

Threescore years and ten does the Psalmist tell us is the ordinary duration of the life of man; and whatever may be the strength of an infant's constitution, or the complaints which may assail it at certain epochs of his life, he may live until that period, or even beyond it; but his existence may be imbittered by injudicious management, or be made happy

by the reverse. How important, then, are the rules on which depend the enjoyment of health! and when we say health, we take the term in its most comprehensive sense, indicating soundness of mind and of moral principle, as well as that of body. These rules, admitted by all to exist, necessarily vary according to each period of life; for the stream does not flow on in uninterrupted tranquillity from the cradle to the grave. At first shoals and rapids continually obstruct its course, and its banks are strewn with wrecks: it then, for awhile, moves on with unruffled surface, until again and again it is intersected by points which it is dangerous to pass.

To drop metaphor—Life is beset with critical epochs: first and second dentition, puberty, adolescence; and in women, marriage, child-bearing, and its consequences. These critical epochs are sometimes fatal to life; at others they exercise a prejudicial effect on the subsequent health, or again, on the contrary, they often strengthen the constitution, and terminate complaints hitherto deemed incurable. Another point is, that the importance of these critical epochs decreases as we meet them on descending the stream of life from infancy to old age; for the importance of an epoch is tested by its dangers, and these may be safely estimated by the amount of disease which it determines. For instance, the influence of the "change of life," over the subsequent portion of woman's career, is less than that of puberty; and that of puberty is less than that of first dentition.

Thus we are led to the conclusion, that the most important periods of life, those over which we have the least control, are endowed with the greatest intensity of vital power; for what critical epoch of life can be compared to the time preceding birth, when the activity of life in the embryo is more like a creation than the maintenance of what is living? How much superior is the intensity of life in infancy to that

of any subsequent period! an intensity indicated by the circulation of the blood being about double in quickness to that of an adult, by the rapid approaches to death's door, and the miraculous recoveries which so frequently occur at that period of life. As we continue to live, every successive epoch is marked by a diminution of vital energy, until it becomes so impaired by increasing infirmities and old age, that there is not sufficient strength left to move the body, or to perform its most ordinary functions. Life, then, becomes gradually extinguished without a struggle.

In seeking to explain the rules by which health may be preserved at the various periods of life, we shall follow the example of many illustrious philosophers and medical men of both former and modern times, and divide the career of man into septenniads or periods of 7 years; for the 7th year, and the vicinity of each multiple of seven, is characterized by some great change in the human constitution. Thus the 7th year is that of second dentition, and the common belief fixes at that age the distinct perception of right and wrong.

At 1 × 7 = 7, Infancy and Childhood.
2 × 7 = 14, Puberty.
3 × 7 = 21, Adolescence and full height.
4 × 7 = 28, The full proportion of body.
5 × 7 = 35, The greatest intensity of human power.
6 × 7 = 42, The meridian of life.
7 × 7 = 49, Physical decline. The physical strength has been ebbing since 42, and the decrease of reproductive power in women.
8 × 7 = 56, Greatest mental vigour.
9 × 7 = 63, The Grand Climacteric of the ancients.
10 × 7 = 70, Mental energy fails, and signs of dissolution are every where to be detected.

CHAPTER II.

INFANCY—0 to 3 Years.

The numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Fem.
761	788	239	212	23·904	21·245	5·976	5·311

Thus, out of 1000 *male children born alive,* 761 *completed their third year; the remaining* 239 *died during the period comprised between birth and the end of the third year. The mortality for that period was* 23·904. *The annual mortality was* 5.976 *per cent.*

We have already stated that, because the most fatal, this is the most important period of human life. While still retained within his mother's womb—provided both are in health—nothing interferes with the development of the child, according to the plan laid down by nature; but on coming into the world he is forthwith given up to the prejudices every where to be encountered, whether amongst barbarous tribes or our own civilized community; he has to battle against adverse circumstances, to be expected in the natural course of things, as well as against those of man's creation, which it shall be our task to contend against.

By common consent the management of the first seven

years of human life is confided to women, for reasons obvious to all, and which will frequently, as we proceed, force themselves upon our consideration; and, as by the language of most nations, this period has been divided into infancy and childhood, we shall follow this division, premising that, although they are distinguished by different habits, different complaints, and have a different mortality, still no distinct boundary of separation exists between one and the other of these epochs, that one in fact insensibly merges into the other.

INFANCY.

Like the first uncertain rosy dawn of day, whose future may be beset with storms—like early Spring putting forth her buds of hope, so many to be blighted—such is infancy, with its weakness, its dangers, and its bright promises of great events. As the term itself indicates, infancy is that period when the child cannot *speak*, and when it can only show its feelings, its wants, and its passions, by cries and inarticulate sounds, similar to those of the brute creation.

The first weeks of infancy may be considered a state of transition, for the babe takes no notice of surrounding objects: his eyes, when open, are without expression, and when well, he only wakes out of sleep to cry for food, or for a change of position or of clothing.

There is an uncouth animal called the kangaroo, provided by nature with a pouch, into which its young can retreat and nestle whenever they are startled by noise. Man so far imitates this special provision of nature. He protects his young by placing them in circumstances resembling, as far as possible, those in which they were placed in the maternal womb. By blankets and warm clothing he maintains the infant in a continued equable temperature, the mother's milk affords an ever-ready supply of the same food at the

same temperature, and a dark or a subdued light invites him to sleep as much and as uninterruptedly as possible.

From the first we recognise in man an intelligent or moral and physical being, and whatever may be the period of life under consideration, we shall class our remarks under this order.

PHYSICAL DEVELOPMENT.

This development will be insured by sleep, by food, by raiment, and by exercise—to each of which important subjects we shall give a separate consideration.

SLEEP.—Philosophers, physicians, and poets have attempted, each in their way, to fathom the meaning of this familiar phenomenon. Philosophers have in vain sought to discover its nature. More modest in their endeavours, physiologists have attempted to ascertain the physiological conditions of the brain which produce sleep, but have not succeeded. Poets have truthfully described its effects and utility.

Sleep is not the repose of man's spiritual essence, for in many the mind, although *differently* excited, is never so active as in sleep. The body may assume the stillness of death, while the mind is wakeful, but wakeful only to its peculiar stimulus. Sir Edward Codrington, when a young officer at Toulon, was so anxious to distinguish himself, that he passed the greater part of the twenty-four hours on deck watching for signals to give intelligence of the movements of the French vessels, and when he did retire to his cabin he sank into a dead sleep, from which the loudest noises could not awake him; but if the word "signal" was but whispered in his cabin, he started up directly. Those whose practice renders them liable to be often called up at night, awake at the slightest trembling of the night bell, unheard by the other inmates of the house; and does not

the mother awake at the low wailing of her child? The soul cannot sleep; otherwise it would not be able to wake up the body punctually at a certain predetermined hour, as it has often occurred to ourselves as well as to many others. To do this, something must mount guard within us, and measure the march of time to rouse us at the remembered hour.

Sleep is not peculiar to man: it stands as an antagonist to the activity of the whole body, wherever we find a nervous system, although the vital activity of the brain is probably never so great as during sleep, for it is then that the repair of the brain itself takes place. Sleep is a state of repose, more or less profound, of that portion of the nervous system which animates most of the muscles, and manifests the agency of the soul. To use Shakspeare's words, "sleep is the balm of hurt minds:" it is also "great nature's second course;" or, in Biblical language, it is an act of that "spiritus qui vegetat carnem," during which the nervous system carries on nutrition in every part of the body, and endows it with increased energy. We know not whether sleep is a passive state resulting from the exhaustion of the cerebro-spinal nervous system, or whether, on the contrary, it is an active state, and one of the functions of the brain. Despite the bold assumptions of phrenologists, who map out the surface of the brain with a confidence more deserving of surprise than of imitation, profound anatomists own that as yet they know little of the functions of its surface, still less respecting the functions of its central portions; and it may perhaps be one of the offices of this organ to induce that sleep by which alone the wear and tear of life can be repaired. We may observe that sleep is often proportioned to the derangement of the system; for many children and adults are like animals who, when attacked by fever, sleep on uninterruptedly.

The amount of time devoted to sleep, and the intensity of this phenomenon, is in exact proportion with the activity of the nutritive functions. When, in the mother's womb, the embryo's activity was bent upon building up its body; its sleep was then only interrupted by short intermissions of muscular activity. During this sleep of the first epoch of life, the work of creation, begun in the womb, continues, so that the body expands, the tissues swell out, and the nervous system prepares for action. The importance of sleep, during the first weeks of infancy, shows how wrong it is to let it be interfered with under any pretence, either to satisfy the desire of the mother or the nurse to play with the child, or to gratify the indiscreet curiosity of relatives or friends.

It seems natural that the child should sleep beside his mother, and if it does not interfere with the rest of either, this plan might be allowed; but we should certainly object to the infant sleeping in the same bed with his hired nurse, who cannot have, as his mother, wakeful feelings.

Wishing to ascertain how many infants had been overlaid during the space of the last year, we made inquiry at the office of the Registrar-General, and we ascertained that in the year ending with the last winter quarter, 129 infants had been returned as *overlaid*, or suffocated in their nurse's bedclothes. Amongst the lower orders this occurrence generally took place on Saturday night, and may doubtless be attributed to the state of intoxication in which one or both parents may have been—a fact which was proved from some of the cases by a coroner's inquest.

When we consider this alarming amount of mortality from the mere fact of the child sleeping with his mother—for doubtless, besides the 129 infants reported dead from this cause, in many other cases it was not admitted—we cannot, with Dr. Combe, recommend that the child should

always sleep with his mother; but rather that he should have his own cot or cradle. Should a mother adopt this plan, she should not only insist upon the child being put into it, but sometimes herself get up at night to see that her instructions are attended to, for it is a great temptation for a nurse, especially during the cold winter nights, to place the child in her own bed, to prevent her being obliged to get up to attend to his wants. As the chief object is to prevent the child rolling out, it is of little consequence of what the cot or cradle is made; but as his mattress must inevitably be soon soiled, if not completely saturated, and as however carefully it may be aired or dried, the feathers or wool will retain so offensive a smell that, to keep the child in health, it must be constantly renewed, it would be better—if economy is an object—to make the mattress of some material so cheap that it may be changed weekly at least. Fine chopped hay, or the leaves of fern, the aromatic smell of which would be rather an advantage than an objection, would answer the purpose.

The covering should be sufficient to keep the child warm, but not enough to promote habitual perspiration, for this would weaken him and dispose his skin to break out in cutaneous eruptions.

Rocking is a dangerous practice. Any child can be accustomed to sleep on merely being put into his cradle. Rocking, therefore, should only be resorted to when the child is sick, to secure sleep as a respite from suffering.

From not attending to the true cause of restlessness, remarks Dr. Combe, and regarding it merely as a state troublesome to all parties, many mothers and nurses are in the habit of resorting immediately to laudanum, sedative drops, poppy-syrup, spirits, and other means of forcing sleep, without regard to their effects on the system; and are quite satisfied if they succeed in inducing the appearance of slumber,

no matter whether the reality be sleep, stupor, or apoplectic oppression. The mischief done in this way is inconceivably great; and in the Reports on the Health of Towns recently laid before Parliament, as well as in the Registrar's Returns of Births, Marriages, and Deaths in England, we find ample evidence that the enormous quantities of quack "cordials," "anodynes," and even spirits, recklessly given with the view of producing quiet and sleep, are the cause of many deaths.

Not to mention the thousands of cases in which health is injured by the injudicious use of medicines in infancy, it appears, from a late return, printed by order of the House of Commons, of all inquests held in England and Wales in 1837 and 1838, in cases of death from poison, that 72, or nearly one-seventh of the whole number, resulted from the carelessness of mothers and nurses in administering medicines with the properties of which they were not acquainted, in doses far beyond those in which they are ever prescribed by medical men. The return shows, for example, that the deaths of very young children (most of them at the breast,) from opium or its preparations, were 52; and from opium or laudanum, given by mistake for other medicine, 20 more. Mr. Browne, the coroner for Nottingham, adds, that a celebrated quack "cordial," for children, destroys great numbers yearly in that borough, but, as they die off gradually, the cases do not come under his official notice.

We have attempted to ascertain the amount of stamps taken out at the Stamp Office by the proprietors of certain favourite quack medicines, so as to be able to estimate thereby the amount of mischief done to infant life by the pernicious habit of giving opium to children; but our attempts have been fruitless, for Government is too conscientious to betray the secrets of those to whom it sells the privilege of poisoning the public by quack medicines. What

does Her Majesty's Government care about the welfare of those it is paid to govern, or about the poisoning of children, provided it can get from 30,000*l.* to 40,000*l.* per annum from a duty on quack medicines?

When, after the first few months, the child is awake the greater part of the day, his second sleep should be regularly timed, for the little one should early learn lessons of regularity. No tears, nor crying fits of passion should in the least interfere with this rule. Such conduct should be met on the part of the nurse by a silent, solemn gravity of face, or by quiet, serious scolding, the import of which the child soon understands. This custom of a second sleep should always be prolonged until the end of infancy, or even longer, should the child be sickly.

Thus we do not agree with Drs. Combe and Donné as to the urgency of preventing the child sleeping in the middle of the day. Dr. Donné, for instance, advises the habit to be discontinued after the fifteenth month. Our experience, on the contrary, teaches us that it had better be continued until the third year; and when we consider the incessant activity of the infant after it can once walk, and the intense state of nervous excitement in which he lives, we can understand how invigorating it is for him on returning from his walk to lie down for an hour or two in a darkened room, with but little covering over him. We have successively tried both plans on the same children, and found them thrive better when allowed to lie down for an hour or so, even if they do not sleep.

With regard to the child's condition during sleep, it has been truly said that "if an infant is buried under a mass of bed-clothes when asleep, and dressed in the ordinary way when awake, the very transition is apt to be hurtful. Consistency in this respect is as material as in every other. We have seen mothers guard carefully against too much wrap-

ping up by day, who, nevertheless acted at night as if the health and comfort of the infant depended entirely on the quantity of blankets which it could sustain without being smothered. And yet, considering that three parts out of four of infant life are spent in sleep, nothing can be more preposterous than thus to counteract with one hand the good done by the other.

"In arranging night coverings, the soft feather-bed is very often estimated as nothing; or, in other words, the same provision of blankets is considered equally indispensable, whether we lie upon a hard mattress, or immersed in down. It is from this confusion that the common mistake above alluded to takes its rise. The mother, looking only to the coverings laid over the child, forgets those on which it lies, although, in reality, the latter may be the warmer of the two. An infant deposited in a downy bed has at least two-thirds of its body in contact with the feathers, and may thus be perspiring at every pore, when, from its having only a single covering thrown over it, the mother may imagine it to be enjoying the restorative influence of agreeable slumber. In hot weather much mischief might be done by an oversight of this kind."

There should be no light left in the child's room, except in case of illness, and he should be accustomed to go to sleep alone and in the dark, so as not to be afraid of the dark, and to thus strengthen the nervous system, by making a fearless child. He may well begin his apprenticeship of darkness, for in whatever order of things he may be destined to progress, he will have enough of it to encounter in after-life; and as for his being left alone, let him learn that it is the price of his independence. Who knows but that in desolating loneliness he may have to pass through the wilderness of life! Thus our countrywomen may imitate those of Sparta, who, says Plutarch, "were so careful and expert

that, without swaddling-bands, their children were all straight and well-proportioned; and who brought them up not to be afraid in the dark, or of being alone, and never indulged them in crying, fretfulness, and ill-humour; upon which account Spartan nurses were often bought by people of other countries."

Sleeplessness in an infant is a bad symptom, quite sufficient to call for medical advice. It is a sure sign that something is wrong in the system. It may depend upon an affection of the stomach or of the brain, and no time should be lost in obtaining advice; for the mother should always bear in mind that in infancy vital actions proceed so rapidly that one moment's delay may prevent the possibility of curing what medicine might otherwise successfully check. A warm bath at night, a little castor oil, having the child pass more time in the open air, are means that a mother may safely make use of to induce sleep in an infant; but she must never forget that opiates without medical advice are downright poison. How many children sleep the sleep of death through the undue administration of Dalby's Carminative, and other nostrums! and it requires a mother's greatest vigilance to prevent such weapons being introduced into the nursery, for a nurse, however otherwise excellent, is apt to prefer the comfort of uninterrupted slumber to the performance of her duty in studying the welfare of the child committed to her care. It is right, however, to observe, that in some rare instances sleeplessness may be protracted day and night for weeks and months, without its being possible to explain it by any apparent complaint, and the infant may still live to be strong and healthy.

Sleeplessness never fails to be noticed by nurses, but they are too apt to overlook what is as dangerous, if not more so —a state of drowsiness, or a tendency to too much sleep.

Dr. Donné has shown that this sometimes depends on the milk being either too nutritious or too poor for the infant, and has ascertained one or the other opposite conditions of the milk, in many cases where there was no other way of accounting for the drowsiness of the child. Drowsiness is one of the first signs of many cerebral disorders, a fact in itself sufficient to awaken the reasonable watchfulness of a mother.

Sleep has not detained us long, because it is a phenomenon of Nature's providing, the result of the proper action of the infant's own organization, and but little under the control of man, whereas the next subject for our consideration—the food of the infant—being derived from external sources, and therefore capable of being adulterated in a variety of ways, deserves our more serious attention.

Food.—Before inquiring into the nature of the food best suited to the infant, some notions relative to the physiology of food are indispensable.

Every action of the living body is attended with a waste of its substance; and the consequent daily wear and tear requires a considerable amount of material to restore the loss, and to maintain the integrity of the whole. Moreover, an equable and—compared with the mean of our climate—a somewhat high temperature must of necessity be maintained, for the functions of life to proceed healthily. Hence, the quantity of food taken, and its nature, must be such as is adapted to subserve the two great purposes indicated. This is so true, that while the inhabitants of the desert live on a few dates or beans, the sailors in arctic regions consume from ten to twelve pounds of fat and meat per day; and when Sir James Ross wanted a man for some difficult enterprise, he did not seek for the strongest man, but for the greatest eater.

By a rigorous analysis of every article employed as hu-

man food, chemists have shown that they consist of two classes of principles, which are distinguished by the presence or absence of a certain element, designated nitrogen, a gas-like air, of which it is one of the components.

1. *Nitrogenous aliments* are those of which the substance of the body is composed and principally built up.

2. *Non-nitrogenous*, are those which undergo a process in the system exactly analogous to combustion, and thus maintain that genial warmth called animal heat.

Besides these, there is a third class of substances, equally indispensable, namely salts: some of these in considerable quantities, as common table salt; others not less important are provided by nature, and taken unconsciously in every article of food.

In most substances employed as food, both nitrogenous and non-nitrogenous principles are found in combination, though in various proportions. Thus animal food of all kinds consists chiefly of the former, with the exception of fat, which consists entirely of the latter.

In most vegetable substances the non-nitrogenous principles predominate, whilst some contain *no* nitrogen.

Thus pure starches, such as arrow-root, tous-les-mois, tapioca, are wholly non-nitrogenous; they therefore supply no nourishment, properly so called, but simply subserve the purpose of maintaining the animal heat. Wheat, oats, barley, Indian corn and rice, contain nitrogenous matter in various proportions; wheat the most, then oats, and the rest in the order in which they are enumerated.

Beans, lentils, peas, and the whole class of leguminous seeds, contain indeed a comparatively large amount of nitrogen, but combined with sulphur and woody fibre, which render them less suitable for food.

It must be borne in mind, that the nitrogenous principles of food are those from which *flesh* and *blood* are made—the

non-nitrogenous are the fuel, which maintains the vital lamp. In proportion to the waste of the tissues, are the former required; in proportion to the expenditure of heat, the latter. And here we may notice a beautiful provision of nature for maintaining the genial warmth of the body without variation. The non-nitrogenous principles of food, *i. e.*, the amylaceous or starchy matters, including sugars, are converted into fat in the system, in which state they act as fuel, or undergo combustion. Fat subserves two or three uses. Stored up as a reservoir of fuel, to be used continually, whereas the matters of which it is composed can only be taken at intervals, it gives in the mean time beauty of form and rotundity to the external surface, and ready mobility to the internal organization. These established facts being premised, we may now apply them to the question—What is the most suitable food for infants?

So long as the infant sojourned in the womb, he received his mother's blood, and even after the little one begins an independent life, the blood, by an admirable provision of nature, ebbs strongly towards the maternal breast, where it forms milk, of which there are ever two fountains to satisfy a child's first wants. Milk, either alone or combined with other food, is the great aliment of infancy: let us therefore first inquire what it is? Milk is a kind of white blood, for when examined with a microscope both fluids present globules, swimming in serum which holds in solution nitrogenized substances. If chemically tested, both fluids present various salts, and especially phosphates. If fibrin and albumen are found in the blood, casein or fibrin, under a different molecular arrangement, is likewise found in the milk; casein itself has even been detected in the blood of some animals. Fatty substances, which are so abundant in milk, are also found in blood: so that however different these two fluids may appear, there is between them a great affinity

of composition; and if it requires so little effort on the part of Nature to convert blood into milk, the converse is equally true, so that milk is the substance most easily made flesh, and the type of perfect food, as it was truly termed by the late Dr. Prout.

To complete this general idea of the nature of milk, it must be mentioned that its component parts vary in different animals. For instance, in the milk of woman there is more sugar and fatty substance; in that of the cow more casein; besides other differences, which escape chemical analysis or the microscope, but which are detected by the taste and smell.

That each variety of the animal creation should give its own milk to its offspring is evidently the intention of the Creator, and, as a general rule, there is no reason why woman should infringe this law; health indeed permitting, it is doubtless as serviceable to the mother as to the child, for it is reasonable to believe that by some of its intangible properties the mother's milk is peculiarly adapted to the constitution of her own child. This belief is warranted by a fact which has been sometimes observed, that women may rear strong children when nursing their own offspring, while the healthy child given them to wet-nurse pines and grows thin. As a case in point Soemmering relates that the milk of a woman which agreed very well with her own children, caused convulsions to others who partook of it. That there is in reality a great difference in the milk of different women, is readily shown by means of our instruments; a difference not only in appearance, in the proportion of its constituents, but doubtless in other respects, which may escape our investigation, but are essential to its composition and its influence on the child. Another reason for maternal nursing is, that by an admirable adaptation of means to an end the milk varies according to the

period of lactation, and doubtless according to the ever-changing requirements of the infant's constitution. Thus, it is at first a watery fluid, rendered yellow by being mixed more or less with a viscid yellow secretion of the mammary glands, and which is called colostrum. This, generally speaking, would alone be quite sufficient, without castor-oil, to remove the contents from the intestines of the child. The proportion of colostrum soon diminishes, the milk presents more and more the character we have indicated, and towards the end of the first month it is perfectly constituted.

If the researches of Parmentier and Deyeux are still to be credited, the quantity of casein increases as lactation is prolonged, as if to furnish the child with a greater proportion of what he then most wants. Thus, the milk being different according to the age of the child, what is called "*the age of the milk*" must always be taken into consideration when a nurse is to be chosen.

Such are the reasons for a mother nursing her own child, in order to give the infant the greatest chance of being endued with the best possible constitution; and if it were not here somewhat out of place we would add other reasons, connected also with the maintenance of the mother's health. One of the principal is, that as nursing, generally speaking, prevents conception up to the tenth month, so it prevents the ruin of the mother's constitution by the too rapid bringing forth of children, and, we might even add, prevents a deterioration of the race, by the imperfect bringing up of this too-fast-got family. Those who without reason refuse to nurse their children, should remember that they are answerable for the increase of mortality they determine amongst the poor, by depriving the child of almost every wet-nurse, both of maternal milk and maternal care. Benoiston de Chateauneuf found that in Paris there died,

during the first year, 18 out of 100 children suckled by their own mothers; whereas, there died in the same time 29 out of every 100 suckled by strangers.

In Iceland, where the mortality amongst children during the first year of life is very great, it seems to depend not only on the impure atmosphere in which they live, but also, if we are correctly informed, on a custom peculiar to the island, which permits no mother to suckle her own child.

But while advocating maternal nursing, we must not forget that woman is not now the Eve of a primeval world; that human nature, wherever it is now met, in barbarous tribes or in civilized communities, is frequently so deteriorated, so diseased, or prone to disease, that, by nursing, a mother may sometimes undermine her own frail constitution for the sake of giving an imperfect sustenance, and perhaps a poisonous heritage, to her babe.

When, then, should a mother be prevented nursing? To answer this important question by saying, "whenever nursing may endanger the mother's or the child's health," would be too general to be of much use. The question should always be referred to the medical adviser; but, as a knowledge of some of the reasons prohibiting nursing will often enable the parent to give more perfect information to the medical attendant, and convince the parent of the danger of following the promptings of family pride, in the concealment of what it is necessary, for the welfare of the family, that the medical friend should know, we shall give the question a more careful reply.

In the first place, there are mothers who cannot nurse. We are acquainted with a family, in which three sisters, in every respect strong and healthy, and with an ordinary development of breasts, have repeatedly tried to nurse at every new birth, without ever having been able to succeed in what was most anxiously wished for by all of them. The little

milk that did come was quite insufficient, and soon disappeared. Such persons should not continue the attempt.

Again, when women are very nervous, hysterical, particularly if there be any family tendency to mental derangement, they should not nurse, because, generally speaking, such mothers have little milk; and if they have sufficient for the infant, it may, under many influences, do mischief. For if by medicines, mercury for instance, we are able so to modify the milk that it cures the child and still presents no trace of the medicine given to the mother, we are likewise led to admit that certain disordered conditions of the mother's system, and certain violent perturbations of mind, may likewise have a positive, although an intangible, influence on the milk. Numerous indeed are the cases which have been recorded of convulsions, or of the sudden death of children, from taking the breast of women while they were under the immediate shock of fright, anger, or under nervous attacks. Parmentier and Deyeux relate the instance of a woman whose milk, in the space of two hours, was changed into a transparent viscid substance, like the white of egg, in consequence of a violent hysterical attack. This visible effect permits our belief that, under such influences, the milk cannot be otherwise than injurious to the child.

Dr. Von Ammon relates a frightful instance of the death of a child in consequence of maternal terror. "A carpenter fell into a quarrel with a soldier billeted in his house, and was set upon by the latter with his drawn sword. The wife of the carpenter at first trembled from fear and terror, and then suddenly threw herself furiously between the combatants, wrested the sword from the soldier's hand, broke it in pieces, and threw it away. During the tumult some neighbours came in and separated the men. While in this state of strong excitement, the mother took up her child from the cradle, where it lay playing, and in the most

perfect health, never having had a moment's illness; she gave it the breast, and in so doing sealed its fate. In a few minutes the infant left off sucking, became restless, panted, and *sank dead on his mother's bosom.* The physician, who was instantly called in, found the child lying in the cradle as if asleep: but all his endeavours were fruitless; he was irrecoverably gone."

Dr. Bouchat mentions having attended a lady who was always excited by a highly electrical state of the atmosphere, particularly by stormy weather; and if, when so influenced, she gave the breast to her child, he was sure to fall into convulsions, but if she waited until this nervous excitement had passed, no unpleasant symptoms occurred. It would be well for mothers to bear this in mind, and when they have been strongly affected by any powerful emotion, they should forbear giving the breast to the child until they have calmed down to the usual tenor of their temper.

When the mother is actually affected with chronic disease, with cutaneous eruptions of long standing, with scrofula, consumption, cancer, syphilis, or even when she has an hereditary tendency to these complaints, she should let her medical attendant be informed of the fact; for, with rare exceptions, nursing should in such cases be prohibited. Dr. Dubreuil, of Bordeaux, has found that, in 13 cases of consumption, all efforts to suckle were equally fatal to the mother and child. Without meaning to foster the popular belief that the seeds of every disease are contained in the blood and in the milk, this is the case with some; and the ignorance in which medicine has, up to this present time, left us regarding the modes of transmission of most disorders, necessitates the utmost prudence, and instead of feeding children with milk that may perhaps be contaminated, we ought, on the contrary, to seek to counteract

any hereditary tendency, by giving them the milk of the healthiest nurse that can be found. Besides these constitutional disorders, there are various affections of the breasts themselves, which may prevent lactation, or may cause it to be soon interrupted. The nipple may be absent, or it may be so imperfectly formed as not to permit the child to suck. In another part of the work we shall show how this should have been prevented, by judicious management during the last months of pregnancy. We merely here allude to the circumstance, as well as to those other cases where the nipple has so inveterate a tendency to ulcerate that lactation must be abandoned.

It has been shown by Dr. Donné that, when the breasts become inflamed, colostrum instead of milk is again secreted in the vessels; and that when an abscess has formed, either in the gland itself or in the cellular tissue underneath it, the milk contains pus, globules of which are easily recognised by their broken edges.

These are the principal reasons why a mother should not be allowed the pleasing task of nourishing her own offspring. As the next best alternative for rearing the child, another mother, usually termed a wet-nurse, must be provided; but how is she to be chosen, and in what must her qualities consist? for it stands to reason that, as frequent changes are bad for the child, it is well, if possible, to obtain a nurse suitable in the first instance. Those even who reside in town had better seek a wet-nurse from the country, not only because the circumstances of a country life are more conducive to health, but because, in a small place, every thing is known of every body, and it is therefore easier to obtain a nurse whose antecedents of health and morals are known to have been good. She should be of a temperament in which the sanguine predominates, with brown or dark hair rather than flaxen or red; for though women of a

lymphatic temperament, with red or flaxen hair, are said to have an abundance of milk, it is thought to be less rich in nutritive materials, and, as far as our own experience goes, such women are more liable to inflammation of the breasts. Except, therefore, under peculiar circumstances, the latter should not be accepted.

Besides the appearance of good health, further confirmation may be derived from the nurse having good strong teeth of a yellowish-white colour, and set in red firm gums. The best age is from 21 to 35, and it is well that the nurse should have had two or three children of her own; for then not only is her milk better than after a first confinement, but she is thereby more conversant with the management of children.

The nurse should have been confined about the same time as the mother whose duty she is about to undertake, or, at all events, there should not be many weeks' difference, for neither the microscope nor chemical analysis show that there is any truth in the popular prejudice that a new nursling freshens the milk; and if the breasts of the nurse seem to increase in size during the few days which follow their being given to a new child, it seems to depend merely on the second child consuming less, or not being permitted to consume so much milk as the first, an artifice which we cannot wonder at a poor woman adopting, to set off her qualifications to the best advantage. It is scarcely necessary to add that all other perfections in a nurse would be of little avail if she were not blessed with an open, frank, lively disposition, in order that she may awaken a similar tendency in the child, and know best how to support and soothe his sufferings during the long hours of sickness.

Before being engaged, the nurse will, of course, be subjected to the approval of the medical attendant, who, in addition to the preceding characters of a good nurse, will like-

wise ascertain whether the breasts are firm and well-proportioned, with veins meandering in blue lines on their surface. He will also not neglect to examine the milk with the microscope, for if, on repeated examinations, it appears semi-transparent, and contains but few of the globules usually found in good milk, the nurse should not be accepted. To conclude this elaborate search after a nurse, as practical experience is always better than scientific indications, the wet-nurse should have a healthy child *of her own* to show, as the best proof of what she can do. We are obliged to lay some stress upon the word *own*, for we know of nurses who for a few hours have borrowed a fine sample of a baby, and thus, sailing under false colours, have reached a good port.

Having provided a plentiful supply of the food most suited to the infant's constitution, we must next inquire how it is to be apportioned to its wants.

So soon as the parent and child are sufficiently recovered from the first shock of the perilous event of childbirth, it should be given the breast. This is advantageous to the mother in assisting the natural tendency of the blood to the breasts; and, by re-acting on the womb, causes it to continue to contract, and to close the vessels from which blood still flows, as well as to eject what is retained in the womb. It is advantageous to the child to take the colostrum with which the breasts are then filled, and which, in the majority of cases, is quite sufficient to expel the contents of the intestines. If medical men in general give castor-oil, it is because they know that it can do no harm to the child, whereas they might do themselves some injury by neglecting what is thought so very important by nurses and relations. Another advantage of putting the child soon to the breast is that too great distention is thereby prevented, which, if not attended to, sometimes prevents the child from suckling, and it is at all events inconvenient to the

mother. During the first few weeks the breast may be given to the infant whenever he calls for it, except at night, which would interfere with the mother's health, and, therefore, injure the supply of food on which depends the infant's sustenance. Thus, the child should be satisfied the last thing at night, between 10 and 11 o'clock, and not brought to the mother until 7 or 8 on the following morning, and it would be well, when possible, to let the child and nurse sleep in an adjoining room to the mother, so that her strength may be recruited by undisturbed rest.

As the child wants food at night, the nurse must give him some sweetened milk and water. Following this plan from the first would be a great preventive of evil: if even the mother has been uselessly teased by the adoption of a different course, the child might soon be accustomed to a better system.

When, without being tongue-tied, or ill, the child will not take the breast, the cause must be sought either in overfeeding, or in one of the many bad practices which nurses adopt, as in the following instance which lately occurred in our own practice.

A strong and healthy infant, on being put to the breast, constantly set up screaming, could scarcely ever be coaxed to suck, and would fight with his little arms till he was removed. In all other respects the child was in good health, and so was his mother. Thinking that hunger might compel him to take the breast, we told the nurse to leave the child without other food. Whether the plan was fairly tried, we much doubt; but we were told that it only made the child cry all day without effecting the desired object.

Soon after this, we were asked by his mother, a young and inexperienced lady, whether it was necessary that the child should be day and night permitted to suck a bag of

muslin filled with sponge-cake. On our answering in the negative, she insisted on the bag being removed. The child passed the first two nights in screaming, the third he slept well, and ever since he has taken the breast like any other infant. In fact, the child being allowed to suck all day long, found no pleasure in being put to the breast, and had no relish for the milk after the sweetness of the sponge-cake. The nurse said, of course, that she derived this plan of bringing up infants from two eminent physicians, adding that there was no accounting for the disagreement of opinion amongst doctors.

After the first few weeks the infant must be taught a little regularity in his proceedings by being given the breast at stated times. This will doubtless give rise to some crying, perhaps even to the first exhibition of human passion, at finding that there are obstacles to his will; but a mother must know how to resist if she wishes to perform her duty. Having ascertained that there is nothing wrong about the child, no unguarded pin to hurt him; and being satisfied that his crying proceeds merely from passion, she should put him down and let him cry. A mother will find it doubly difficult to conquer a child by whom she has herself once been conquered, whereas, if thus tutored, the child will soon fall into the right course, give no trouble to those about him, and, what is still more, his nervous system will acquire a healthy mode of action; for all those frantic passions in young children, which are truly the result of bad management, must tell upon the diffluent pulp of the unformed brain, and are doubtless the cause of many of those cerebral disorders so frequently met with at that tender age.

We are touching upon a subject to be hereafter considered, but we cannot leave it without adding that, in one of the last weekly returns of mortality, a child of thirteen months old

was reported to have died of a fit of anger; and doubtless this contributes to the death of many others.

It is difficult to make a young, inexperienced mother understand that the crying of a child does not always indicate that it is suffering; much less hungry: and it has been truly said that "it is a great mistake to treat crying as an infallible sign of an empty stomach. New as the infant is to the surrounding world, he shrinks instinctively from every strong sensation, whether of heat or of cold, of pressure or of hardness, of hunger or of repletion. His only way of expressing *all* disagreeable feelings is by crying. If he is hungry, he cries; if he is over-fed, he cries; if he suffers from the prick of a pin, he cries; if he lies too long in the same position, so as to cause undue pressure on any one part, he cries; if he is exposed to cold, or any part of his dress is too tight, or he is held in an awkward position, or is exposed to too bright a light or too loud a sound, he can indicate his discomfort only by his cries: and yet the one remedy used against so many different evils is not to find out and remove the true cause of offence, but to offer him the breast! No doubt silence is sometimes obtained by the apoplectic oppression of a stomach thus distended, but no sane being will seriously contend that such quiet is really beneficial, or is such as any mother ought to content herself with procuring.

"It is, indeed, no less a mistake to be over-anxious always to put an immediate stop to crying. To a considerable extent, crying is an intentional provision of nature, and is called into play by every new sensation of any force. It is only when often repeated, long-continued, and evidently caused by suffering, that it is detrimental."

If the mother be troubled by an excess of milk—if by overflowing it saturates her under-garments, the too abun-

dant supply may be moderated by taking cooling medicine, and by diminishing the quantity of drink.

Too long an interval must not be left between the periods of suckling the child; certainly not more than two or three hours; for the secretion of milk is one of the simplest of all secretions, and greatly influenced by the stimulus of the child's sucking; for less milk is secreted, and it is of a poorer quality, when the child is put to the breast at too long intervals.

Dr. Donné relates that he profited by this circumstance to prevent the milk of a lady, remarkable for good health, giving rise to continued intestinal derangement in her infant. He had remarked that the milk was extremely rich in fatty globules, so he advised the lady not to give the breast so often, which had the desired effect. It is also well to bear in mind that the milk first drawn is much poorer than what comes last, and that when two children are suckled by the same nurse the proverb is reversed, for the first served is the worst off. If we were guided by the laws of the creation, it would seem that the nurse's milk should be sufficient for the child until he is provided with teeth. It is so amongst animals, and it is not very uncommon amongst the poorer classes to give no food except the mother's milk until the child is twelve or even eighteen months old. The prevailing custom, however—a custom from which we see no reason to depart—sanctions giving to the infant a small quantity of arrow-root or gruel, two or three times a day, after the first months of lactation. If these additions to the child's food do harm, it is perhaps to be accounted for satisfactorily by taking into consideration how difficult it is to get even simple things prepared with cleanliness, and without permitting ourselves to be scared from our food by the hobgoblin insects depicted in the

"Lancet," and afterwards reproduced in "Punch," and with the firm conviction that, if the parent can digest oysters, the infant can do the like for microscopical animals, it is still fair to believe that adulterated arrow-root, or bread, mixed up with adulterated milk, sweetened with adulterated sugar, and seasoned with a dash of acidity, owing to the neglect of cleanliness on the part of the nurse, cannot be the very best food for infants, and helps to explain the frequency of their stomach disorders.

If we tolerate a small portion of vegetable food, to be increased as lactation proceeds, what are we to say of those mothers who, in our temperate climate, stuff healthy infants with gravy and meat, and the made-up dishes we ourselves feed upon? Surely they can never expect to rear their infants; or, if they do so, Providence has treated them much better than they deserve. Doubtless Esquimaux mothers thrust bits of fat and blubber into the mouth of their newborn babes; but in such a climate more fuel is necessary to sustain the vital heat, and the ladies alluded to comfort themselves by taking every day some ten or twelve pounds of putrid fish, and train-oil is their caudle. Beer, wine, spirits—given to infants! This is, indeed, too often done amongst the lower classes, and we are at a loss to understand or excuse such conduct, except in cases of sickness, when the uneducated are under the influences of prejudices so grotesque that if a parent were to try and cure his child by thrusting a red-hot poker down his throat, it would not be a matter of very great surprise—to a medical man, at least. To be tried by a court-martial, and shot within twenty-four hours, would be too lenient a punishment for those who give spirits to healthy children for the cruel amusement of seeing them intoxicated—at least, supposing the parents themselves not demented.

While strenuously advocating the use of the simplest

food during the period of infancy, we cannot help here giving utterance to a conviction that not enough is done to improve an infant's constitution by modifying the milk of his nurse. When the system is debilitated by some constitutional disease, we often cure the infant by giving the nurse medicine; and it has seemed to many that something similar might be done by regimen, when an infant, without being ill, is sickly. All that is attempted is to increase the quantity of the milk by giving the mother an increased supply of food, and an additional quantity of porter. But while the nurse takes sufficient support, she must be careful not to defeat, by over-feeding, her desire to obtain an abundant supply of milk.

"From reliance on their own mistaken fancies in preference to the dictates of enlightened experience, many mothers, in their very anxiety to keep up a copious secretion of milk, put an entire stop to it. Imagining that a rich diet must necessarily furnish the best supply, because it contains a greater quantity of the elementary materials from which milk is formed, they live so fully as to induce an inflammatory state of the system, which is highly adverse to this in common with all other secretions. This latter fact is familiarly exemplified in the scantiness and high colour of the urine, and constipation of the bowels, which so usually attend the commencement of feverish and inflammatory attacks. And in strict accordance with it, when the excess of food is really digested, a degree of excitement in the system is generally induced, the most frequent result of which is either a partial or total suppression of the milk. Occasionally, however, the tone of the stomach gives way, and the milk then becomes impaired in quantity and quality under the influence of the accompanying indigestion."

"If any mother," judiciously observes Dr. Combe, "should still remain unconvinced of the propriety of adhering to a

simple and unstimulating diet while acting as nurse, we would earnestly direct her attention to the unquestionable fact, that the best and healthiest nurses are to be found among women belonging to the agricultural population, who, although actively employed, and much in the open air, scarcely ever taste solid animal food, or fomented liquors of any kind, but live principally on soups, tea, and vegetable and farinaceous food. Among mothers so circumstanced, it is rare to meet with one who experiences any difficulty in nursing her child, and many of them have milk enough for a second infant. This result is of itself sufficient to prove that the best supply of healthy milk is to be derived, not from a concentrated and highly nutritious diet, but rather from one consisting of a due proportion of mild vegetable, farinaceous, and liquid food, with a moderate allowance of meat, without either wine or porter. Even as regards the quality of the milk, there can be no doubt that a mild diet is of great advantage. The milk derived from the use of concentrated food is too thick, rich, and stimulating, for most infants. In the case of the cow, we have direct evidence of the quality of the milk being immediately influenced by a change of diet. The same thing occurs in the nurse; and hence the necessity of regulating her diet according to the state of the child."

Again, if porter produces an increased quantity of milk in some cases, in many others it does not, and is even sometimes worse than useless, by disordering the stomach, and interfering with digestion of the solid food, which is just as capable of producing milk as the malt liquor. Therefore, although popular prejudice runs in favour of the administration of porter, it does not appear to be always a judicious specimen of a plan which might, however, be usefully employed in improving the constitution of the human race.

For vanity or a little money men do not object to go through a tedious system of training, to accomplish some feat of strength or address, and the same motives would induce nurses to submit to some similar plan. Mothers, indeed, could require no additional incitement to maternal love, which has already risked so much, and would willingly submit to a system of training, however tedious, when the health of a delicate infant is to be secured, by preventing the transmission to their descendants of complaints which they may have inherited.

To prove that there is nothing Utopian in these views, I will add that a French chemist, M. Peligot, found that asses' milk contained the most solid components when the animals were fed upon beet-root; that the milk was richer than when they were fed on a mixture of lucerne and barley; and that it became comparatively poor when they were fed upon carrots. Colouring substances pass into the milk, such as madder. Bitter and aromatic principles are known to pass into the milk, such as wormwood, thyme, and garlic. The same chemist detected common salt, iodide of potassium, and other saline compounds, in the milk of asses, a few days after giving them those substances; six days, in fact, after the administration of iodide of potassium.

The preceding facts sufficiently show how much the milk may be modified by food or by medicine. Iodide of potassium, tonics, preparations of iron, Bullock's syrup of citrate of quinine and iron, for instance, and many other medicines, might, according to the peculiarity of the child's constitution, be prescribed by the medical attendant to be taken by the nurse, not by fits and starts, but for a long period. Judiciously employed, such remedies would not hurt the nurse's constitution. On the contrary, however, should it be necessary, for some chronic complaint of the child, to

give mercury to the nurse, the danger she incurs should be carefully explained to her, and even to her husband, as the wife's health is the husband's property. In all other respects the nurse's health must be governed by the ordinary rules of diet and exercise.

Another point of some importance is to know what is to be done should the nurse fall ill. It may be given as a rule that the effect of all illness, whether it be of a low or of an inflammatory nature, is to diminish the quantity of milk, and to impoverish it by conversion into colostrum; therefore the parents must see that the child be not starved by depending for its sole food on the nurse.

In a remarkable pamphlet lately published, Dr. Clot Bey says he has seen women affected with the plague suckle their children until death, without communicating the disease; and likewise that children at the breasts of their mothers die of the plague, while they escaped unhurt.

It is generally admitted that slight indispositions should not interfere with what is the duty of one, and a benefit to both parties; but writers are silent on the line of conduct to be adopted when the nurse or mother becomes affected with eruptive fevers during lactation. We have found, indeed, that infants are less liable to take these disorders than those more advanced in years; and as it is known that the contagion is communicated by the skin, and not by the intestinal canal, and as it may be justly supposed that if an infant is to take the measles or scarlet fever, the poison will have already had its effect before it can be separated from the infected mother, we generally permit the mother or nurse to continue suckling. It will soon be seen whether the milk has a prejudicial effect on the infant, and if not, it may be permitted to take the breast; only less frequently: but should the stomach become disordered, and diarrhœa occur, the child should be provided with

another nurse, otherwise thrush and chronic diarrhœa might supervene.

Though the contrary is well known to the profession, it is still a popular prejudice that the occurrence of the courses during lactation is dangerous to the child; and fearful of being discharged, a nurse often does what she can to conceal the fact, sometimes even trying to stop it by cold applications. To remove this error, we cannot do better than transcribe a passage from our work "On the preservation of the Health of Women at the Critical Periods of Life:"—

"As a rule we find that lactation checks the catamenial flow up to the ninth month. Dr. Meigs, practising in Philadelphia, says 'that he expects his patients to become unwell at the seventh month of lactation;' but more frequently than is generally believed the periodical flow coincides with the secretion of milk as early as the second or third month of lactation, and this in perfectly healthy women; and we are, to a certain extent, able to confirm the assertion of our own excellent observer, Friend, who says that 'the courses often continue regularly from the very beginning of lactation,' in nurses of a delicate frame of body.

"As it is impossible to tell which young mother will be the exceptional case, it would be judicious to prepare all for the possibility of the event, so as to preclude the chance of their resorting to measures which might check the flow, to the detriment of their own or of their child's health. The medical man must also be prepared with an answer to the important question which will be asked, 'The courses have reappeared, am I to continue nursing?' Now, if the flow occur at an early period of lactation in a woman enjoying average good health, and if the child be tolerably well, we think it judicious to advise the continuance of suckling; but if it does not hap-

pen before the ninth or tenth month of lactation, it is better to wean, even if the milk still agrees with the child, particularly if the mother or nurse suffers much from a sensation of sinking at the epigastric region, from flushes of heat, or from perspiration. One of the most judicious physicians of the last century—Tissot—greatly exaggerated the evil effects of the courses returning during lactation, and imperatively ordered suckling to be immediately discontinued in such cases. His plan was formerly followed by most authorities; and, though now relinquished by the profession, it still endures, with many other of our cast-off notions, as a popular prejudice. In permitting a young mother to continue suckling her child, or to retain the services of a wet-nurse, without breaking up her arrangements, or depriving the servant of her livelihood, we are countenanced by the recent experience of Dr. Trousseau, of Paris; and the plan derives support from the following facts:—

Having carefully interrogated 100 women in whom the monthly flow had returned at different periods of lactation, we learned that the quantity and quality of the milk remained the same at that time in . . .	45
[The thriving of the children was our estimate of the quality of the milk.]	
That it was diminished at the time in	8
That it was completely arrested in	1
That it was impoverished at the time in . . .	5
[By impoverishment the women meant that the milk looked like whey, and sickened the children.]	
That it impoverished the milk then and thenceforth in .	2
That it was increased at the time in	24
That there was a rush of milk afterwards in . . .	15

"To test, in a still more accurate manner, the absence of any pernicious influence of this function on the milk, we lately requested Dr. Hassall to examine microscopically that of a lady taken on the second day of the flow, which had

come on for the first time at the ninth month of lactation, and he reported that the milk was perfectly normal in quality."

In other cases, as we have said, the milk was watery, and contained colostrum instead of fatty substances.

There is no medical reason for preventing nurses from living matrimonially; but, should conception take place, it is best to wean. We have known women continue to suckle all through pregnancy without injury to the child, and then to give the breast to both infants; but these are rare instances, and as the milk is generally impoverished by pregnancy, the nurse should be changed or the child weaned.

While discountenancing a prejudice, it is, however, necessary to be prepared for exceptional cases, and to follow the example set in the following instance:—A newly-born child was confided to a woman seemingly in every way fitted for the duties of a wet-nurse. The child was, however, after a time, seized with fever, and its thighs and body were covered with erysipelas. This eruption disappeared after a fortnight, to reappear in a month, and this was repeated for a whole year, when Dr. de St. André, having ascertained that the appearance of the eruption always coincided with the monthly periods, ordered the child to be weaned. The eruption then entirely disappeared.

Changing a Nurse.—If, from any of the reasons enumerated, it becomes necessary to change the nurse, a parent should not be deterred from so doing by anticipating any exaggerated danger from changing the milk. The same precautions must be taken as with the first, and, if possible, the nurse should not be made aware that her services will no longer be required, for fear mischief should occur to the child from the communication of unwelcome

tidings to one nurse before the other is ready to take her place.

WEANING.—A child should not be weaned before the twelfth month, and if the mother's health will permit lactation had better be continued until about the eighteenth month, other food being gradually substituted. Not only is the mother's milk the best food for the infant, but he finds in the breast the greatest consolation during the troubles of teething. A warm streamlet of milk is better than all the "soothing syrups" that have ever been invented, some of which are even dangerous, from the opium they contain; and to nestle in a cool, soft bosom is the most grateful application to the infant's hot and irritated mouth and face. We have never seen prolonged lactation do any harm to children: whenever, therefore, an infant is delicate, or any hereditary influence is to be counteracted, it would be better to give the child another nurse, so soon as the mother finds nursing tell upon her strength, or upon her nervous system. The same plan can be followed if the child has been wet-nursed from the birth; and in this way we have in several cases used up the milk of two or three nurses, and protracted lactation to the third year.

Sir James Clarke specially recommends the children of consumptive patients to be suckled for eighteen months or two years.

When care is taken gradually to diminish the quantity of the mother's milk, and to augment other food in proportion, there is no sudden change, and therefore the child incurs no danger. When, on the contrary, the transition is sudden, the functions of the digestive organs are deranged, diarrhœa takes place, and if the system be not soon set right, faulty nutrition induces ringworm, scald-head, and a long train of cutaneous eruptions.

With respect to the precautions which a nurse should

take, in order to get safely rid of the milk, it will be found that if the child be gradually weaned it will be sufficient for the nurse to refrain from fluids and stimulating diet, and to take cooling medicine. Should the breasts continue to fill with milk, they ought not to be drawn, but fomented with warm water, and gently rubbed twice a day with a little camphor liniment.

BRINGING UP BY HAND.—It is useless to say that this is an unnatural plan of rearing infants—that it gives rise to a greater amount of sickness, and does not give their constitutions the best chance of lasting until the period naturally allotted to them; but if all this were ten times more true than it really is, the plan must still be very often resorted to in civilized communities by the poor, and even by many of those who are obliged to retrench all in-door expenses in order to keep up appearances. We shall, therefore, spare the ink generally devoted to invectives against this plan, to indicate by what means it may be made to tell least against an infant's health.

Extreme devotion on the part of the mother to the child is the first element of success; the most scrupulous cleanliness in all that relates to his diet, and a determination that it shall be the best of its kind. A mother must not depend upon the milkman's assurance that the milk is unmixed, but she must insist on having the milk only from one cow, or obtain it from the country by railway. It is gratifying to be able to state that milk in London is much better than it is generally believed, for in none of the twenty-six samples examined by Dr. Hassall was there any chalk, size, gum, or sheep's brains—substances occasionally used to adulterate milk, though several were diluted with water. The reader may for a shilling be able to test the quantity of water thus fraudulently added, by a very simple little instrument called George's registered Milk Tester: it is sold by Mr. Bucklee,

of 86 New Bond Street, and is accompanied by instructions for use.

The arrow-root or gruel, baked wheaten flour, or semola, made use of to thicken the milk, should be of the best quality; and as no better test of the purity of an article has been found than microscopical analysis, it is better to be guided by the unimpeached results arrived at by Dr. Hassall, and recorded in the Lancet sanitary commission, and to buy arrow-root in London; for instance, at the following addresses:—Frost, 288 Oxford Street; Martin, 6 New Church Street, Edgware Road; Knight, 83 Grace-church Street, City; Thorp, 29 Chapel Street, Edgware Road; Lindsay, 1 Waterloo Road, Westminster; Holland, 127 Oxford Street; Ashby, 9 High Holborn; Dakin, 1 St. Paul's Churchyard; Hall, 135 Edgware Road.

If, in asking for the article, the parent were to state that he did so only because it had been tried by a careful analysis and proved pure, the detestable plan of adulterating articles of food would gradually go out of fashion, as it would be prejudicial to the purse of the adulterator.

With regard to moist sugar, as the Lancet sanitary commission has proved that it is impossible to have it free from wood, filth, or insects, it would be better to explode its use altogether from the nursery, and always to sweeten the food with white sugar, which is now so reasonable that its use cannot materially increase the expenditure of any family.

Having obtained the necessary articles of food in the greatest purity, it now remains for us to show how they are to be used. Sweetened cow's milk, diluted with one-third of water, should be first given to a newly-born babe for whom there can be found no nurse, being warmed to about 65° Fahrenheit in summer, and 80° in winter. So soon as the child seems not to be sufficiently satisfied with this, the milk and water should be thickened, three times

a day, with one or other of the articles of food previously mentioned, giving them a trial in the order of their enumeration; for, as we have stated, all food is composed of two elements of flesh-making substances, or of others which can only be compared to fuel, and are necessary to maintain the heat of the body.

Arrow-root and gruel may be termed heat-giving food, and, when combined with milk, may do very well at first, but after a few weeks or months a flesh-making food is wanted, and then baked flour for the poor, and semola, an excellent preparation of wheat, which an intelligent chemist, Mr. Bullock, has brought into notice, will, when combined with milk, afford the child the best substitute for nursing.

Mr. Bullock has separated the greater part of the starchy and saccharine matter from wheaten flour, and produced a mechanical preparation of the gluten,—the nitrogenous or flesh-making element of wheat,—a food combining in the most complete manner all the requirements of the constitution in childhood. This preparation contains fifty per cent. of the gluten of wheat; the largest amount susceptible of such a combination with the remaining constituents of the wheat as to be readily cooked—it is palatable, easy of digestion and assimilation.

To prevent the child acquiring the injurious habit of bolting his food, he should be obliged to take it by suction. Numerous inventions have been made to render this object easier, but these complicated contrivances appear to better advantage in the advertising columns of a journal than in family practice: if they do not get out of order they smell sour, and as human nature is too apt to grudge small expenditures, the infant is left sucking for consecutive weeks a sour-smelling apology for a nipple. The old-fashioned glass bottle is, after all, the best, its neck being

covered with a new piece of wash-leather, tied safely round it: as this is thrown away and a new one substituted every day, it cannot get sour, and its permeability permits the child to suck through it the thickened fluid. If the leather is not carefully tied the child might swallow it, as has been done in two instances in our practice: whether the leather was digested or not we cannot say, but it disappeared never to be heard of afterwards.

By degrees the use of the bottle may be discontinued; the quantity of water with which the milk is mixed may be diminished; the child may be allowed sopped bread, light puddings, the yolk of soft-boiled eggs, broth, and at last meat; while a crust will often serve the double purpose of food and amusement.

These observations apply equally to children at the end of lactation, which ought to be that of infancy; and therefore we have nothing more to add relative to the food of infants, except one caution to mothers relative to the quantity of food to be given.

Dr. Combe has rightly stated that "as a general rule, six or eight table-spoonsful will be quite sufficient at one time, for the first two or three weeks, and it should be remembered that rearing by the hand frequently fails solely from injudicious and too frequent cramming. Many nurses, acting under the erroneous notion that liquid food contains little nourishment, think it necessary to administer it often, and thus oppress the stomach and excite vomiting. Observing, again, that immediate relief follows the emptying of the stomach, they further adopt the notion that vomiting is a sign of health, and by this false reasoning are led to persevere in a course of positive mischief to the child. When an apoplectic alderman obtains relief by vomiting the heavy mass of turtle and venison which endangers his life, he might, with equal reason, be encouraged to persevere in

the same regimen by the assurance that the vomiting was 'good for his health,' which it is no doubt, but it would be still better if he were to refrain from eating indigestible food, and thus avoid the necessity of seeking relief by vomiting. The same rule holds good with the infant."

CLOTHING.—Man not only maintains his heat by food, but also by clothing. By superposing garments one upon the other, he surrounds himself with a corresponding number of warm atmospheres, so as to prevent the escape of heat.

There seems to be a decided determination on the part of man to mar as far as possible the Creator's intentions respecting his chief work. In the Ethnological room of the British Museum may be seen a cradle, so contrived as to flatten down the forehead of the infant, and to give it all the appearance of an idiot. In the Celestial Empire the feet are so cunningly bandaged as effectually to make a Chinese lady hobble all her life; and, until very lately, a neighbouring nation, who, like the Chinese, boast of being in the van of civilization, without, however, laying claim as yet to the immutability of their institutions, used to bind up the limbs and bodies of their little ones as carefully as the Egyptians did their dead. We have fortunately no such plans to deprecate at home, but when seeing an infant dressed for the first time, we have often been struck with the idea that many of the pretty little things with which he is harnessed might be dispensed with. We are afraid we have already said enough to raise against us a whole army of mothers, grand-mothers, and nurses; but having given utterance to half our opinions, it would be unmanly not to conclude, and say that, in our estimation, so long as an infant is a perfectly passive little thing, without even the power of crawling, it would be quite enough to bandage him with a roller, and dress him in a loose gown. With a flannel and a

blanket the child may be made as warm as necessary. At all events, there should be nothing tight about him, and, above all, no pins by which he might be wounded.

The child should be accustomed to go bareheaded both day and night. This is generally admitted by medical men to be the best plan of warding off a tendency to determination of blood to the head, and those affections of the brain which are so fatal at that age. A thin cap, as gay as a mother wishes, can be always ready to be put on, so often as the child is brought down into the drawing-room, to be the cynosure of all eyes, and the admired of all observers.

We think it good to short-clothe a child early, and thus to give him as soon as possible the greatest freedom of his limbs; but in this, parents must be guided by the season of the year, as it would not be well to make this change in winter. On undressing a child from two to three years of age, we frequently find the frock tied tightly round the waist, so as to give a graceful appearance to the figure; for the same reason are the under-garments similarly tightened, and sometimes so much so that red lines are marked upon the body. Now it must be apparent to all that this constant pressure must tend to prevent the full development of the chest requisite for respiration, which is repeated so many times during every minute, and that it must likewise interfere with the growth of the child. Again, the little clothes are supported by bands and tapes which are called shoulder-straps, although they are not so in reality, for they are thrown off the shoulders to make the children look pretty, and press upon the side of the arm about an inch below the head of a bone which can be easily felt, and is the *humerus* or bone of the arm. This pressure cannot be made without depriving the child of the free use of his arms, to extend which he has to overcome the weight and pressure of the clothes. Muscular action being thus im-

paired, the child is prompted to assume a stooping position, and thus is laid the first foundation of round shoulders, of contraction of the chest, and of flattening of the ribs.

But in this favoured land there are many mothers judicious enough to consider the health of their little ones of more importance than their appearance, and will seek it by all the means which can be brought home to their understanding. Having been told that the child should be left free of his dress, they will take care that there be sufficient space for the hand to pass freely under his clothes, and then fancy that the child's health is safe, so far as dress is concerned; but the body runs almost as great a chance of deformity on account of the plan of throwing the shoulder-straps off the shoulders, so that the whole weight of the clothes presses on the side of the arm and under its joint.

Such are the defects of the present system of dressing children. By showing how they ought to be dressed, we shall at the same time show how these defects can be avoided. The child's shirt should be roomy, but not too full, so as to make creases. The bodice should be made long-waisted, and to fit the frame, but a large piece of elastic tissue in front should permit the free expansion of the chest, as in the child's bodice invented by Mrs. Caplin. The shoulder-straps should be sewn in front of the bodice, and pass over the shoulders so as to cross each other, and button under the blade-bone of the opposite side; for if, as Mr. Bishop has shown, the weight of the soldier's knapsack should rest as much as possible on the shoulders, it stands to reason that the shoulders should bear the weight of the child's clothes. The petticoats must be buttoned to the lower part of the bodice, so that no tight strings may impede respiration. The frock ought not to be made tighter than the bodice: it must rest, like it, upon the shoulder, so that it may no more impede the raising of the

arms than a man's coat. In a few words, the weight of the clothes should rest upon the shoulders by a band, which can be made of elastic tissue; and until the eighth or ninth year, when the hip in girls is sufficiently formed to sustain the petticoats, they should be buttoned to the bodice. Mothers and dressmakers may object to covering the shoulders, but by so doing, the chest will be preserved against the evil effects of a variable temperature, so often causing fatal complaints; and if the shoulders are covered in childhood, they will be better worth exhibiting at a later period in life. Fashion at this moment, however, coincides with common sense, and children are beginning to be dressed more 'en cœur,' as it is termed, or to show less of the shoulder; and perhaps even some of our most prejudiced fair readers will smile our forgiveness when we tell them that the shoulder-straps can be so arranged as to be passed under the arm, completely out of sight, whenever the mother is anxious to show off her little one to the best advantage.

Flannel next the skin is unnecessary, and should be kept in reserve in case it should be required at some later period of life; but if children are delicate, or prone to chilblains, lamb's-wool socks should be worn throughout the winter.

There is nothing exaggerated in the following picture of a fashionably-dressed child, as drawn by Dr. Maunsell, in his valuable work: "Who has not seen one of those miserable victims of parental vanity, whose appearance in our streets will sometimes, upon a March or November day, strike cold into our hearts? The cap and feathers set upon, not covering, the child's head, and probably of a colour and richness contrasting mournfully with blue ears, sharpened nose, and shrunken cheeks, in which cold has assumed the features of starvation,—the short kilt and Highland hose, exposing

between them cracked and shivering knees,—altogether require for their description more graphic power than we presume to lay claim to."

Need we say that a mother should not gratify her vanity by letting her little ones thus go bare-legged, or sometimes even bare-kneed in winter, since there are woollen leggins to be had? For if she so much wishes to see the contrast of the flesh-colour on the white displayed above and below, we suggest the possibility of matching the flesh tint so well in some warm material, that children may be kept warm, while they seem to be "*sans culotte.*"

EXERCISE.—During the first months of infancy, exercise is principally passive, and the nurse should be careful never to carry the infant *in a sitting position*, during at least the first four or five months. If this precaution be neglected, its large and heavy head will be observed to hang over on one side, in such a way as to impede breathing and even swallowing. Hufeland mentions a case in which even death was caused to a very young infant by a sudden jerk of the head to one side. A mother ought, therefore, to have a watchful eye over the nurse when she takes the child out. After the fourth or fifth month, the sitting position may be allowed for a few minutes at a time, if the child seems to like it. But when the infant is prematurely carried in this way, even the compression upon the chest, caused by the hand supporting it in front, is not unattended with inconvenience.

"In *lifting* young children," as Dr. Barlow has observed, "the nurse should be very careful never to lay hold of them by the arms, as is sometimes thoughtlessly done; but always to place the hands, one on each side of the chest, immediately below the armpits. In infancy, the sockets of the joints are so shallow, and the bones so feebly bound down and connected with each other, that dislocation and even fracture of the collar-bone may easily be produced by neg-

lecting this rule. For the same reason, it is a bad custom to support a child by one, or even by both arms, when he makes his first attempts to walk. The grand aim which the child has in view is to preserve his equilibrium. If he is partially supported by one arm, the body inclines to one side, and the attitude is rendered most unfavourable to the preservation of his natural balance; and, consequently, the moment the support is in the least relaxed, the child falls over and is caught up with a jerk. Even when held by both arms, the attitude is unnatural, and unfavourable to the speedy attainment of the object. To assist the child, we ought to place one hand on each side of the chest, in such a way as to give the slightest possible support, and to be ready instantly to give more if he lose his balance. When this plan is followed, all the attitudes and efforts of the child are in a natural direction; and success is attained not only sooner, but more safely and gracefully than by an ill-judged support given to one side.

"There is one very common mode of exercising infants, which, we think, deserves particular notice—we mean the practice of hoisting or raising them aloft in the air. This practice is of such venerable antiquity, and so universal, that it would be vain to impugn it. The pleasure, too, which most children evince under it, seems to show that it cannot be so objectionable as a cursory observer would be disposed to consider it. Still there are hazards which ought not to be wholly overlooked. The risk of accident is one of some amount: children have slipped from the hands, and sustained serious injury. Some people are so energetic as to throw up children and catch them in descending. This rashness there can be no hesitation in reprobating; for however confident the person may be of not missing his hold, there must ever be risk of injury from the concussion suffered in the descent, and even from the

firmness of grasp necessary for recovering and maintaining the hold. The motion of the body, too, has a direct tendency to induce vertigo; and when the liability of the infant brain to congestion and its consequences is considered,—when the frequency of hydrocephalus in infants is borne in mind, an exercise which impels blood to the brain will not be regarded as wholly insignificant. There is one more objection which seems not to have attracted attention. The hold taken of a child in the act of hoisting him, is by the hand grasping the chest. The fingers and thumb placed on each side of the sternum, compress the ribs, and any one with the hand so placed will at once perceive that if the pressure were strong, and the resistance from the elasticity of the ribs weak, the impression on the chest resulting would correspond exactly with the deformity named chicken-breast. That any force is ever used, capable of inducing speedily such a change, is in the highest degree improbable; but that reiterated pressure of this kind, however slight, would, in a weakly child, have power to impress and distort the chest, few, we imagine, will doubt."

When the infant begins to be strong enough to take active exercise, he should be placed on a carpet, or, in fine weather, on the grass, with a few playthings in reach, and then allowed to teach himself to use his muscles for crawling and walking. The nurse should watch him without meddling with his first efforts, or frightening him by her tones of fearful apprehension.

In reference to this subject, Dr. Eberle remarks that "children who are never suffered to surmount, by their own efforts, the little difficulties which may occur in their sports, and are continually warned against accidents, seldom fail to become unduly timid, helpless, and irresolute, and in constant dread of falling and hurting themselves. The custom of exaggerating the dangers incident to their usual sports,

and of plying them continually with admonitory injunctions against accidents when they are engaged in their amusements, is calculated to favour the occurrence of the very accidents which they are meant to obviate, by the timidity which these perpetual lessons of caution and fear almost inevitably inspire."

"In infancy, as in later life, the grand principle of education ought to be to promote self-regulated action, whether of body or of mind, and to guide inexperience to the mode in which Nature intended the action to be performed. So long as we continue to be machines moved by the will and defended by the prudence of another, we cannot, by possibility, possess the strength of bodily or mental endowment to which our constitution is naturally adequate; and it is an entire mistake to suppose that this principle does not hold even from early infancy. In our own country, we have individual instances of poor children of two or three years of age acting as guardians to infants not a great deal younger than themselves, and displaying in that capacity a degree of intelligence, solidity, and presence of mind, not at all expected at so early a period; and in after-life, especially when the temperament is low, the child thus trained to act only at the bidding of another, will be found to display a feebleness and indecision of character in strong contrast with the promptitude and energy manifested by those who have been trained from an early period to think and decide for themselves, under the superintendence and correction, but not dictation, of their natural guardians."

In France, under all circumstances of weather, the laws enforce the barbarous practice of taking the infant to the Mairie, or seat of municipal government, before the third day. Our laws are fortunately more humane, and until we have attained this bureaucratic refinement, let us advise that the infant be carried out daily into the open air

about the third week after his birth in summer, and in winter after the first month, or later, if the child be delicate and the weather unpropitious. A very high wind, however bright may be the sun, is injurious to a very young child, as it has been known to suspend his breathing for a time, and, if not immediately observed by the nurse, might prove fatal.

It is some weeks before the eyes of a newly-born babe are strong enough to bear the full glare of light. The nursery window should therefore have a green blind, and the light should fall equally on both eyes, so that he may not learn to squint. Until the sight becomes quite strong, it would be unwise to take him into the full glare of day without the protection of a handkerchief, as well as a parasol. He will soon himself tell the nurse when these may be discontinued, by pulling the handkerchief off and anxiously looking about him. A veil had better then be substituted, so that he may have the full benefit of the air and of the sun's vivifying rays. Nothing but indisposition or bad weather should interfere with the child's airings, and when possible, in summer, he should almost live in the open air.

Nothing can compensate for the absence of the beneficial effects of light on the infant constitution. Deprive plants of the agency of light, and their colour, form, taste, and odour will become so altered that the most experienced botanist will be at a loss to recognise them. In the same way, man, deprived of the full influence of light, becomes pale, weak, and prone to disease.

We all know that light is wedded to warmth, and the action of light on animal bodies is the result of the chemical as well as of the calorific rays which Sir John Herschel has shown to be combined with the rays of light in the spectrum. Under these combined influences a greater activity is given

to nutrition, all the functions are performed with greater vigour, and the blood receives a greater amount of the vital gas—oxygen—which it is the office of the lungs to separate from the air.

When infants are deprived of a free supply of pure air and light, scrofula is the consequence. Let this teach parents to accustom children from an early age to the health-giving influence of air and light; for doubtless their careful avoidance by so many young ladies, who are fearful of walking out while the sun is powerful, helps to account for their sickly appearance, the loss of consistency of their bones, and their being able to afford but a deformed temple to the immortal soul.

Humboldt says that during a five years' residence in South America, he never saw any national deformity amongst the men or women belonging to the Carib, Muyscas, Indian, Mexican, or Peruvian races; and if the beneficial effects of exercise in the open air were better understood in our civilized countries, we should be consulted by fewer girls whose spines refuse to support their slender weight, and we should be less frequently obliged to prop up with steel a body by nature destined to be erect.

Bathing.—The water should be warm for the first weeks, and especially during winter; but its temperature should be gradually diminished until nearly cold; but if the child cannot bear it, it would be well to adopt a plan, much advocated by the late Dr. J. Johnson, as a general precept through life,—to alternately sponge the body with hot and cold water. There is no better means than the bath to fortify the nervous system, and to preserve infants from colds and coughs.

Some of Dr. Combe's observations on the bathing of infants are too valuable to be omitted:—

"On account of the great susceptibility of cold which

exists in infancy, and the difficulty with which the system resists the influence of any sudden change, the temperature of the water ought, at first, to be nearly the same as that of the body, namely, about 96° or 98° Fahrenheit, and always to be regulated by a thermometer, as the only sure test. If the nurse judge by the hand alone, she will often commit an error of several degrees, according to the varying state of her own health and sensations. The younger the infant, the more rigidly should this standard be adhered to; as it is not till after growth and strength have made some progress, that it becomes safe to reduce the temperature by a few degrees.

"In addition to the regular morning ablution, the tepid bath should be repeated every evening for a few minutes. Properly managed, and not too warm, it has the double advantage of soothing the nervous system, which is always irritable in infancy, and of sustaining an equable circulation of the blood towards the surface, and thus warding off internal disease. It ought not, however, to be either too long continued, or used in a cold room, or immediately after nursing or feeding. With these precautions, the most unequivocal advantage often results from its use, especially in scrofulous and delicate children. For restless and irritable children, also, the bath is often of immense advantage, from the quiet and refreshing sleep which it rarely fails to induce. As a sedative, too, it is of great value in subduing nervous excitement. But, when used too warm, or continued too long, the bath is apt to excite undue perspiration, and to increase the liability to cold.

"We occasionally, though rarely, meet with children who, from mismanagement, or some other cause, are frightened by immersion in warm water, and with whom the bath decidedly disagrees. In such instances, of course, it ought to be given up, and simple washing and sponging with tepid

water be substituted. But in all circumstances, the greatest care must be taken never to allow an infant to be exposed to the air with a skin even partially wet; for imprudent exposure may be productive of some serious inflammatory affection. Many of the complaints made against the use of the bath arise entirely from improper management, and the neglect of the most obvious precautions.

"Some physicians and parents prefer the cold to the tepid bath, even from birth; but reason and experience concur in condemning it, and it is only when the infant is strongly constituted that it escapes from the use of the cold bath unhurt. After the lapse of a few months, however, the temperature of the water used for the morning ablution should be gradually reduced, provided the child continue healthy and the season of the year be warm. But to make any sudden change in winter, or where considerable delicacy exists, would be attended with risk. I need scarcely add that when sufficient reaction and warmth do not speedily ensue after the use of cold bathing, it ought to be immediately given up, and the tepid bath substituted in its stead."

It is hardly necessary to say, that the child's linen should always be carefully aired, that it must be changed often, and that his skin should be constantly well powdered with the ordinary toilet-powder, or with fuller's-earth, if it has a great tendency to chafe.

Plutarch praises Cato the censor for not neglecting to be present when his child was washed, and all mothers would do well to imitate the old Roman, and be present at this important operation, for otherwise many things, not discernible when the child is dressed, might escape their observation; for instance, nurses frequently neglect paying attention to the swollen and irritated state of the external organs of reproduction in children. Like other mucous membranes, that which lines this part of the body is sus-

ceptible of becoming inflamed, particularly in delicate or in scrofulous children, and after eruptive fevers. If this condition requires to be promptly checked on the plea of cleanliness, it is still more necessary upon other grounds. The heat and irritation of this part of the body instinctively impels children to seek relief by the application of the hands, and most pernicious habits have frequently no other source.

Frequent sponging with cold water will sometimes remove the irritation; but when it is severe, a little Goulard lotion should be added to the cold water, and a piece of fine linen, saturated with this solution, should be left upon the inflamed surface.

We cannot do better than borrow Dr. Combe's judicious remarks relative to the nursery:

"However suitable in size and situation the nursery may be, adequate *ventilation*, or a frequent renewal of the air contained in it, is indispensable to health. Caution must, however, be exercised in effecting this, especially in winter. Before the windows and doors are thrown open for a thorough purification in the morning, the children ought to be removed into another room, and they ought to be kept at all times out of the way of draughts from open windows or doors. It is for this reason that it is so desirable to have two rooms for the nursery, so as to make a change when cleaning and ventilation are going on. Many delicate children suffer severely from being habitually exposed to the damp arising from a newly-washed floor, to the dust unavoidably raised by sweeping, or to the current of air between an open window or door and the fire-place.

"When the weather is cold and the air moist, the windows ought never to be thrown open till the children are removed, and the sun has been for some time above the horizon. The bed-clothes ought to be turned down as soon as the child is

taken up, and exposed to the air for several hours, that they may be entirely freed from the effluvia collected during the night. This point is, in general, too little attended to.

"Pure air being thus provided for, the next condition which calls for consideration is, the due regulation of the *temperature* of the nursery,—a condition which is also of much importance, because, like the quality of the air, it is in almost continual operation. At birth, the infant not only passes, as we have seen, by a sudden transition, from a steady heat of 98° to a variable temperature many degrees lower, but possesses less power of generating heat for itself than at any period of life. For this reason, the atmosphere of the nursery ought, especially during the first few weeks, to be kept comfortably and equally warm, and never allowed to fall below 65°. For the first few days the temperature may be raised with propriety to 70°, provided ventilation be duly attended to; but excessive heat and closeness must be rigorously guarded against.

"But while due care is taken to protect the infant from cold, every approach to overheating must be scrupulously avoided. When the temperature of the nursery is habitually too high, a degree of excitability and relaxation of the nervous system is induced, which greatly favours the development of the irritative and convulsive diseases of which infants are already unusually susceptible, and which are so often the causes of premature death."

Mental Activity.—If, after death has given a quietus to all this our terrestrial activity, we still do most certainly continue to exist, may we not surmise that we must have enjoyed some kind of spiritual existence before it pleased the Almighty to let the spirit animate our clay?

Human intelligence shows itself when, after the first few weeks, the little stranger seems really to awake to the

world, when his eyes light up with the first beams of inward life, following every object, particularly those that shine, or are highly coloured. Memory is awake; for the infant seeks objects, and at the same time and at the same place where he had seen them before. A little later he calculates distances, and learns how to apply his puny hands so as to attain the object he has in view; and later still, but long before he can utter words, will his mind take an inventory of surrounding objects.

Although it has been pointed out by many of those who have written upon education, parents seldom admit that children are in general not only over-fed, but over-excited in every way. When buoyancy of spirits is spontaneous in a child, it may be considered the natural result of healthy action, but to seek to elicit these demonstrations of infantine excitement by every art which can be suggested by the vanity of a mother anxious to show off her child, is most objectionable. This plan, which is so frequently followed, lays the foundation of the nervous temperament so common amongst the wealthier classes. The children most gifted of course suffer most from this folly, and this explains why they so often sink into insignificance, while some of those made of ruder materials, and whose early development seemed left rather to nature than to art, have afterwards surprised the world by talents all the more powerful for ripening at the proper time.

Moral Development.—A mother's kiss quickens in her babe the power of love: she does not create, but merely calls forth the best faculty of the human soul. The babe learns to reflect his mother's smile, and then, indeed, is the maternal heart blessed beyond all expression. Pains and troubles of child-bearing, they vanish from her memory. Anguish of labour—pains for hours returning with renewed strength, they are all soon forgotten. She thought it a

pleasure to be a mother when her babe lay on her bosom, bleating the music of soft sounds into her enchanted ear; but now his smile, the first dawn of love, convinces her that there is, indeed, a sister spirit imbedded in this seeming lump of human clay.

The Scotch writers on education have forcibly felt the importance of beginning it in early youth. Mr. Stow strongly insists on the necessity of beginning moral—not intellectual—training at the very earliest age; and he says, that eighteen years' experience has proved most triumphantly the advantages of doing so, and demonstrated that "you increase geometrically in power as you descend in age, for if *training* at twelve years of age be as *one*—at nine it is as *two*—at seven as *four*—at five as *eight*—and at three years of age as *sixteen*." This is most instructive and unexceptionable testimony, and we are convinced that the same principle would apply at a still earlier period; but no children being received by Mr. Stow under three years old, he, of course, could speak only of his experience from that age upwards.

A mother may have a charter to extol her blood, but none to spoil it by misgovernment; and it is surprising how soon, and how often, this is done. That an object so utterly helpless should be animated by so strong a will as we often see exhibited in children of a few weeks old, is certainly surprising. Refuse a child what he has been imprudently allowed for a few times, and his energy of will can hardly be believed. He wills, that is to say, he is determined, to obtain the object which he covets; and if refused, he will often persevere for days in his efforts to conquer his nurse by the energy of his crying. If, at birth, the human mind is so blank and void as Locke and Condillac asserted, whence does this strong determination arise?

It is impossible that it can be the result of what he has

learned during the few days of a life principally passed in sleep; and we are rather tempted to admit that this strong will is but the continuance of a faculty already familiar to the human soul before it was united to the infant body. But, however it may fare with this explanation, the fact should teach a mother the importance of training the infant from the very first in the way he should go, and of teaching him that by his fits of passion he cannot subdue his mother or nurse. If this be not done, then mothers must learn, to their own cost—

> "How oft in weak and sickly minds,
> The sweets of kindness lavishly indulged
> Rankle to gall."

If this be done, the general health of the child will be better, so will the tone of his nervous system; for, doubtless, in the habitual passions of infancy are laid the foundations of some of those direful nervous disorders which appear in after-life.

We have been lately introduced to a little girl who is asked every morning what she will have for dinner; it is difficult to find any thing that can please her: she has run through the whole curriculum of toys, so they excite no interest; she is literally "used up" before completing the fourth year of her age. What will be the sequel of this prologue?

Diseases of Infancy.—When called to prescribe for a suffering fellow-creature, so small and so delicate that one is almost afraid of handling him for fear of increasing those sufferings which he cannot explain, a medical man is often perplexed; and still the fatality of children's diseases is so great, particularly during the first ten years of life, that a prudent mother will lose no time in obtaining advice, before the original complaint has been masked by sympathetic disturbance.

Keen, however, as are the maternal instincts, it may be well to make a few observations on the principal complaints to which infants are subject, on the first emergencies to be encountered, and on the means of meeting them by such appliances or medicines which a mother should have in her nursery, so as to be able to do something until the medical adviser can attend.

An emaciation which cannot be accounted for by disease, the darkly-encircled eye, the hot skin and mouth, thirstiness, extreme drowsiness, or the contrary state of wakefulness, intense and continual crying, are all symptoms which point out to a mother the necessity of seeking for advice; but before this can be obtained, she may safely indulge the little sufferer with cooling drinks, milk and water, toast and water, and even *water*, as much as he desires.

One peculiarity of the English character is to think that there is something inimical between water, pure cold water, and an English constitution, except as a local application to some favoured portions of the skin. There are thousands of our countrymen who, from the first of the year to its last day, never taste a drop of water. It is said to be too cold—to disorder the stomach. Without presuming to hope that a time will soon come when we shall have a better supply, and take a little more of it, we may suggest, once for all, that in fevers and acute inflammations, it is not only harmless, but the most useful drink that can be given to a patient. How often, whether in the chambers of opulence or in the abodes of poverty, have we heard a child cry out most piteously for cold water with as much earnestness as the rich man who wanted Lazarus to be permitted to give him but one drop, without the child being able to obtain it! Expensive drinks will be offered, and the poor will give milk or tea, but it is a common prejudice to fancy that water must do harm. Let it be well understood that cold

water can never do harm when it is imperatively called for by the strong instinct of a patient, internally consumed by fever.

The mother may give the child a warm bath, and may sponge the head with cold vinegar and water, if it be hot; and if there be no diarrhœa, she may give him a teaspoonful or two of castor-oil.

But it is not sufficient to call in a medical man; his utility must be insured by the favourable report given of him to the smallest children, by parents and nurses, as well as by the respect always shown to him; for if the medical attendant should be careful not to frighten the infant by loud talking, harsh looks, or rough manners, and on the contrary should seek to gain his friendship by a quiet, unobtrusive smile, by giving him his watch or watch-key to play with, how much more necessary is it for the parents and attendants not to destroy half the doctor's utility by making him an object of terror to the child.

"I have often heard," says Dr. Combe, "ignorant and thoughtless mothers make use of threats of what 'the doctor would do,' if the child would not take medicine, or submit to some other disagreeable prescription; till the very sight of him was sufficient to neutralize the effects of the best-devised treatment. Either 'the doctor would bleed them,' or 'put a blister on them,' or 'take them away with him,' or do something equally terrible to them. The result of such folly is, that when the child is really ill, it is thrown into such agitation by the approach of the doctor, as to render it impossible for him to distinguish accurately how much of the disturbance is due to fright, and how much to disease; and, at the same time, to raise up a powerful moral obstacle to present comfort and future recovery.

"Occasionally, the same ready method of reducing the child to submission is resorted to by the attendants, wholly

unknown to the parents; and my chief object in now directing attention to it, is to put the latter fully on their guard, that they may not only strictly prohibit all such proceedings, but take care, by their own watchfulness, that their orders be fulfilled. Neither by the parents nor by the attendants ought the medical man ever to be spoken of in the presence of the young but with kindness and respect. If he is a person in whose character and skill the parents repose confidence, he deserves this at their hands. If he is not, the sooner they change him for another the better; but under no circumstances can they be justified, even in a selfish point of view, in converting him into an object of terror to those whose health and well-being are intrusted to his care."

The great mortality amongst children depends on the peculiarity of the infant's constitution. He is endowed with such vitality that often the disease of one organ spreads like wild-fire to other organs,

"One nerve unstrung,
The rest discordant play."

Whereas, on the contrary, in old age vitality is so low, and sympathies so blunted, that dangerous diseases may long lurk in one organ without it being shown by the usual signs.

There is no doubt, however, that the mortality in children is not all to be attributed to our present state of physical degeneration, and must be to a great extent laid to the account of mothers and nurses. We entirely agree with the following excellent remarks on this head:

"Domestic mismanagement during illness is another not uncommon cause of death in infancy, on which it may be requisite to make a few remarks; and it shows itself in a variety of forms, according to the natural dispositions and external circumstances of the parents. Many mothers are

continually administering medicines of one kind or another, and thereby derange instead of promoting the healthy operation of the infant system. Instead of looking upon the animal economy as a mechanism constituted to work well under certain conditions, and having, in virtue of that constitution, a natural tendency to rectify any temporary aberrations under which it may suffer, provided the requisite conditions of action be fulfilled, they seem to regard it as a machine acting upon no fixed principles, and requiring now and then to be driven by some foreign impulse in the shape of medicine. Under this impression, they are ever on the watch to see what *they can do* to keep it moving; and, altogether distrustful of the sufficiency of the Creator's arrangements, they no sooner observe a symptom than they are ready with a remedy. Such persons never stop for a moment to inquire what the *cause* is, whether it has been or can be removed, or whether its removal will not of itself be sufficient to restore health. They jump at once to the fact that disease is there, and to a remedy for that fact. If the child is convulsed, they do not inquire whether the convulsions proceed from teething, indigestion, or worms, but proceed at once to administer a remedy to *check the convulsions;* and very probably the one used is inapplicable to the individual case; and both the disease and the cause being, in consequence, left in full operation instead of being removed, the danger is increased. Accordingly, we have no hesitation in expressing our conviction that a child can encounter few greater dangers than that of being subjected to the vigorous discipline of a medicine-giving mother or nurse; and wherever a mother of a family is observed to be ready with the use of calomel, cordials, anodynes, and other active drugs, the chances are, that one-half of her children will be found to have passed to a better world."

TEETHING.—Although a natural process, teething is often

difficult, and causes serious disturbance of health. It has been well described by Dr. Von Ammon:—"The first stage of teething is indicated by symptoms of general irritation in the mouth, and of some constitutional disturbance. The child becomes restless, and the saliva begins to flow in quantities from the mouth; and, on the least uneasiness, the infant cries, but, in a little while, smiles again with its wonted placidity. Tears and smiles thus succeed each other at intervals. The eyes and cheeks become red, the appetite capricious, and thirst frequently considerable. Sleep is disturbed or interrupted by dreams, and a general expression of uneasiness pervades the frame. The gums, which were at first unaltered, begin to swell, and become inflamed and painful. The child now carries every thing to the mouth, and is evidently relieved by rubbing the gums. The bowels at this time are generally unusually open; but a certain degree of bowel-complaint is beneficial during teething, and therefore its occurrence need not excite any uneasiness. After going on for a longer or shorter time, these symptoms gradually abate, and are followed by an interval of comfort and repose.

"The second stage of teething soon follows. Instead of regularly carrying every thing to the mouth, the child now often shows a fear of allowing any thing to touch it, and often cries when he happens to bite unwarily. The gums and mouth become burning hot; a pale or bright-red elevated spot appears on the gums, which become very painful when pressed. The child frequently changes colour, is restless, wishes to be laid down, and is no sooner down than he is as anxious to be again in the nurse's arms. Nothing pleases him. At one moment he will demand the breast, and at the next abruptly turn away from it. He snatches at every thing, and retains nothing. The child appears, in short, to be driven about by successive and

sudden impulses, without being able to find rest in any position; and with these appearances, slight fever and bowel-complaint are often combined. When once the teeth are fairly cut, however, all these symptoms will vanish. But many children, and especially those who are well-constituted and carefully brought up, pass through the period of teething with scarcely any disturbance or excitement.

"The incisor teeth are generally more easily cut than the canine. The latter, indeed, are often preceded by much constitutional disturbance, although their sharp and pointed form would seem to indicate a facility in making their way. From the broad surface and unfavourable shape of the grinders, one might expect their appearance to be preceded by a good deal of suffering; but, in reality, they do not often excite very urgent symptoms. This arises partly from their blunt pressure not irritating the gum, but rather inducing its gradual absorption, and partly from their appearing at an age when the irritability of the constitution is less than in earlier infancy.

"Dentition being, as already stated, a natural process, is not necessarily a period of disease and danger. But as it augments the inherent irritability of the infant constitution in a greater or less degree, a slighter cause is apt to give rise to disease during teething than at any other time; and when disease does occur, it is unavoidably aggravated and rendered more dangerous. This irritability is, indeed, the real source of the constitutional disturbance so often attendant on teething; and, consequently, the best method for carrying the child in safety through that troublesome and sometimes perilous process, is the adoption, from the day of his birth downwards, of a proper system of general management. Daily experience confirms the accuracy of this proposition, and shows that, while the symptoms of teething are generally severe in sanguine and excitable

children, especially if much confined to the house and subjected to irregularities of diet, they are almost always mild in well-constituted children, who have never been over-fed, and whose exercise and general treatment have been conducted in accordance with the dictates of sound physiology."

With regard to dentition, there is one hint which will be useful to mothers,—not to urge medical men to lance their children's gums, because it is an operation much oftener done than necessary. A medical man sometimes accedes to the popular demand, because he knows that his compliance will do himself good, without doing the child any harm; but at all ages of life meddlesome surgery should be scouted. Mr. Waite tells us that death from hemorrhage sometimes follows this operation; but it is also true that convulsions and other dangerous symptoms have been known to be relieved, after failure of all other remedies, when a very small quantity of blood has oozed out of a puncture made over the prominent part of a gum lifted up by the tooth.

Diseases of the Head are indicated by the dull eye, the impossibility of the child's holding up his head, by his beating it against the cot, or by his tearing with his little hands; and if, added to these, he begins to squint, roll the eyes, or if convulsions occur, the fact is made still plainer.

In such a case, besides the bath, castor-oil, and cold applications to the head, little mustard-poultices may be applied to the calves of the legs; and if the child be sick, particularly if it is ascertained that he has taken more indigestible food than usual, five grains of ipecacuanha may be immediately given, while the nearest medical man is sent for.

Chest Diseases are known by the oppressed breathing, the noisy respiration, the struggling of the infant for breath,

the cough more or less prolonged, with feverish skin and thirst. These alarming symptoms often come on suddenly, in the dead of night, or when far from medical advice, and may be frequently as suddenly cut short by giving the infant from three to five grains of ipecacuanha in a little honey or sugar and water. The bath, the mustard poultices, will help the action of the emetic, which can do no harm, will most probably relieve, and often cure.

INDIGESTION.—The voracity of infants and the imprudence of nurses often lead to the overloading of their stomach; and the sympathies between the different systems of organs are so intimate in infancy that convulsions of a most alarming intensity may arise from this cause. If such a reason can be found for the convulsions, or if the child heave and gulp, be much troubled with wind, or half sick, he should be made completely so as soon as possible. When quiet, he should have given him 5 or 6 grains of bicarbonate of soda in a teaspoonful of dill or peppermint water.

COLIC AND INTESTINAL DERANGEMENT.—The reason above given for the frequency of indigestion explains likewise the frequency of intestinal disorders. Imperfectly digested food, or acrid secretions, are made known by colics or intermittent pains in the stomach, and then the infant, to relax the walls of this cavity, wriggles up his little legs. Pressure to the stomach increases the pain; hot applications relieve it. Diarrhœa makes the case self-evident. As intestinal complaints often cause convulsions, it would be advisable not to delay giving two or three teaspoonfuls of castor-oil, a warm bath, hot fomentations to the stomach, and a little bicarbonate of soda in a little aromatic water. Should diarrhœa continue very abundant and repeated after having given the castor-oil, a teaspoonful of chalk-mixture should be given every half hour, until the bowel complaint has abated, or medical advice been obtained.

DISEASES OF THE EAR.—There is no period of life when children are more prone to disease of this organ than during dentition: very frequently obstinate discharges are observed, and great care is required on the part of the surgeon so as not to check them hastily and incautiously; these discharges being probably sometimes useful in the prevention of convulsions and other well known affections of the brain in infancy. There is a period, moreover, when suspicion may be entertained as to deaf-dumbness: in this case too much attention cannot be given to the outer passages, by ascertaining whether any obstruction be present, or whether the parts about the throat be malformed. In infancy the outer passage of the ear is sometimes affected, and infants are rendered deaf from the accumulated secretion, which, being allowed to block up the tube, prevents them from hearing, and consequently from acquiring the use of speech: it is, therefore, necessary that the passage should be inspected, and if any wax or adventitious matter be found to obstruct the tube, it should be removed by topical injections.

DEAFNESS.—Deafness may date from birth, being what is called congenital: then, as sounds cannot be associated with ideas, feelings, emotions, actions, and the names of objects or description of their qualities and states, must find a language in natural gesture, or in conventional written and manual signs. In the case of total deafness coming on later in life, even if speech shall already have been acquired, it may be gradually lost in consequence of the want of habit to associate sounds with speech. This occurs, however, only in early life, when the habit of speech has not been fully impressed on the memory. It has been observed by Mr. Kinniburgh that it rarely happens that dumbness is entailed by deafness so late as the tenth or eleventh year, and the extent to which this may occur will depend very much on the circumstances in which the individual is placed. In

those who become only partially deaf, but to such an extent as to incur the risk of becoming also mutes, it seems probable that much of the power of retaining voice and speech, or of regaining it, may depend on a very small difference in the amount of hearing; and, in a certain proportion of such cases, much more might be done than has yet been attempted, by assisting the hearing through the bones of the head, or by other means.

When the deafness is congenital, or commences at a very early period of life, it has the effect of throwing the individuals thus affected into a melancholy state of moral isolation; draws in its train either imperfection of speech, as has been already observed, or absolute mutism, and, as a necessary consequence, an incomplete development of the intellectual faculties. Those who are not perfectly deaf succeed in pronouncing some words by dint of great exertion and care; but their voice, imperfectly articulated, destitute of every thing like modulation and euphony, forms merely an assemblage of badly associated words, expressive of incoherent, and never of abstract, ideas. Hence the deaf are often abandoned to the state of mental destitution, as though

> "T' instruct the deaf no art could ever reach,
> No care improve them, and no wisdom teach."

For most of the preceding remarks we are indebted to Mr. Harvey, who, as Surgeon to the Royal Dispensary for Diseases of the Ear, Soho Square, has the advantage of being able to study aural complaints on a very extensive scale.

Ophthalmia of newly-born Children.—How sad to be deprived of sight, and to know nothing of the magic colours with which the world is adorned, but by hearsay and impotent description! but when this calamity is the result of neglect, the recollection must be bitter to its

author as well as to its victim. Such neglect in infancy is, however, more common than most people are aware, for out of 4984 persons, to whom M. Boissonneau, of Princes Street, Hanover Square, applied artificial eyes during the last nine years, 445 lost their eyesight before attaining to the age of five.

The manner in which so many sad accidents occurred will not only be interesting to the general reader, but will show parents what are the dangers against which they should be especially careful. We find, therefore, that

Ophthalmia destroyed the eyes of .	241 newly-born babes.
Wounds and injuries of the eyes by pins, needles, knives, forks, and other sharp objects, destroyed the eyes of	204 children.
	445

These 445 children owed one of the greatest calamities to the negligence of their parents in not attending to the eyes of their children on the first sign of inflammation, which is so fatal at this early age, and to the carelessness of nurses in leaving injurious weapons within their reach; and these facts forcibly point out the necessity of the measures which should be taken to avoid so great a misfortune, and the urgency of seeking for immediate advice. Without alluding to the treatment of inflammation of the eyes, we cannot but inveigh against a prejudice common alike to the poor and the rich, which is, to cover up inflamed eyes with hot poultices, or else with the thick folds of a linen pad, often bound so tight as to exclude the air. Such applications do much harm, and are distressing to the parent; whereas cold applications are generally grateful, and, when properly managed, are eminently conducive to the cure of inflammatory affections of the eyes. Tepid water, however, may be used when more agreeable to the patient.

It must be remembered that the child may come into the world with cataract, which is not so amenable to treatment as when it occurs as a result of senile decay.

RICKETS.—This is a complaint almost entirely met with during the first three years of life; for out of 346 cases observed by Dr. Guerin of Paris—the best authority upon the subject—339 occurred during that early period.

In old age, as we shall see hereafter, the saline particles of the bones of the human body are often washed away during health with the urine. This is prematurely done in rickets, and the bones, being deprived of their solid substance, are no longer able to bear the weight of the body, but bend in various directions. To recognise the complaint during its first course is of great importance, but parents seldom notice it until deformity is produced.

The following are the usual appearances which, occurring in a child under three years of age, should cause his parents to be fearful of rickets:—1. General ill health, an enlarged stomach, and a tendency to bowel-complaints. 2. Unusual fretfulness and irritability of temper. 3. Muscular weakness and emaciation. 4. Nightly perspirations. 5. A frequent sediment in the water. This period of incubation may last six months, and, if early recognised and properly treated, the complaint may be stopped.

The children of delicate, consumptive, or aged parents, living in low, dark, and damp abodes, are the most subject to rickets. This fact points to the best mode of preventing the disease in general; though, as the sumptuous residences of the rich are also sometimes visited by this premature wasting of the earthy particles of the bones, it shows that stuffing children under two years of age with meat may counteract the effects of the most favourable circumstances.

The weakness of a child's legs, and their becoming de-

formed, is not unfrequently the first symptom to a parent of something being wrong. Then the nurse is blamed for letting the child walk too much, when the parent ought to blame herself for having been so careless about the long-continued weakness of the child's constitution. As the weight of the body increases, so must the deformity, until the child can no longer walk. To confine him to bed would not only be cruelty, but would injure his health: the legs must therefore be mechanically supported.

Mr. Bishop truly observes, "There has existed in the minds of many surgeons a repugnance to the application of irons for supporting the legs of children, on two grounds: first, on the supposition that the legs get straight spontaneously; and, secondly, that the weight of the irons is objectionable, and entails a continual expense to keep them in repair. Those who take this view forget that in standing the weight of the iron rests upon the ground, and that in walking the force of gravity swings the irons, as it does the legs themselves, with but slight muscular exertion; indeed, so far from being an incumbrance to the wearer, they are of very great assistance. Most weak children walk much better and firmer with them than without them; and the author has seen many children who refuse to part with their irons, and weep when deprived of them.

"The tendency to distort the trunk, which has been shown to arise from unequal length of legs, should alone be sufficient to induce surgeons to pay more attention to the subject than they have done; but there are so many other circumstances which render it desirable that the lower limbs should be preserved of a proper figure, that it is surprising how much it has been neglected, and that the most eminent surgeons have thought mechanical support unnecessary for children whose legs have been bent in various ways. The consequence of this neglect has been that the

deformity has often remained during life. They seem to have laboured under an erroneous impression that these curvatures will disappear when the child has grown older and the bones have become stronger, the fallacy of which hypothesis has been already shown.

Those cases are not very frequent where the bones of children become spontaneously straight after a lapse of time; and, even when apparently cured, the spine and pelvis may again be affected by the complaint at second dentition, at puberty, or during pregnancy.

VACCINATION.—We conclude with one more fragment of advice—never to delay the vaccination of the child longer than the second month, so that the accompanying fever may be over before teething begins.

It is the opinion of some of the fourteen gentlemen connected with the National Vaccine Establishment that it is safer to vaccinate in three different spots in both arms, in order that, by a greater saturation of the system, it may be effectually protected. This is not only the opinion, but the practice, of most of these gentlemen, whose experience of this matter is of the greatest value, and it is warranted by the fact that when, in after years, vaccination is performed, it only takes in a very small per centage of those who present six good scars on the arms, while it follows its usual course in a large number of those who only offer one, two, or three of these marks.

Vaccination is not neglected by the educated classes, but, to show to what a frightful extent it is so by the bulk of the population, we shall quote from an excellent speech of Mr. Grainger's at a medical society. "Although there are a National Vaccine Establishment, and acts of parliament for promoting vaccination, there is nothing in this country deserving the name of a national system. The institution just named is merely engaged in supplying lymph; it has

no power to secure vaccination. The Poor-Law Board, which is charged with the administration of the Act of 1840, has no means of knowing where vaccination is neglected till the end of each year; consequently, when, as is constantly happening, attacks of small-pox have occurred and swept off its victims. Information is indeed furnished by the returns of the Registrar-General of any severe attack of small-pox, but then this is only known when it is too late—after the mischief has been done: these are inherent defects in the Act, and do not depend on the administrative body." He had, through the courtesy of the Poor-law Board, had an opportunity of examining, with Dr. Lewis, some hundred returns from all parts of England and Wales, and a few of the facts were set forth in the following tables:—

Evidence of great Neglect of Vaccination, as shown by the Number of Vaccinations under One Year of Age, and the Number of Births for 1851.

	Vaccinations.	Births.	Per centage of Vaccinations.
In 13 Unions in London, -	4,641	21,598	21
In 31 Unions in the country	706	7,674	9·2
Teesdale - - -	70	593	11·8
East Stonehouse - -	1	438	
Bideford - - -	22	567	3·8
Welwyn - - -	4	84	4·7
Hitchin - - -	85	905	9·4
Northleach - - -	4	339	1·1
Loughborough - -	61	968	6·3
Camelford - - -	1	388	
Redruth - - -	378	1,925	19
Kettering - - -	12	644	1·8
Cardigan - - -	34	531	6·4
Samford - - -	2	447	
Ipswich (1850) - -	56	1,153	4·9
Thingor (1850) - -	10	586	1·7
Arundel - - - -	0	73	

Evidence of Previous great Neglect of Vaccination, from the EXCESSIVE NUMBERS *of Vaccinations in One Year, as contrasted with the Births of that year.* (*From years* 1850–51.)

		Total Vaccinations in the year.	Births in the year.
St. Alban's Union,	1850	151	562
Ditto	1851	1750	581
Bromyard -	1850	679	342
Windsor -	"	1507	480
Ross - -	"	613	448
Watford - -	"	915	588
Hatfield - -	"	423	227
Maldon - -	"	809	678
Tregaron -	"	557	301
Ditto - -	1851	405	308
St. Asaph -	1850	727	493

The last table is very instructive, as it shows what can be accomplished when the local authorities are alarmed by the prevalence of small-pox, or are stimulated by the remonstrances of the Poor-law Board. It is stated, in a report of that Board, that in 1848 the number of persons vaccinated under one year of age by the public vaccinators in the whole of England amounted to 33 per cent. of the total births; and yet it is seen that in various Unions not more than 2, 3, or 4 per cent. are so vaccinated. But there is other evidence of the almost incredible neglect of vaccination. It is affirmed by Dr. Gregory, in his excellent "Lectures on Eruptive Fevers," that, up to the age of eight years, "the protective power of cow-pox may, for all practical purposes, be considered as complete." It may therefore be assumed that all those who perish under five years of age had not been vaccinated. In a very valuable report of Mr. Wilde, of Dublin, contained in the report on the census of Ireland for 1841, it is proved that of the 56,000 deaths from small-pox which occurred in that country in the decennial period 1831–41, no fewer than 79 per cent., or 45,824, were those of children under five years of age.

In this country the ratio is pretty nearly the same; thus, Dr. Gregory states, in his "Lectures," that of 9,762 persons who died of small-pox in England, in 1837–8, the deaths under five years were 7,340, or 75 per cent. of the whole. In facts like these, exhibiting not the failure, but the neglect of vaccination, is the true cause of that mortality of which we have heard, to be discovered.

As it is dangerous to the whole community to have so much small-pox in the lower classes, it behooves the educated, for the sake of self-preservation, if not from charity, to do all in their power to eradicate the dogged determination against vaccination, which is so common amongst the poor. Mr. Wakely, a gentleman to whom the profession is much indebted for the establishment of a free medical press, and who, as coroner for Middlesex, has well served his country, brought in a bill some years ago which received the royal sanction, rendering it penal to inoculate for small-pox. Unfortunately the bill did not render vaccination obligatory, as in France, Germany, and in other countries. We have shown to what a frightful extent vaccination is neglected in the land where it was discovered, and it is evident that the legislature must follow the example of more enlightened countries, and compel by penal enactments those who have no right to endanger, by their ignorance and prejudice, their children's lives, and still less the lives of the more provident portion of the community.

There must be some summary mode of punishment for those parents who will not let their children be vaccinated. While they spurn the boon offered to them by the immortal Jenner, his successors have not lost faith in his great discovery, and only earnestly deplore that no analogous preventive has yet been discovered against measles, scarlatina, and eruptive diseases similar to small-pox, which are so fatal to children, so terrible to parents.

MEDICINES TO BE KEPT IN AN INFANT'S NURSERY.—Castor-oil, powdered ipecacuanha, bicarbonate of soda, dill-water, peppermint-water, mustard-flour, linseed-meal. All these articles should be kept in stoppered bottles, and under lock and key.

The rate of mortality in both sexes will be seen by the following table, derived from the sixth annual report of the Registrar-General.

(OF 1000 CHILDREN BORN ALIVE)

Age (or birth-days.)	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
0	146	82	64
1	53	27	26
2	27	14	13
3	18	9	9

According to the calculations of William Farr, Esq., in the sixth annual report of the Registrar-General, the following is the probable duration of human life in England:—

Age (or birth-days.)	Mean Future Lifetime, in Years		
	Persons.	Males.	Females.
0	41	40	42
1	47	47	48
2	49	49	50
3	50	50	50

—The various rates of life insurance, obtained from the

English life-table in the sixth annual report of the Registrar-General, will be seen by the following table:—

Age next Birth day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.			Females			Males.			Females		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
0	2	5	10	2	2	1	15	9	5	12	17	6	18	4	4	18	18	7	5	9	9	5	5	8
1	1	11	4	1	10	9	6	2	4	5	17	2	21	6	5	21	9	7	4	13	10	4	13	1
2	1	7	1	1	6	8	3	5	10	3	5	6	22	8	9	22	10	11	4	9	2	4	8	9
3	1	5	4	1	5	0	2	7	6	2	5	6	22	18	5	23	0	8	4	7	3	4	6	10

CHAPTER III.

THREE TO SEVEN YEARS.

The Numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Fem.	Males.	Fem.
934	936	66	64	6·682	6·424	1·671	1·606

Thus, out of 1000 *male children alive at three years of age,* 934 *completed their seventh year, and the remaining* 66 *died during the period* 3–7. *The mortality for this period was* 6·682 *per cent. The annual mortality was* 1·671 *per cent.*

Infancy has insensibly glided into childhood. No longer prostrate and inactive, the infant tried his young strength in crawling about, and seizing all he could lay hold of, and day by day he made such advances in his first lessons, that, overcoming all fear, he has at last assumed the erect stature, characteristic of man. With this increase of size and strength, there is a corresponding increase of activity of body and mind incessantly shown during the hours of wakefulness; ever does the child seem occupied in continuing his careful inventory of whatever comes under his sight. Every thing he meets with is a source of interest, delight, and wonder. All who have children will agree, that at no other age are the feelings of admiration so strongly called forth. With what approving accents the most valueless

piece of rubbish is received; and when children are walking out, with what difficulty are they urged onwards, as they lag behind in lingering admiration of the contents of the shops, or of the horses, dogs, &c., which they meet.

There is much truth in what a popular writer says, that "too little attention has hitherto been given to the broad fact that a child's mental existence is constituted almost entirely of the workings of the conceptive faculty. The human mind, in its first period, may be said to be all *ideality*, for it is exclusively so during the half of its time or more, which is passed in sleep; chiefly so when no vivid impressions are made upon the senses, and so, to a great extent, when left to find its own sparkling felicity among toys and gimcracks. Let any one familiar with children analyze a child's tranquil felicity while amusing himself with nothing better than a crooked stick or a handful of pebbles. It is the mind, the rich, grasping, and incursive human mind, such even in infancy, that is at work upon the poor materials of its felicity. This crooked stick or these pebbles are symbols of many things we adults do not dream of in such a connexion; and they suggest conceptions of things dimly recollected and now absent, which people fancy in clouds; and lead it on until the soul is lost in the chase. The real charm of a toy is derived from the power it possesses to excite the conceptive faculty, and hence it is that the more it leaves to be filled up by imagination, the ruder it is, so much the keener and more lasting is the pleasure it affords."

This singular capability of happiness, accompanied, as it generally is, by an implicit confidence in the goodness and in the omnipotence of those on whom they feel themselves dependent, gives to this period of life a charm denied to those that follow. A little later, the original taint of a first transgression has fermented, and the dawn of bad

passions in the tender youth grieves the fond parent's heart. Later still, when grown up and making an independent use of the powers with which he is gifted, does he fill his parents with anxiety—anxiety for his success in the world, pain at his failure, and still more if the failure be deserved. Last of all comes what, too often, strikes the deepest dagger in the parent's heart—the ingratitude of children. Not the great, outrageous acts which make humanity shrink at Nero's name, but the small outrages, neglects, and insults which sink deep and rankle in the heart, to be brooded over in silence.

> "One, yet a babbler, loves and listens to
> His mother; but no sooner hath free use
> Of speech, than he doth wish her in the grave."

Although the dread of Dante's bitter saying may at times flash across the mind, still childhood is a period in which all take delight; and well that it is so, for it is during the childhood of their offspring that parents are in the very heat of the battle of life, and it thus seems providentially ordered that, on his return home, the father should be able to leave on his threshold all cares and torments, and find some unmingled joy in the prattle and caresses of his little ones.

Another cause of the charm which invests this age is the singular fashion in which children evidently show, by their manner and actions, the sex to which they belong; for it is not true that men and women are similar so long as they play about as little boys or girls, and that training and education alone makes them different. Whether this difference be primordial, existing in the first origin of man, or be the result, in woman, of a check in the development, is a question which may always remain undecided. But it has been ascertained by a learned anatomist, Tiedemann, that, even at birth, the female brain weighs less than that of the

male; and with regard to the average weight of the whole body at birth, that of the male is 7·05, that of the female is 6·41, pounds weight. At birth the limbs and head of the girl are always less developed than those of the male sex; and as soon as this human chrysalis awakes to the external world, and can intimate a power of election, like Achilles of old, the boisterous boy chooses a pugnacious plaything—a sword, a gun, a stick, or a drum—while the girl will generally catch hold of a piece of tape, ribbon, or a handkerchief, which she will put round her neck, and sit for an hour making as many fresh combinations of dress as any inventive milliner. As the children grow older, the difference becomes greater; the boisterous boy becomes rougher and ruder, and, even when inferior in age, often exercises an incontestable dominion over his sister; while the girl, sharper, quicker, more gentle, submissive, and affectionate, imitates and emulates her mother's care in her own fondness for a doll, caressing or scolding it, kissing or beating it, according as has been her lot during the previous day. This general indomitable tendency to the performance of maternal duties in girls from three to seven years of age, shows what is the final cause of woman, so far as her social position is considered—the bringing forth and rearing of the next generation.

We might continue our anatomy of childhood to much greater lengths, without, however, saying any thing approaching to the truth and beauty of one of Burns' bursts of poetic feeling on this happy age.

"Oh! enviable early days,
When dancing thoughtless pleasure's maze,
To vice, to crime unknown!
How ill exchanged for riper times,
To feel the follies or the crimes
Of others or your own.

"Ye tiny elves, who guiltless sport
Like linnets in the bush,
How ill ye know the ills you court
When manhood is your wish.
The losses, the crosses,
That active man engage;
The fears all, the tears all,
Of dim declining age."

How comes it then that an age intended to be so happy should be so often fraught with bitterness? It is simply because bad education increases the natural liability of this age to sickness, and blights the harvest of intellectual and moral power, which might reasonably be expected from men and women if, as children, they were not *spoiled* in so many different ways. We shall therefore proceed to offer some hints which may tend to the prevention of the mischief we deplore, and lay in early life the basis of that triple health of body, mind, and heart, to elucidate the laws upon which this work is undertaken, premising that what we shall say will refer equally to both sexes.

PHYSICAL EDUCATION—FOOD.—When we last left the infant, he had already begun to take animal as well as vegetable food, or, in other words, the food of "children of a larger growth." In England, nursery diet is so excellent that this point will not detain us long. The classic mutton-chop, or the slice of plain boiled or roasted meat, should constitute the child's principal meal, with bread, vegetables, and plain pudding. Bread and butter, with milk or milk and water, should form the other meals. No tea or coffee, no drink more stimulating than toast and water. We are prepared for the murmurings with which this may be received. What harm will a little tea or a little coffee do? says one. Surely a little beer or a drop of wine cannot hurt a child! says another. We first reply by asking if

children want these stimulants? Are they troubled with flagging energies, or have they experienced as yet wear and tear of mind? With superabundant spirits, and a stomach capable of digesting their own shoes long before they could wear them out in the usual way, what stimulants can children possibly want? It is not, however, only a question whether such stimulants are *wanted*, but whether they can with impunity be given to children? To this we must reply, certainly not; and their frequent use is in our opinion one cause of the prevailing fatality of diseases of the brain, which cannot at this early period be safely watered with diluted spirit. The chief stimulant which is useful to children is salt; and if they have any tendency to worms, their food may be slightly flavoured with pepper, nutmeg, or cinnamon.

In connexion with children's food, we must notice the importance of their being early taught to take it quietly, with cleanliness and without hurry. To insure this, it will be necessary for the mother always to be present at their meals. In this the poor, and women of moderate fortunes, are more blessed than those they sometimes envy; for they see their children at all times, and can fashion them as they like, while the rich have many other occupations deemed more important; though we think that all might manage to preside over their children's early dinner.

Clothing.—All that is necessary to be stated on this important subject will be found at page 66; for until seven years old, the human body is not so altered as to require its clothing to be different from that of infancy. The influence of costume on mortality is shown in a very instructive manner by one of the Registrar-General's reports. Thus, from 1 to 5 years there is an equality of deaths by scalds and burns among boys and girls; but from 5 to 10 double the number of girls to that of boys die from

these causes, while from 10 to 20, there die 102 women, and only 27 men—and from 20 and upwards, 71 women and 22 men; showing the influence of muslin and flounce in producing death, notwithstanding the greater caution of the female sex.

EXERCISE.—In childhood there is generated an enormous amount of nervous power, or animal spirits, as it is generally called. Exercise carries off this redundant nervous energy: it is the great safety-valve for the nervous system, so that to place a little child on a form, or in a corner, for any length of time, is actual barbarity; and to make a habit of such a practice, would necessarily entail disease. Moreover, the constant exercise of children seems useful to enhance the activity of the nutritive functions, which proceed with such intense activity, that, while the muscles by their exercise withdraw the blood from the central organs, their very contractions increase the energy and amount of its flow; so that the gambols of all young animals, and the games and sports of childhood, are as essential to their health as food and raiment, and the first seven years of human life should be one great holiday.

SLEEP.—The restless activity of childhood is a strong opiate, and soon steeps the child in oblivious sleep, which should be indulged in according to his age. Thus until three or four years of age the second sleep is advisable, and when that is relinquished the child should be allowed to sleep the whole 12 hours, or from 7 at night to the same hour in the morning. Every child should sleep in a separate bed, for it has been stated by Sanctorius that "so very large are the steams which arise from persons in sleep, that not only the distempered communicate bad qualities to those who are well, but even the healthful, in lying together, affect one another." (Aph. LVIII., sec. IV.) As this may be detrimental to the weakest child, it is well to let them

sleep separately; and as much as possible not to let little girls sleep with grown-up persons. We have often heard Dupuytren ascribe to this cause the habitual state of ill health of some of the little girls for whom he was consulted; and he used to relate that their health often improved merely by adopting the separate bed system. There should be no fire in the bedroom, except in case of sickness. The benefit of breathing pure cool air during the long hours of the night should not be thrown away; for heat naturally causes the atmosphere to be impregnated with the effluvia of dirty clothes, and of the bed-clothes. If very cold, then there may be made, in the day-time, a fire, to be let out several hours before the time for sleep.

Baths.—Until about four years of age, it will be well to continue the daily bath; but, in some instances, we have found it useful to prescribe its being given before going to bed at night, instead of in the morning, so as to render the children thereby less liable to colds and coughs. The temperature of the bath, when so taken, should be lukewarm, instead of cold. After four or five years of age, the bath may be given at rarer intervals, but the regular sponging of the chest with cold, or alternately hot and cold, water, should be carefully added to the other daily ablutions.

No one has more forcibly shown the great advantage of the bath for warding off disease in childhood than Hufeland:—

It is to the influence of the bath in promoting an equal circulation through all parts of the body, that this experienced physician ascribes the great advantages derived from its judicious and systematic use in infancy, in preventing undue congestion or irritation in any one organ or set of organs, such as the lungs, the heart, the brain, the stomach, or the bowels. For the same reason, he considers it as a most valuable auxiliary in the treatment of disease. At

present, almost all our remedial agents, whatever the organs upon which they are specially intended to act, are applied directly to the stomach and bowels, so that any internal irritation already existing, is often increased by the very remedy administered for its removal. From this inconvenience, however, the bath is entirely free. Properly managed, it soothes, but never increases, internal irritation, and often enables us to dispense with the use of drugs. In common practice, on the contrary, a purgative is regarded as the best remedy for almost every ailment. To the vulgar mind, which is blind to every effect which it cannot see or feel, but which is easily influenced by appearances, such treatment strongly recommends itself, because its results are palpable to sense, and one has the consciousness of having "*done something*" to arrest the disease. But, as remarked by Hufeland, this "something" is not always the right thing, and "the alimentary canal was certainly never intended by Nature to be the only arena on which health and disease were to maintain their deadly strife. The stomach has a more important and more noble purpose. It ought to be the source of nutrition and assimilation, the ground-work of restoration and health," and not the mere receptacle of drugs and remedies often meant for other organs. Following out this principle, Hufeland declares, and with perfect truth, that if due attention be paid to the health of the skin in infancy by the use of the bath and strict attention to cleanliness and change of dress, medicine of any kind will be much less necessary for either the stomach or bowels than it is now conceived to be, and the digestive organs will be found to execute their natural functions with much more comfort and satisfaction than when required to digest irritating purgatives and other drugs as well as food. In his own family he experienced this truth in a remarkable degree, and, without being obliged to give a dose even once in six

months, brought up all his children in perfect health. When any trifling cold or indigestion occurred from an accidental cause, nature was so completely competent to her work that it disappeared in a day or two without the aid of medicine; and in this way all his children passed through teething and the prevailing epidemics with very little inconvenience, and without danger to life. Like all other rational and experienced men, however, Hufeland enforces attention to sound principle in the use of the bath, and is not blind to the evils which may result from its abuse.

MENTAL EDUCATION.—Play should be the child's introduction to the wonders of the creation. All the mental development of the first seven years should be associated with play and playful conversation, and the child's mind should be stored with information relative to the nature and properties of things, before he is set down to the regular task of learning a thing systematically.

At the end of the seventh year a child should certainly know his letters; and, provided the knowledge did not cost him many tears, it would be advisable for him to be able to read at that age: but we think it highly injudicious to attempt teaching him the dead languages before that early period, and as to the living, he should learn them after the Russian fashion, from a French or German nurse.

Many of our previous remarks on mental education during infancy apply likewise to this epoch; and the same views have been previously urged by Lord Brougham, with his usual vigour of expression.

"The child is, at three and four, and even at two and under, perfectly capable of receiving that sort of knowledge which forms the basis of all education. It is not enough to say that a child can learn a great deal before the age of six years; the truth is, that he can learn, and does learn, a great deal more before that age than all he ever learns or

can learn in his after-life. His attention is more easily roused in a new world; it is more vivid in a fresh existence; it is excited with less effort, and it engraves ideas deeper in the mind. His memory is more retentive in the proportion in which his attention is more vigorous; bad habits are not formed, nor is his judgment warped by unfair bias; good habits may easily be acquired, and the pain of learning be almost destroyed; a state of listless indifference has not begun to poison all joy, nor has indolence paralyzed his powers, nor bad passions quenched or perverted useful desires. He is all activity, inquiry, energy, exertion, motion; he is eminently a curious and learning animal: and this is the common nature of all children—not merely of clever and lively ones, but of all who are endowed with ordinary intelligence, and who in a few years become by neglect the stupid boys and dull men we see.

"Perverse and obstinate habits are formed before the age of seven, and the mind that might have been moulded like wet clay in a plastic hand, becomes sullen, intractable, obdurate, after that age. To this inextinguishable passion for all learning, succeeds a dislike to instruction amounting almost to disease. Gentle feelings, a kind and compassionate nature, an ingenuous open temper, unsuspecting, and wanting no guard, are succeeded by violence, and recklessness, and base fear and concealment, and even falsehood, till he is forced to school, not only ignorant of what is good, but also much learned in what is bad. These are the effects of the old system, and the neglected tuition of infants."

MORAL EDUCATION.—While discountenancing every thing like what is usually termed instruction or book-learning before the seventh year, we think that period the most important for the education of the moral man. "The lessons of infancy are graven on stone, and the lessons of riper years disappear like the nests of birds," is an Arab

proverb which was told us in the desert, but which holds good in all countries. Many philosophers have rightly considered that there could be no new formation in the moral man after the seventh year; and most nations, by placing the full appreciation of right and wrong at this period, show that they consider that "the child is father to the man."

We have seen how the tone of the child's nervous system may be so strengthened that darkness is deprived of its terrors, and solitude of its irksome monotony: the next object is to protect him against the consequences of the exaggerated development of the conceptive faculties.

We know how strong are these faculties in early life. The strength of conception is shown by the manner in which children will remain for hours making strange combinations with the rudest things, symbols of new thoughts, as in rapid succession they flit across the child's mind. The frequency and vividness of dreams is another proof of the strength of mental power in young children. A little later this activity of mind is shown by the continued jumble of words sometimes poured out in such torrents that they almost choke the child, who is obliged to stop to take breath. Towards the last years of this first period of life the child begins to evince his own views of things, the reminiscences of what he himself knew when in a previous state of existence; and he often makes inquiries astonishing and puzzling to the most acute mind.

This, too, is the period when so many nurses and parents take delight in anatomizing the physiognomy of wonder depicted in a child's face when his mind is filled with stories of robbers, fairies, ghosts, and hobgoblins; but however amusing this may be to the experimenters, it is very pernicious to the nervous system, giving undue exaggeration to the imaginative and supernatural faculties, and predisposing the mind to romance, credulity, and super-

stition, to hysteria, nervous disorders, and insanity. It is true that this pernicious system has sometimes developed and fostered poetry and genius. But is this the object of education? Is it not rather to *prevent* the excessive development of those faculties which constitute great poets or men of genius? We all know that the real poet is not an enviable being; and the poor children of genius, whenever they emerge from obscurity, and are by common consent crowned kings in their various departments, soon find that their crown is indeed a crown of thorns, that their sceptre cannot command peace, and that happiness says to them, "I am not for such as you." God knows when and where to make genius spring up to serve His views in the government of mankind, but education never made genius.

When a poor stranger comes to our country totally ignorant of our language, our manners, and our civilization, common courtesy prompts us, while we teach him our language, not to impose on his credulity by absurd tales, or an elaborate system of deception. We treat him with respect because he is a stranger, and we represent things as they are, adapting our description to the nature of his understanding, which, like ours, is human.

A little child is termed a stranger; then treat him with respect. He comes from a far country, from an undiscovered bourne; but his mind is not a barren blank, as supposed by some, but full of knowledge, power, and love, the mysteries of which he cannot as yet reveal, because he knows not our language. Teach him then to speak, but beware of imposing on his young credulity, for fear of warping the noblest of man's attributes—his intellect.

We must also notice an invention of modern refinement which we have often heard deprecated by sensible mothers—Juvenile Balls. In the first place, these balls are, generally speaking, not confined to children: there are always a suffi-

cient number of grown-up persons bent on exciting in every way the faculties of children, and in tempting them to gorge themselves from the sumptuous supper-tables laid out for little boys and girls. They have wine, of course; and we have seen them drinking champagne, to the great amusement of the grown-up folks, who seemed to think it a good joke to see them get up half tipsy from the supper-table. But should wine be excluded, should adults be excluded, over-feeding cannot be prevented, nor the development of feelings of vanity, envy, and unnaturalness, fostered by all the finery with which children are made to emulate one another on such state occasions.

We have already hinted that a child should be taught from the cradle the stern lesson of that obedience which must be observed through life. Thus would his nervous system be spared the continued irritation and fretfulness which spring from the still-entertained hope of doing what he is told not to do; irritability and vexation of spirit which, if continued in youth, predispose to hysteria, and in later years are sometimes the primary cause of insanity. The principal art of governing a child seems to be, to convince him fully that he does not live under a weak government, vacillating at his caprice, or to be overthrown by his resistance. Let him never find himself deceived, either as regards promises of reward or punishment,—both should be equally sacred, and should be meted with immutable precision; but in punishing a child, care should be taken that he is always thoroughly convinced of the justice of his punishment: for do not we all remember how long our young minds have brooded over some chastisement which we considered inflicted more to gratify the passionate anger of the being we had offended, than called for by the magnitude of the offence? This destroys the child's confidence in parental justice—the representation of God's;

gives him an early acquaintance with tyranny and the fallibility of all human authority; and brings home to his mind the conviction that his best efforts may be misinterpreted, and that the world is given up to misgovernment. Such is the principle of all good government, which must guide parents in their management of children, as it does those who rule over nations, and guides even the omnipotent Ruler of all; for history is but the unavoidable justice of God made visible to man.

But, notwithstanding every care and anxiety on the part of his parents that all their acts should appear to a child weighed in the balances of truth and justice, he is keen enough to notice the failings of those around him. When the charm of maternal infallibility is impaired—and that is very soon—so soon as the belief in the paternal infallibility has been shaken, the belief in God should be carefully instilled into his mind, that he may be, at least, kept in awe by the unseen, unknown power, before whom from his very cradle he should have been accustomed to see both his parents kneeling with submissive features.

In some families, when the child lifts up his little hands to say his prayers at night, the mother makes him recount to her what he has done amiss during the day, and ask God's forgiveness. This plan cannot be too strongly recommended, as this constant communing with a higher power must help to give a right bias to the moral principle.

By this it will appear how much we deprecate the advice sometimes given, to delay the religious instruction of a child until his reason has grown strong. In latter times religion has been treated with more courtesy,—and still we must object to the cold and solemn respect with which it is now bowed out of education, as in the last century it was, with much politeness, bowed out of the circle of philosophy and science.

We object to those who seem to consider religion a peculiar but useful branch of human instruction, like music or mathematics, which should be taught only on Sundays by some professor of religion, parson, priest, or minister. A man is not to be made like a sandwich, by placing side by side slices of his components; they must be melted down into one organic whole. If religion is to be any thing in education, it must be accepted as a living principle, and allowed to give life to all man's conceptions, and to sanctify all his actions. If this be true, is it reasonable to deny to all sects the undisturbed power of educating their children according to their own peculiar tenets? Where this is not permitted, irreligion, the fruitful mother of unstable institutions, French revolutions, and French tyranny, will still flourish; for from the conflict of religious opinions in the mind of man springs the neglect of all religion.

Diseases peculiar to Children.—That the early blossoms of each generation should be destroyed, that so many of those now rocked in lullaby sleep should, ere their cheeks be clothed with down, leave their once happy parents destitute, is one of those mysterious enactments of the great Disposer of all, the wisdom of which we have no right to impugn, although it is only perceptible to us through the mists which encircle our modicum of knowledge. The great mortality of children is in uniformity with that general law, which dooms to early death so large a portion of all the seeds of vegetable or animal life, with which He who called himself the *living* God has so thickly covered the surface of the earth, and so densely populated the seas and the atmosphere.

The loss of life during childhood, though less than during infancy, is nevertheless very great. This mortality greatly depends upon the same diseases which are so fatal to infants, for diseases of the brain, of the chest, and of the

intestines, are very fatal all through childhood; and our previous observations, our intimation of their danger, and our advice relative to the course to be adopted by those who have the care of children, in cases of emergency, precludes the necessity of our returning to the subject.

CROUP.—This is one of the most dangerous diseases of this epoch. It consists in a peculiar kind of inflammation of the air-tubes, which become lined with little membranous tubes like macaroni; and if it be allowed to progress, the child must soon die suffocated. Nothing can therefore compensate for the loss of time; and whenever the breath is impeded, and the voice acquires a peculiar tone like the crowing of a cock, whilst the nearest medical advice is sent for, it would be well for the mother immediately to give the child ten grains of ipecacuanha, so as to promote speedy vomiting. Whooping-cough suggests no particular advice, as it affords ample time to send for the doctor; and the chest-symptoms are but a part of a complaint which affects the nervous system and the whole frame.

ERUPTIVE FEVERS.—Childhood is the period at which cutaneous diseases are most rife; and those which most swell our bills of mortality are the result of fevers, therefore called eruptive, such as measles, scarlatina, &c. Dangerous as these diseases are at all epochs of life, they are less so when they affect children than adults. It is, therefore, better to be attacked by them in childhood. Their approach is gradual, and they merely require ordinary precautions, such as keeping the child in-doors, in a warm room, &c.; but the most dangerous part of the complaint is when the child seems recovered, for neglect of precautions during the convalescence of eruptive fevers has caused the death of many, and the shattered constitution of many more.

CUTANEOUS ERUPTIONS.—It would be useless to record

the long list of cutaneous eruptions with which a child may be afflicted, each of which is justly considered a great calamity by a mother, as they are often most difficult to cure, and sometimes render a child an object of general disgust. These eruptions are sometimes ushered in by slight fever, but often there is none; and generally speaking they may be accounted for, and considered as the punishment for the numerous infractions of the laws of hygiene laid down in this and in the previous chapter. This is often the case in special cases when children have been brought up by hand, without due care; and unfortunately this assertion can be proved on a large scale by the fact of such complaints being most common to the children of the lower classes, in whom the infringement of these laws is often unavoidable.

When such patients are brought to us, we are often asked what can be the cause of the complaint, and we are told that there was never any thing similar in the family, &c. &c. Politeness does not permit us to tell parents that their children suffer from their not having taken the trouble to inquire the best mode of rearing their offspring; but such is the fact; and may those parents who peruse these pages remember that the mischief they permit to occur in childhood by the neglect of hygienic rules, does not end there, but is carried on as a sad inheritance through the following periods of life. Spinal deformities appear at puberty; and a contracted pelvis, or a want of room for the child to make its way safely into the world, are the legacies to which we allude. These observations apply with equal force to another painful disease of children—rickets, to which we have already alluded.

Scrofula.—This frightful disorder is one of a general nature, and consists in a vicious state of nutrition of the whole tissues of the body. When carried to considerable

extent, tubercles are deposited in various parts of the body. Nearly half the children, for instance, who die at the *Hôpital des Enfans malades de Paris* present tubercles in the head, the peritoneum, or in other organs. When deposited in the glands of the neck, those ulcers are sometimes produced which ever after tell their tale.

Scrofula is not peculiar to this epoch, for the extensive statistics of Lebert show that it is most frequent from five to fourteen years of age; and that it attacks equally boys and girls.

This complaint is the direct punishment of the infringement of the laws of health previously laid down, and is manufactured wholesale in the dark recesses of our opulent cities, wherein children grow up ill-clothed, ill-fed, without even clean water, warmth, light, and pure air, the common blessings of all other living creatures. The rich create the disease in their own families by marriages contracted in opposition to all the laws which would insure to them a healthy progeny, and by not knowing how to rear their little ones,—a knowledge by instinct taught to the mothers of other animals. The treatment of this disease does not come within the scope of this work; its prevention is detailed in the previous pages; but both prevention and treatment should be made to favour the efforts of nature to sweep away all tendencies to scrofula towards the seventh year.

Stone in the Bladder.—We have seen that in the preceding age of children whose health had been neglected, the solid matter of the bones had a tendency to pass off by the water, as in old age it frequently occurs without disease. Owing to derangements of the digestive processes, stone is frequently formed in the bladder in the children of the poor, while at a later period of life the same result occurs to both rich and poor.

Worms.—These are the result of injudicious and overfeeding. Their existence should be ocularly demonstrated before the child is drenched with physic to expel them. The picking of the nose is a very dirty habit, which shows the necessity of reminding the nurse of her duty, and is not to be considered as indicative of the existence of worms; although, doubtless, their existence will not prevent the child continuing to indulge in the habit of interfering with the nose.

Teeth.—Interrupted dentition is often experienced during this period, and is accompanied either by inflammation of the gums or induration of the gums. Aphthous ulceration is incident to this condition of the dental system.

The temporary teeth are affected by caries and by necrosis, the latter almost always being a consequence of caries, which, by destroying the pulp, deprives the roots of vitality; whence arises inflammation in the gums, followed by abscess, and often, in lymphatic subjects, by glandular swellings.

Cancrum oris is seen during this period; the effect is to destroy the gum rapidly by a sloughing process penetrating into the gum between the teeth, causing them to become bare, and ultimately to drop out. In many cases the sockets are exposed and decay; then the dead separates from the living bone, often involving the destruction of the sacs and cellular appendages of the permanent teeth. Scrofulous children are especially liable to this malady.

The process of shedding teeth commences about the sixth year. So soon as the deciduous teeth fall, a permanent molar, or grinding tooth, comes up at the back of the mouth. Parents should insist that these teeth be cleansed well with a soft brush so soon as they appear; for their surfaces being both pointed and indented, collect particles of food.

When at this period teeth are changed with regularity of position, the dentist may be readily dispensed with; but Mr. Waite informs me that when irregularity presents itself, and when it is requisite to use plates or other means to secure a regular appearance of the teeth, parents should urge that this process be done in a very gradual and gentle manner, for by too suddenly changing the position of the teeth their strength is invariably impaired, and their vitality often destroyed; hence in a few years they lose their colour.

In cases where there exists an hereditary tendency to decay, care should be taken that the sides of the teeth are separated from each other, and kept well polished. If the gums appear spongy or swollen, due attention must be paid to the part, for from their swollen edges a viscid exudation takes place, and their tips hanging down between the teeth frequently conceal decay till serious mischief has arisen, an occurrence not unfrequently met with in girls about the period of puberty. When, therefore, from the tendencies before named, decay may be fairly expected, and even under all circumstances, the teeth should be narrowly watched; they should be well brushed morning and evening, occasionally with tooth-powder, and nothing should be allowed to accumulate between them.

The habitual use of the tooth-brush, and of tooth-powder, is necessary to remove fragments of food which lodge between the teeth; these decomposing, generate acids by which the enamel of the teeth is attacked and finally destroyed. The tooth-brush is still more necessary for the removal of tartar, which is an insoluble deposit of phosphatic salts accumulating from all fluids and solids in contact with the teeth. It is deposited in the greatest quantity on those parts of the teeth which are not exposed to the friction of the tongue and parietes of the mouth, as also on teeth not used in mastication.

Like the calculus, its component parts vary according to different diatheses. It acts prejudicially on teeth by irritating and inflaming the gums, and occasionally accumulates to such an extent as to destroy all connexion between the gums and the teeth, forming a wall which sometimes entirely covers the external surface of the teeth, forces the gums away, and produces their retrocession from the tooth.

The action of strong acids on the teeth will be shown by the following instance of their effect on a labouring man, who was set to clear away the refuse of a manufactory of artificial soda, and would not protect his mouth by placing before it a rag impregnated with an alkaline solution. As had been foretold, the fumes of hydrochloric acid acted chemically on the man's teeth, depriving them of their calcareous element of solidity. The consequence was, that they soon wore away, and completely disappeared. Except in scrofulous children, the acids in habitual use, such as lemonade, &c., will have no injurious effects on the teeth.

As teeth are often at this period of life ruined by ill-judged operations, it is right to guard the reader against the practice of cutting and drilling holes in them to introduce succedaneums and cements, which, in caries of the front teeth, especially early in life, are altogether inadmissible. If the first signs of decay are carefully removed, the teeth may often be preserved for life. Tincture of myrrh, or camphorated spirits of wine, are the best remedies to be made use of locally, in order to prevent the spread of decay.

In addition to many of the preceding remarks, Mr. Waite informs me that although amalgams now used by dentists afford a covering to the caries of teeth, and exclude the air from their interior, their ultimate benefit is questioned by the most eminent dentists. The mercury they contain injures the dentine, and destroys the structures of the teeth;

it inflames and irritates the gums, rouses up disease in the fangs, which end in decay, accompanied by abscesses and much suffering. The various societies of American dentists have almost discarded the use of amalgams; and, if we consider the peculiar subtlety of mercury, and the vascularity of the gums, we cannot but approve of the decision.

And here we may observe that mercury is the great destroyer of the teeth. If in the last generation the number of dentists increased, it was on account of the increase of diseases of the teeth, evidently caused by the plan of giving very large doses of calomel or blue-pill in almost every complaint. Now that this valuable remedy is less frequently given, and in smaller doses, it may be anticipated that the present and the next generation will be less subjected to the dentist.

Idiocy.—This is another infirmity peculiar to this epoch. The insanity of early age is not shown by any strange exaggeration of one or more of the mental faculties, as at a later period, but in the absence of mental manifestations. In vain is the child's mind stimulated by external objects, by its playmates, by a mother's language, by a mother's smile; it remains dormant, for some imperfect state of the brain prevents its manifesting the innate powers of the soul.

In many countries this infirmity is very frequent in damp, ill-ventilated valleys. The Sardinian government found, upon inquiry, 7000 idiots, called cretins, in its small dominions. Though happily less frequent in England, it occurs much oftener than we imagine; for, on making inquiries of the medical officers of the poor-law unions of the county of Lancaster, Mr. Gaskell (now commissioner of lunacy) ascertained that, in that county alone, there are 503 idiots or imbeciles not resident in asylums. M. Guggenbühl, who has devoted his life to the redemption of these spiritual paupers, states, in a letter to that noble-

minded peer, the Earl of Shaftesbury, that, on visiting "among 500 idiots lately found in the county of Lancaster, there are a considerable number who share the characters of cretinism. I may mention the village of Settle as containing cases whose intellectual defects, dwarfed appearance, malformed osseous system, and double rows of teeth, produce a close resemblance to the cretins of the Alps. In Silverdale, on the sea-coast, there are in one family eleven of these unfortunates. The character of endemic cretinism is, however, more marked in the west of England, in Somersetshire, where similar predisposing causes exist as we meet with on the Continent. The village of Chiselborough lies in a narrow valley, surrounded on three sides by hills five hundred feet high; the climate is very mild, and the atmosphere close and confined. The great majority of the 350 inhabitants are affected with swelling of the thyroid gland, and are remarkable for the frequency with which they are affected with deafness, thickness of speech, dullness of intellect, which in 24 persons amounted to absolute cretinism. Any one who traverses the great chain of the Alps, and devotes some attention to the pathological phenomenon, will be able to discover a similar gradation, from the mere rudimentary indications of stammering and hard hearing to dullness and defective growth, and to the highest degrees of the evil, proving that all these are only links in the same great chain. The majority of these unfortunates at Chiselborough are three feet in height, are thick and bloated; their head is malformed, their lips tumid, the nose flattened like the negroes. I found two females who were affected in a high degree, and had borne children of good bodily and intellectual constitution; a curious fact, of which numerous instances have come to my knowledge."

Thus even in England there exist hotbeds of idiotism

which might be removed; but, generally speaking, amongst us idiocy accidentally occurs, owing to hereditary development, or to some accidental fright or anxiety incidental to the mother during pregnancy, or to the drunkenness of one or both parents when the first foundations of the child were laid. Cases are recorded in which the idiocy of the child was apparently the result of accidental intoxication on the part of an habitually temperate father. Many a father has doubtless grieved over, and perhaps resented, the distressing and irreclaimable follies of a wayward son, without suspecting that they actually derived their origin from some forgotten irregularity of his own.

> "The gods are just, and of our pleasant vices
> Make sins to scourge us."

Such facts led the British Association, at the instigation of Dr. Coldstream, of Edinburgh, to solicit government to inquire into the number of idiots existing in England; and it is to be deplored that the inquiry was not made one of the questions put to every householder when the last census was taken; for England should not be behind other nations in the laudable endeavour of improving the condition of some of the most unfortunate people amongst us. America has, however, now shown us the example; for, in a discussion on a paper in which we ourselves urged the necessity of the measure before the statistical section of the British Association, when it last met at Ipswich, Mr. Kennedy, the Director of Statistics at Washington, pointed out that, in the last United States' census, the name and residence of every idiot in the States were recorded, so as not only to show the number of idiots, but also to give to charitable institutions the means of relieving them.

If this were a mere matter of curiosity, it would be useless to press it upon public attention; but, on the contrary,

it is pregnant with practical results. Dr. Guggenbühl's efforts at Abendberg, the public schools instituted for the education of idiots at the expense of the several States of America, the numerous similar establishments in France, and, lastly, those few we have in England, at Highgate, at Colchester, and at Bath, all bear witness that much may be done to improve the condition of these our spiritual paupers. Surely the knowledge of this should be a powerful stimulus to further exertion, and when our Government has sounded the breadth and depth of the wound, individual charity will come to the rescue of a multitude of wretched beings who are a source of misery and shame to those who are in opulence, and who, when reared in poverty, as is generally the case, are an endless burden to the country by the long and miserable life they lead in workhouses and public lunatic-asylums. Even on the utilitarian principle it would be better to seek to amend their condition; for it stands to reason that it would be far more economical for the different parishes to pay for a few years £10 or £12 a-year towards an institution where idiot children might be restored to reason, and therefore to the power of self-support, instead of maintaining them at a lunatic asylum at from £15 to £20 a-year during a life which is often protracted to a very great age.

Inasmuch as we are so proud of mental attainments, for which, after all, we are much more indebted to Providence than to any cultivation of our own, it certainly does become us to seek to imitate in an humble manner the parental beneficence of the Almighty, by endeavouring to remove from the immortal soul of the idiot the veil which shrouds its workings from our view. The importance of the subject, in which, as we have stated, we have taken a personal interest, will, we trust, be our excuse to the reader for having dwelt upon it so long.

No better confirmation could be given of the danger of disease during this period of life, and nothing could better prove the importance of hygienic precepts, than the statement of the mortality which then occurs. Thus from the Registrar-General's sixth report it appears that the rate of mortality is as follows:—

(Of 1000 Children born alive.)

Age (or birth-days.)	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
4	14	7	7
5	11	6	5
6	8	4	4
7	6	3	3

The knowledge of this mortality at different ages enables us to calculate the probable duration of human life.

The following is the mean average duration of human life:—

Age (or Birth-days.)	Mean future Lifetime, in Years.		
	Persons.	Males.	Females.
4	50	50	50
5	50	50	50
6	50	49	50
7	49	49	50

This table partly confirms what has already been stated respecting the intrinsic difference which exists from the earliest age between the two sexes, which it would be easy to exemplify by a difference in the liability to most diseases, from birth to the tomb; but this would only suit the professional reader.

ADVANTAGES OF LIFE ASSURANCE.—As a consequence of the possibility of ascertaining the mean future lifetime at any period of life, arises that of calculating the different value of life at its various periods. If man were a mere breathing, feeding, clothing, and sleeping machine, we should not stop to consider the means of insuring his life; but gifted as he is with foresight, he is often miserable from the fear that the time may come when those dear to him will not have the necessary means for performing comfortably the functions above alluded to, and they are all better performed, even in his own person, when the mind is set at rest by the conviction that, in case of death, he has provided for his wife and children.

When, in the reign of Queen Anne, was developed the admirable mode of enabling those who had merely a life income to leave something to those dear to them, by means of insurance, it will scarcely be believed that life insurance offices were deemed by grave and sober men as profane attempts to subvert the intentions of God, and that learned divines preached against them as against wicked and impious schemes. Fortunately, however, the tide of public opinion has changed.

The principle upon which life insurance is founded is as safe as it is easy to understand. The life of each individual is uncertain as to its duration, but the average life of a considerable number of individuals is subject to fixed laws, so that a company is perfectly safe in promising to pay a man £100 for the £3 which he may, perhaps, have only once paid, because the company know that ninety-nine others will live sufficiently long to remunerate them for the loss they may sustain by an exceptional case.

The same system of calculation applies with equal facility to disease as to health; and this form of insurance is no scheme of a maniac, as inaptly termed by the "Times,"

when it was first started by a friend of ours. The principle, we repeat, is the same, and if it forms a good speculation for a public company, it is no less advantageous to the public. Indeed its necessity was evident from the fact that 23 per cent. of the lives offered to the ordinary insurance offices were and are annually rejected on the plea of ill-health. The Medical Invalid Office was the first that met this desideratum, and the good example has been followed by several others.

The profit to insurance offices may be inferred from what we were lately told by a solicitor connected with one which is neither an old nor a young office, that last year the sum of money accruing from unrenewed policies was more than sufficient to pay house-rent, secretary, clerks, and expenses of every sort, leaving the office the clear profit of the interest on policies, interest on money lent, &c., &c.; and it is the same with most offices.

The amount of capital invested by insurance offices exceeds fifty millions sterling, and is managed by the most experienced mercantile men, financiers, and others possessed of special practical information.

In consequence of two swindling concerns called the "Agricultural" and the "West Middlesex," an Act of Parliament, 7 and 8 Victoria, cap. 110, was passed, and all offices subsequently established are obliged to publish annual accounts; but practical men are of opinion that this act affords a very inefficient protection against fraud, and it therefore behooves every shareholder and every insurer to satisfy himself relative to the respectability and to the honesty of the managers of the company.

A life-insurance office seldom fails, for should the falling-off of business prevent its being sufficiently remunerative, it may easily be engrafted on some more flourishing company, so that all the insurers may still look forward to

the promised benefits. This fusion of one office into another has not unfrequently occurred. Even while we are writing these pages we know that there is an old and respectable office anxious to do so, in order to relieve itself from the conditions of a special Act of Parliament, which preclude the possibility of its competing with the new offices.

This leads us to observe, that on account of the better understanding of the principles of life insurance, and as a natural consequence of competition, life insurance is cheaper now than it used to be; and many of the old offices have been obliged, by a falling-off of business, to adopt the principles of the younger offices: thus—

1. Several old offices, from being strictly *proprietary*, have become strictly *mutual*, although many prefer the proprietary, because in a mutual, all being partners, none can recover the amount of their policies at law.

2. The London Corporation, (established 1720,) has changed its premiums twice. The Palladium has also reduced its premiums.

3. Premiums originally paid annually, have, in many offices, been altered to half-yearly and quarterly payments.

4. As an evidence of a desire to follow in the footsteps of the new offices, it may be stated that one established in 1802, with a million of paid-up capital, is said to be arranging to pay it off, so as to become strictly *mutual*.

5. The old offices lent money only on real security, whilst the modern ones adopted the more liberal policy of lending on personal security, which was found to be so advantageous to them that the old offices have followed the example.

The payment of a debt may be made certain, by an honest debtor insuring his life; and the clerk may likewise give a guarantee to his employer without troubling his friends. Many Railway Companies and banking-houses only accept public guarantees.

The "Times" Life Assurance and Guarantee Company is the most advantageous to the assured: for in this Company each payment is an investment; the profits are divided; every year of honesty becomes a year of saving, and every year of saving lessens the chances of dishonesty by increasing the means of the guarantied.

The "Annual Bonus" Life Assurance Society differs from others. All their policies are annual, and their premium fixed, being one guinea, so that the sum to be received in case of death varies according to the age of the assured; thus one dying at the age of 21 would get 100*l.*, while another who should die at 48 would have to receive 50*l.* 2*s.* 6*d.* Bonuses are distributed each year among the survivors, and the recipients of these are determined by lot. There are 250 bonuses, and the sums so apportioned vary from 1000*l.* to 10*l.* The offices of this Society are at No. 2 Adelaide Place, London Bridge.

If the object of a Life Insurance Company is to make money, the prosperity of the company will redound to the insurer's interest if he insure so as to partake of the profits, or with the anticipation of a gradual decrease in the premium he has to pay. But the immediate object of the insurer is to buy peace of mind from some company in whom he places confidence; and when this can be purchased at a reasonable rate, it is surprising that amongst 30,000,000 British subjects, not more than 300,000 are insured.

The actuary of a well-established office informs us that at his office, as well as at most others, whether for sound or for diseased lives, the insurer's age averages from 30 to 40, or, in other words, most of those who have insured their lives do so when actively engaged in the struggles of life. Men borrow money of a life insurance office to release themselves from difficulties, for it is estimated that more

than one-half of the above-named policies are taken out to cover debts, or as securities for loans. The remaining policies may therefore be considered as the proof of a desire on the part of the British public to protect their relatives against the future; whereas, if the number of persons who live on incomes which cease with their own lives, were calculated, it would be found that at least 3,000,000 persons should assure, as the best and surest means of providing for their families.

With regard to the choice of an office, the insurer is placed between two fires. The old offices assail him by anonymous publications, wherein doubts are raised relative to the solidity of the young offices, which present him with an elaborate account of improved methods and of reduced premiums.

In one of the pamphlets alluded to, it is foretold that the explosion *must* come, when, with the lapse of years, the superincumbent pressure of claims comes to test the stability of the edifice; *when the duty of paying succeeds, in the course of nature, to the first pleasant process of receiving*, then wo and misery will await the legions of the deceived and disappointed. But we have shown that this cannot be the case, as the insurer will be able to watch, by every yearly publication of accounts, the state of the society. Alluding to those companies who offer *the lowest rates of premiums possible without compromising the safety of the institution*, the author of a pamphlet on the difficulties of life insurance has lately said: "Such advertisements speak volumes. Who, we would ask, would, open-eyed, venture to place so sacred a trust as the future provision of a young family, in the hands of a society which spontaneously acknowledged the charge of approaching so closely to the line which divides security from insecurity? Should we be considered in possession of our senses were we to risk

our necks by travelling on a railroad, the engineer of which, at the outset of the journey, promised *to put the engine to its extremest speed*, with the comfortable assurance that, however great the pressure on the boiler might become, it should be preserved *just short* of an actual explosion?"

This is doubtless forcibly put; but it is a great question with competent men whether the rates of life insurance are not set too high, and therefore the security of a life office is not compromised by asking the lowest premiums hitherto demanded.

The respectability of the parties concerned is the best guarantee for the insurer; for, as the author of the pamphlet alluded to has justly stated: "An individual who enters into strictly commercial insurance contracts (such as Fire and Marine Insurances,) is not exposed to the same degree of inconvenience as he who enters into a contract, whether for an annuity or an assurance on his life. The former may for a time insure his house, his goods, or his ship, with any society, and if he should subsequently become doubtful of the prudence of his choice, he can at once, without inconvenience, and without loss, remove his insurance to another office. But a life assurance is a contract of a totally different character, and an insurer is, as it were, tied for life to the institution of which he first becomes a member." It is therefore incumbent on the insurer to inquire into the degree of respectability of those who represent the society to which he intends to become wedded.

Life Assurance in Infancy.—Society is principally composed of those who live on from day to day, and who have no reasonable expectation of being able to give a fortune to a son or daughter at a period of life when a sum, however small, would materially assist the entrance into active pursuits of the one, or the happy settling in life of the other. Most parents, however, might easily afford to

set apart a trifle from their yearly income to obtain the certainty that at twenty-one or twenty-five the child would have at least £100 at his disposal: an arrangement which may now be entered into with many respectable insurance offices.

The following table of the Reciprocal Life Assurance Offices will show the rate of premiums usually required to endow children at different periods of life.

ENDOWMENTS.

TABLE OF ANNUAL PREMIUMS for securing £100 to a Child on attaining the Age of Fourteen, Eighteen, Twenty-one, or Twenty-five.

Age next Birthday.	Payable at											
	14			18			21			25		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Birth	4	13	0	3	6	1	2	17	7	2	3	3
1 Year	5	2	9	3	15	5	3	1	9	2	7	0
2 "	5	12	6	3	19	6	3	6	1	2	10	6
3 "	6	4	2	4	6	2	3	11	2	2	13	5
4 "	6	17	11	4	13	6	3	16	8	2	17	6
5 "	7	14	0	5	2	0	4	3	0	3	1	3
6 "	8	13	8	5	11	11	4	10	2	3	5	6
7 "	9	19	3	6	3	10	4	18	7	3	8	11
8 "	11	12	3	6	18	6	5	8	0	3	15	5
9 "	13	16	5	7	13	10	5	19	3	3	19	6
10 "	16	17	5	8	13	7	6	12	5	4	7	6
11 "	..			10	0	0	7	8	4	4	13	7
12 "	..			11	12	1	8	7	10	5	2	9
13 "	..			13	15	7	9	12	2	5	12	6
14 "	..			16	15	11	11	3	9	6	4	3
15 "	..			..			13	5	6	6	18	6
16 "	..			..			16	4	5	7	15	3
17 "	..			..			..			8	14	10
18 "	..			..			..			10	0	0
19 "	..			..			..			11	12	4
20 "	..			..			..			13	15	7

The rate of other modes of life insurance may be inferred from the following table, taken from the English Life Table:—

Age on Birth-day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.			Females			Males.			Females		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
4	1	4	5	1	4	1	1	14	8	1	14	2	23	4	0	23	5	10	4	6	3	4	5	10
5	1	4	0	1	3	8	1	8	2	1	6	8	23	6	7	23	8	5	4	5	9	4	5	5
6	1	3	9	1	3	6	1	2	9	1	1	6	23	7	8	23	9	2	4	5	6	4	5	3
7	1	3	10	1	3	7	0	18	5	0	17	10	23	7	5	23	8	8	4	5	7	4	5	4

CHAPTER IV.

SEVEN TO FOURTEEN YEARS.

The numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Fem.
956	955	44	45	4·397	4·536	·628	·648

Thus, out of 1000 *youths alive at seven years of age,* 956 *completed their fourteenth year, the remaining* 44 *died during the period* 7—14. *The mortality for this period was* 4·397 *per cent. The annual mortality was* ·628 *per cent.*

Lycurgus, the celebrated lawgiver, wishing to make the Spartans a race of warriors, ordained that the children, so soon as they were born, should undergo a regular inspection, and that those who were found weak, delicate, and deformed, should, without the least regard to their mother's feelings, be unceremoniously thrown from Mount Taygeta. Barbarous as this seems to us, the views of the Spartan lawgiver are to a certain extent carried out in this civilized age; not, indeed, by the wholesale murder of children, but by so vicious a system of endeavouring to rear them, that amongst one thousand infants, 277 of those endowed with the weakest constitution, will succumb before the seventh year: the remainder may, therefore, by the mere fact of their survival, be fairly supposed to be endowed with the

strongest powers of endurance. In addition to this circumstance, there is no critical epoch to be enumerated from 7 to 14 years of age; and the constitution, which has settled down at second dentition, may proceed uninterruptedly in its development until puberty. This period is therefore one of the healthiest of life, and we can but admire how wisely it has been ordained that it should be so; for at this period there is a certain equilibrium between the three elements of man, the physical, the mental, and the moral; the boy and girl have become man and woman in miniature, and it is possible to begin the systematic instruction of both. If this period of life were as much disturbed by sickness as the former septenniad, the work, being necessarily interrupted, would never proceed to a happy completion.

All men are gifted with a certain amount of bodily strength, of mental power, and the spirit of self-sacrifice, but each in ever-varying degrees and proportions, depending,

I. On the constitution originally derived from their parents; and

II. On the education they may have received; the great effort of which should be to develop these three component parts of man, so as to ensure their harmonious equipoise.

It has been so frequently admitted as an axiom, that on the right education of youth depends the peace of families, the prosperity of states, and the progress of humanity, that it would be only a truism to say the same of the education of girls; and yet, were we to ask whether we have been as skilful in improving the human race, as we have been in developing the instincts of animals, and in endeavouring to appropriate their capabilities to our advantage, no one would presume to answer—Yes. It would seem as if we thought that the art of educating had long been brought to perfection; for, with but slight differences, the child is tutored as his grandfather, notwithstanding the

change of time, the alteration of circumstances, and the boasted advance of civilization. Whereas, it is a matter of public notoriety, and will be demonstrated in the following pages, that many parts of the education of both sexes are eminently faulty; and if the old system is tolerated at the present time, it is attributable to the strength of secular habits, to the force of vested interests in England, and to the great influence of the clergy, who hold the education of men in their hands, and who, from their estrangement from natural science, have not hitherto been in a position to do justice to the task intrusted to them.

We do not pretend to write an essay on education; but in treating of the best mode of preserving health, from the age of seven to fourteen, the system of education during that period is so intimately connected with the future health and happiness of man, that we are obliged to glance at it, as by the then hardening of the nervous system, disease may be prevented at the subsequent periods of life.

Right education at this period is the only basis of the right management of the health of woman in after life. Our professional brethren will be the last to deny that what is sown in childhood will be reaped in the riper years of womanhood; that the spoilt child is apt to grow into the spoilt woman,—a nervous, irritable, hysterical creature, too often becoming a demented wreck, wherein intelligence but flashes at intervals across a blasted wilderness of mind. The junior members of our profession who may chance to peruse this work, will do wrong to pass over these pages, considering them as useful only to mothers and governesses; the rest of the work has no other substructure: what is done at this period must be of extreme importance for the future, if eminent philosophers like Count Joseph De Maistre and Lord Brougham agree with Bacon, that "the child is father to the man."

The difference between the two sexes which we have stated to exist from birth continues still, but without increasing, until the latter part of this epoch, which immediately precedes puberty. The instinctive manifestations of maternal care evinced by the little girl to her doll, gives way to the fear of being still thought a *child*, and to the suggestions of reason pointing out such conduct as silly; but nevertheless the ruling passion shows itself in the love for children, for babies, and the delight at being able to nurse and patronise them. In all other respects, the sexes are so similar that our suggestions will in general equally apply to both.

Physical Education.—Though the education of boys does not admit of many objections, the physical education of girls is quite Procrustean. We do not, it is true, lay our daughters on a lath, and, like Procrustes of old, chop off their legs; but do we not somewhat imitate the Chinese in the treatment of their daughters' feet? Do we not sometimes withdraw food from a girl for fear she should become too stout, or have too much colour to look aristocratic; do we not encroach upon the breadth of her waist for fear she should be called clumsy; or prevent the full development of limb and body for fear she should be ungenteel? and then, when we have succeeded in making a delicate, sickly, nervous, hysterical young lady, we wonder at her husband discovering after the honeymoon that he has married a mass of infirmities, a clog instead of a help-mate.

Food.—This is a matter so well understood in England, that it would be useless to waste time in detailing what food is most suitable at this epoch: we will, therefore, in general terms advise plain food and plenty of it. Some mothers, in high life, unfortunately exist, who, though they have no objection that their boys should look strong and ruddy, dislike such qualities in their daughters, and therefore put

them on a shortened allowance of food, constantly give them physic, and prevent their taking out-of-door exercise. Need we say how objectionable is such bedlamite conduct? It is, indeed, disgraceful that such a plan of education should ever be followed in a country which boasts of a more than usual amount of common sense; but we fear this will ever occur so long as men will condescend to pay their addresses to milk and water, semi-transparent young ladies; no doubt very deserving of our tenderest pity, but of no stronger feeling until they are restored to health.

With regard to stimulants, weak tea or coffee will do no harm, nor a small glass of mild beer or bitter ale at dinner; but wine should still not be given habitually, unless under medical advice, though an occasional glass will not act as poison.

Now that the nursery and nurse should be changed for the schoolroom and governess, if a mother cannot find time to watch over her children at meals, she must at least confide them to a good governess, and not allow them to acquire the usual bad habits of servants. That of *bolting* food is known not only to weaken the powers of nutrition, but to predispose to spinal deformities; and the time devoted to meals may be made detrimental or conducive to good manners and to the proper cultivation of natural instincts.

Clothing.—We have nothing to object to in the clothing of boys, and as to that of girls, the short frocks and trowsers admit great freedom of exercise; besides, it is well that by this peculiarity of dress, girls should all day long be reminded that they are *only* girls, not yet young women; a remark which seems, indeed, to have equal force when applied to the shell jackets of our manly youngsters, when contrasted with the French full-dress coat of boys at seven years of age. Surely this is too early to assume the *toga*

virilis of modern civilization, and may be considered one of the reasons why in France man passes from childhood into precocious virility.

Our former observations on the necessity of making the shoulders support the weight of the clothes, are equally applicable to the dress of girls at this period; for, however trivial it may seem, the circumstance of the dress of children hanging on their shoulders, so contrived as to be always ready to fall off, and necessitating the practice of perpetually hitching up one shoulder to support the dress, and of letting the other shoulder drop within it, is one of the frequent causes of spinal deformity.

About nine or ten, the hips of the girl are sufficiently marked to retain the clothing of the lower part of the body; the bodice must then be adapted to fit the hips, and on them must rest the divided weight of the under-clothes, which must be attached to the bodice by buttons instead of tying them round the waist, which the maid or the girl herself will almost always tie too tight; for as Mr. Hare remarks, in his work on spinal diseases, "there is obviously little power in these parts to resist even a moderate degree of pressure."

During this period, girls should never be allowed to wear the watered-moreen petticoats, which being very heavy must be tied tightly round the waist, to prevent their falling down.

When a little later the breasts enlarge, the bodice should be curved out to receive them, and thus it assumes the form of ordinary stays, without having more bones to support it than the ordinary child's bodice, unless there be some tendency to deformity.

It is a matter of common sense that when we wish to strengthen an organ, we must give it full play; therefore the spine and chest should not be denied full liberty of move-

ment, and although it may be said that when children of seven years of age, or even younger, wear stays, they do not press forcibly on the body, still they must restrain the action of the lower ribs during brisk exercise, and may prevent the good accruing from the free play between the skin and dress by the gentle stimulation of the latter at each movement of the body.

Should, however, the child grow very fast, be of a delicate constitution, and have a tendency to raise one shoulder above the other, without waiting for lateral curvature of the spine, she should be given that support of which her constitution has been deprived by sickness or bad management, by a pair of well-adapted stays; but while the back is supported, and the proper muscles called into increased action by some mechanism which may act as their monitor, it must be always remembered that the stays are to be worn by a growing figure, and the greatest freedom of development must be assured by an additional extent of elastic tissue over and above the slips of the same tissue, which are always requisite even in the stays of those whose figures are fully formed. Mrs. Caplin, of Berners Street, exhibited stays of this description at the Crystal Palace, and they seem to us to fulfil the desired object. In the next period of life we shall be obliged again to enter upon this subject, and to discuss its bearings at greater length.

Flannel should not be worn next the skin unless prescribed by the medical attendant, for it is too valuable an addition to treatment to be adopted without a sufficient reason.

Exercise.—All parents, or those who fulfil their sacred duties, should carefully understand that girls up to the fourteenth year require as much exercise as boys. Too many in the higher classes of society, however, consider that, without endangering the health of their daughters,

they may artificially train them to what may be the fashionable standard of feminine mind and manners. While, therefore, boys are encouraged to pursue sports of increasing exertion, their sisters, whose bodily strength equally requires exercise for its maintenance, are forbidden to take that proportion which they need, and instead of the nervous and muscular systems being strengthened by active exercise, they must be brought down to the level of lady-like weakness by the smallest proportion of spiritless locomotion.

When exercise is to be taken, the old Latin proverb, "Age quod agis," (do *really* what you do,) should never be lost sight of, and girls should be allowed to walk, skip, or jump, as if their whole hearts were in it. The strictures of a well-known writer on the contrary practice are too valuable to be omitted.

The reader will be able to appreciate the hurtfulness of the practice, in many boarding-schools, of sending out the girls to walk with a book in their hands, and even obliging them to learn by heart while in the act of walking. It would be difficult indeed to invent a method by which the ends in view could be more completely defeated as regards both mind and body. The very effort of fixing the eye on the printed page when in motion strains the attention, impedes the act of breathing, distracts the nervous influence, and thus deprives the exercise of all its advantages. For true and beneficial exercise, there must, in cases where the mind is seriously occupied, be *harmony of action between the mind which impels and the part which obeys and acts. The will and the muscles must be both directed to the same end and at the same time*, otherwise the effect will be imperfect. But in reading, during exercise, this can never be the case; still less can it be so when in writing or ciphering, which is permitted in many schools. It is, in

fact, a positive misnomer to call a solemn procession *exercise*. Nature will not be cheated, and the healthy results of complete cheerful exercise will never be obtained when the muscles are denied their full amount of nervous impulse.

Those who have seen the arms of the blacksmith or the legs of the dancer will understand how exercise strengthens the muscles, and will be disposed to believe, when assured that the bones to which these muscles are attached receive a proportional strength, and are subordinate to them. If so, it will be easily understood how, by varied and continued exercise, the many muscles attached to the spine may be strengthened, and the spinal column made in every way stronger.

It is likewise an excellent plan to encourage any propensity that a boy may show to use carpenters' tools, to draw, or to paint, for this will not only furnish him with an infinite fund of amusement, but will give him the skilful use of his hands, and, in after life, when position or condition may make it necessary for him to strain his mental powers to the utmost, the mind will find a salutary suspension from its dangerous exertions in the manual minutiæ of turning, or other mechanical pursuits. Was it not for some such reason that in olden time kings were often taught a trade? as it is now with the Sultans—the last, Mahmoud, being a matchmaker. For similar reasons it would be very wrong to discard the manual labour of the educated woman, or her fancy works, because, although the cultivation of the mental faculties is most commendable, all are useful. The needle and thread may be but small weapons, but even these can sometimes repel the force of the direst passion.

Baths.—The use of the bath at this period of life is too often, in this country, completely abandoned. A tepid bath

every week could not fail of being beneficial, and those who cannot afford such a luxury in their own homes, may nevertheless still let their children enjoy the benefit of those admirable institutions abounding in several parts of the metropolis, where an excellent bath may be had for sixpence.

The ancient Romans attached such importance to swimming that they stigmatized a grossly ignorant person by saying, "He has learned neither to read nor to swim." Swimming in cold water, during the summer months of the year, would be of great utility, but it is useless to prescribe what so few have the power of obtaining; for even if there existed in the Thames, as in the Seine at Paris, admirably constructed swimming baths, who would think of sending patients to swim in a river still transformed by mismanagement into a gigantic uncovered sewer? At Paris the profession derive great help from these establishments, to some one of which the first ladies of the land daily resort in the summer months. In default, however, of such general bathing, most people can command the shower-bath, which is often very useful to delicate girls, though it should never be used without medical advice, while all may fearlessly continue the practice hitherto advocated, of sponging the neck and chest alternately with hot and cold water.

Sleep.—At this period of life sleep requires little solicitation.

> "Where unbruised youth with unstuffed brain
> Doth couch his limbs, there golden sleep doth reign."

Mental Education.—"In the sweat of thy face shalt thou eat bread, till thou return unto the ground."

There was no exception made to this curse: the mechanic often envies our lot, and little knows how small is his labour compared to that of the educated class. The blessing of health is attached to labour, and those who seek to escape from the general curse are sure to be punished by

continued ill health. This is an experiment of daily occurrence whenever society attains to a high state of civilization. The determination to assume a higher position, or to place our children in a higher sphere than those of the generality of mankind, renders necessary the hard struggle of intellectual, if not mechanical, work. Already had the task of intellect begun, when in the last epoch short lessons were tolerably well borne from the expectation of their meeting with some reward; but now, by degrees, must the task be lengthened, and the strain on the attention be continued. It seems to be very difficult for the present teachers of youth to adjust these tasks and apportion them to the child's intelligence, for we all must still retain a vivid recollection of the manner in which, in early youth, the brain was daily puzzled with scraps of unexplained grammar, and with fragments of dead languages, which, when deciphered word for word by means of the dictionary, offered no sense to the youthful mind, and in which it could take no interest when the tutor pointed out the juxta-position of words necessary to make the sense manifest. But need the acquirement of dead languages be half so painful? It is not our province to show with what greater facility they might be acquired, or, if even the knowledge of a dead language be the principal object of a youth's instruction, how it should be taught in proportion to the peculiar state of development of his mental faculties, so that he may pass from something well understood to some new acquirement, without that confusion which must inevitably take place in a child's mind when he is forced to learn something which has no connexion with what he already knew.

We have shown the necessity of giving boys and girls the same amount of exercise, and it seems to us that, at least up to the end of this period, there should be little or no difference in the mode of their mental training.

A boy is educated with a view to the attainment of the greatest amount of happiness in after life, independently of the married state, into which he may or may not enter. The same views should direct a girl's education; or quite the contrary of the plan usually pursued; for parents, generally speaking, educate their daughters as if their settlement in life was certain, soon after their introduction to society. But is this the case? Girls of the poorer classes always marry. Dispensary practice gives us an intimate acquaintance with their habits, and rarely are we applied to for relief by an unmarried woman of 25: it is still rarer to meet with an old woman single. In the educated classes, however, it is quite different, for, on account of the increased pressure of circumstances, and the difficulty of providing for the maintenance of a family according to the average ratio of comfort and appearance, men become more and more fearful of matrimony; and thousands of girls in the prime of life, and endowed with qualifications capable of giving happiness to the most fastidious of husbands, are doomed to pine away in single blessedness.

On a rough calculation, we find that in the educated classes there are between sixty and seventy thousand of voluntary or involuntary nuns of this description in England at the present time; and though it may sound harsh to a fond parent's ear, unless her daughter's personal and mental claims are accompanied also by those of fortune, there is a great chance of her increasing the number.

When a mother thinks it time to reason with her daughter, and to explain the motives of her conduct, she too often instils into her mind that marriage is the sole object of woman's existence, and that she must calculate her dress, behaviour, actions, all, in fact, for that one great end. Year after year, season after season, this excitement is kept up, until at last the introduction of younger sisters, or a more

recent importation of blooming faces, deprives her of the position she once occupied in the ball-room; and when at last she awakes to the conviction of having failed in the sole object of all her endeavours, need we wonder if the mind, fretted by continual expectation, should lose its self-control, and give way to sourness of temper or corroding envy? need we wonder that the nervous energy should become impaired and irregular in its action, that nutrition should become disordered, and that organic disease should be set up in the viscera? When we remember also that, by taking an active part in the amusements and excitements of society, a young lady must be continually reminded of the unattained object of her wishes, need we wonder that the final result is the loss of health, of temper, and of happiness.

Such is a faithful portrait of the evils of the present system of education. We feel convinced that it is the history of thousands, whose happiness is literally sacrificed to the thoughtlessness or the vanity of parents. But it may be said that their education is not so bad after all, for their accomplishments still remain to them; they may cultivate their music, their drawing, or while away the tedium of time in fancy work. Is this, however, true? With rare exceptions, are not even accomplishments all abandoned when the motive which prompted their acquirement is lost? But, granting that they are all kept up, are they substantial enough to fill up the painful vacuum left in the mind? Are they gifted with power to lull the passions, or to prevent their unguarded outbreaks?

Again; if, instead of so many accomplishments, which, at all events, fade into oblivious disuse so soon as a young lady is settled in life, female education comprised much necessary, but now almost neglected knowledge, such, for instance, as the important duties of the sick-room, so inadequately performed by hireling nurses. If it were impressed

upon girls that their noble mission through life was not only to marry, bear children, and rear up a family, but to minister to the wants of others, whether they be relations, friends, or poorer neighbours; how many, instead of being the paralyzed spectators of affliction, would be able to act the part of ministering angels, robbing sickness of half its pain by their soothing influence? Whether married or single, all would find this knowledge useful; and the last would find something to fall back upon in the performance of such duties. Education, a strong, solid education, must do the rest; not the frivolous one of the present day; and, considering that the happiness of so many thousands of our countrymen is at stake, we regret that our space will not permit us to discuss the following objections raised against a more solid education of the female mind:—

1. It is feared that women will be made pedants.
2. That women will be withdrawn from household duties.
3. That women will be made freethinkers and less moral.

We have given the objections, in order to prompt the reader to refer to the late Sydney Smith's article on Female Education, either in his works, or in the Edinburgh Quarterly Review, (1810,) where he will find a triumphant answer to these objections. He will there see that the promotion of the future happiness of thousands of educated women depends upon their emancipation from the state of intellectual degradation in which they still remain; but we might even urge a higher motive for their improved education, for does not the improvement of the race always necessarily follow that of woman?

Independently of the great probability that women of a superior tone of mind, and less excitable nervous system, would bring forth better constituted children, it is notorious that mothers mould their children's minds until the seventh

year of life, and that their influence over them afterwards is proportionate to their strength of mind.

If it be impossible thoroughly to understand our own language without knowing Latin, and if the aptitude for learning languages does not in itself denote any high order of intellect, why should not girls, as well as boys, be all the better for this salutary process of training for the mind? Granted there is great reform wanted in the way in which it is taught, for, according to the present fashion, years are spent in grammar schools, public schools, and even at college, while the students, after all, scarcely know it sufficiently to translate an inscription on a public monument, or a passage from a book. Granted, likewise, that Latin should not be taught girls from the writings of Ovid, Horace, Juvenal, &c.; and why should boys be given an early introduction to vice in pages which reflect the corruptions of an over-civilized age of Pagan Rome?

Girls need not to be troubled with Greek, unless they particularly desire it, though even that would be better than insisting on their learning music or drawing against their inclination: we should, however, rather like to see the time thus employed by boys devoted by girls to the acquirement of some living language, or to those accomplishments for which they may have a decided taste.

Moral Education.—If there be so much discussion relative to the amount of mental development conducive to the happiness of woman, there is none, fortunately, relative to the most important part of the education of both sexes—we mean, moral development. It would be useless to repeat the observations previously made on the general principles of governing a child's mind, or again to allude to the necessity of always making him understand the justice of whatever punishment he is doomed to undergo: but there is another point not yet mentioned, but no less a parent's

duty. It is, to strive to ascertain, at this period of life, a child's peculiar turn of character. It is to prevent germs of generous feelings, unselfish energy, and indomitable perseverance, degenerating, from neglect or ill-culture, into selfishness, idleness, fitful waywardness, and obstinacy. It is not to miscontrue or misunderstand a child; the end of which, when he is not at fault, being, that he will plead this as an excuse to himself when another time he is really to blame, and thus become hardened against those who have authority over him.

As, of all the influences to which man is exposed, that of habit is the most powerful, and as the dropping of daily circumstances on the character wear on it deeper channels than the transient torrents of persuasion, it stands to reason that girls should be from the first wedged into that narrow path which leads to happiness. For the great object should be so to train the heart and passions, that by the force of habit we may steadily proceed in the path of virtue, while the mind, free from the necessity of continual warfare, is left at liberty to pursue its high behests.

Domestic and Scholastic Education.—We have discussed the principles of the education of youth; but these principles may be put in force under the parental roof, at a boarding or at a day-school, while the children remain under the protection of their parents. As relates to boys, they may often require an early apprenticeship to the struggles of society in large public schools; but with respect to girls, the domestic education is undoubtedly preferable. The duties of instruction being performed by a governess and masters, the vigilant eye of a mother is attentive to all that passes, and is able to correct any deviation from right principle; while there is nothing better than maternal love to check any injudicious taxing of the brain, and prevent impending failure of health. But all have not ample means

at command; all mothers cannot spare the necessary time to fulfil these parental duties, and therefore send their daughters for daily instruction to seminaries, or to institutions, which, although of recent origin, promise to confer great benefits upon society. We allude to the Queen's Colleges. That in Harley-street was founded four years ago by gentlemen connected with King's College, with the view of affording the middling classes the opportunity for acquiring solid instruction of a high order, at a reasonable rate, and the result has answered the most sanguine expectations of its originators. Most of the professors from King's College, and many other eminently scientific men, form part of a working educational committee; and there are many lady visiters, of whom always one, and often more, is in the college attending the different classes.

The educational course runs over a space of four years, in which the pupil's instruction becomes progressively more elevated, and during the first year the pupils are assisted by teachers to prepare for the masters. But four years is scarcely a sufficiently long period to decide whether this system of education is calculated to give girls that stronger exercise of their faculties which we have so earnestly insisted upon as necessary for the happiness and health of women; though the gentlemen connected with the Queen's College think that those who have entirely followed their system are above the average rate of girls, by the solidity of the instruction received, and by the healthy assimilation of knowledge made their own, and therefore capable of being readily adapted to practical purposes. If such be the case, and we cannot help thinking it may be, this and similar institutions which have already sprung up, will tend to work that reformation in female education which we have advocated; and this has been our motive for detailing the principles and plan of its meritorious founders. We should add, in conclusion,

that the fee is 9*l.* 9*s.* a term, or a composition fee of 26*l.* 5*s.* for the yearly course.

Day-schools are commendable, inasmuch as they do not break family ties. Some children, however, are orphans; they have no relatives willing to assume the responsibility of their education; and some parents may feel that they have ill-performed their sacred duties, and that their daughters cannot be launched into society without the spoilt child being broken in; or perhaps, though satisfied with the general result obtained at home, they fancy the intellect should be sharpened by emulation, and by a foretaste of society, on a theatre where its effects can be carefully watched. Under such circumstances a boarding-school is the only resort. For young children—while masters are less necessary than excellent air and the opportunity of taking plenty of exercise—we should suggest that country schools were the best, provided they were not too near home, so as to admit of the too frequent interruption of the visits of parents and friends. We should even recommend a change of county from the one their parents or friends are inhabiting, as every change serves somewhat to enlarge the mind, and they will run a greater chance of having more companions in their own sphere of life. As children very soon learn to value themselves upon any little superiority of rank and fortune, they should on this account, as well as for the advantage of the best masters, be removed to a London school towards the latter epochs of this period; for there they will soon find their own level, and learn that while many occupy as high, or even a higher, position than themselves, they are valued only according to their intrinsic merits.

The great object of a school being to resemble as much as possible the maternal home, we should object to any very large number of inmates, so that the adopted mother may

have a greater chance of being able to perform the duties she assumes, and to make herself thoroughly acquainted with, and respond to, the various wants of each of her foster children. Besides, it stands to reason that the larger the number, the greater difficulty there will be in having a staff on whom to place implicit confidence—the greater chance there will be for the introduction of bad habits.

We have already described by what means the health of girls may be maintained; and it is evident that in schools these rules are very often neglected, partly through the parents' desire to make prodigies of their daughters, and partly owing to the natural wish of the instructress to satisfy those relatives whose children may be confided to her care. Exercise and physical education is thus often forced to give place to the three or four hours a-day of practice deemed necessary to become proficients on the harp, pianoforte, or some other equally agreeable but evanescent accomplishments; while health, which is of such unspeakable importance, is made quite a secondary consideration. As a warning to parents, we shall therefore add, that it is stated by Dr. John Forbes, that in a school which he had inspected, not one girl had a straight spine after two years' residence in the establishment.

But it may be said, if there are so many good schools, how can we choose the best? To this we would answer, Granting that the terms and situation suit—the principal part of a school—the most important object of a parent's inquiry is relative to the lady who superintends it. Virtuous of course she must be, and sufficiently enlightened and well educated for the due performance of her duties; but she should also be so highminded and scrupulous, that at the risk of losing a connexion, however advantageous, she may not debate one instant in lopping off any gangrenous limb that may appear amongst her pupils. Satisfied

upon this point, a parent may feel sure that motives of strict integrity and duty animate the system, and a child may be safely committed to that lady's care.

DISEASES INCIDENTAL TO THIS EPOCH.—Girls, as children, are healthier than boys. This fact is indisputable, and may be accounted for, according to Dr. Mayo, in the following manner: "Girls, as young children, are nearer, in mind and body, to what they are to be permanently than boys. Their shape has less to alter (the pelvis being already, in early childhood, proportionably larger;) their voice, complexion, delicacy of skin, have hardly to be modified. It is presumable that their cast of temperament, thus early decided, not temporary, unsettled, or intended for further material change, has a strength in its anticipated maturity which the childhood of the opposite sex does not possess.

We have shown that, with the exception of complaints peculiar to them, women at all ages are endowed with greater vital tenacity than men, and on whatever cause this law may depend, the period of life now under consideration seems extremely healthy for both sexes. Less liable than the preceding to the diseases already alluded to, both sexes, but especially girls, frequently suffer from *a morbid susceptibility of the nervous system*, and from disturbances in those processes of growth which proceed in the bony and muscular structures of the body.

The same deluded mothers who, by depriving girls, even when young, of food and air, and who by constantly administering physic give them an aristocratic paleness of complexion, are generally grieved if their daughters do not from the earliest periods of life manifest an ardent sensibility, which they endeavour to increase by weakening the physical frame. This sometimes succeeds according to their wish; their daughters *are* possessed of ardent sensibility; but in seeking this, did they take into consideration that the ner-

vous system, being more susceptible to frights, to sudden shocks, &c., would not only show its impaired energy by fainting-fits and hysteria, but sometimes in that distressing disease called Chorea, or St. Vitus' Dance, or perhaps in epilepsy, or even insanity, in after life?

Such conduct cannot be too universally blamed, as it tends to call into undue activity what should rather be repressed than excited; for if the affectability of childhood is diminished in the male on the approach and by the accession of puberty, in the female, on the contrary, it is only abated in proportion as more vigorous vital powers influence the system; and so soon as those powers are depressed, the nervous system intimates the fact by many frightful diseases.

CHOREA, OR ST. VITUS' DANCE.—This is characterized by an uncontrollable activity of the muscular system, or a kind of muscular insanity. The liability to chorea increases as the period of puberty approaches; and the following interesting table, compiled by M. Rufz, Interne at the Hôpital des Enfans Malades, shows the fact very clearly:

Age.	Males.	Females.	Total.
1 to 4	3	2	5
4 " 6	2	3	5
6 " 10	16	45	61
10 " 15	30	88	118
	51	138	189

Of 76 cases of chorea treated by Dr. Manson, 54 were in females, a much larger proportion than in the above table. Dr. Laycock justly observes, however, that the 189 cases occurred among 17,213 boys and 15,763 girls admitted into the hospital in ten years, (from 1824 to 1834.) If the

number of girls had been equal to the number of boys, the number affected with chorea would have been proportionably greater, that is, 157.

In connexion with chorea, we cannot too strongly urge on parents the necessity of banishing by severe punishment all those terrifying tricks and horrid surprises, which thoughtless boys are but too fond of playing off on their younger brothers and sisters; for such practical jokes, even in children not nervously inclined, have been known to originate that afflicting disease, which may not only last for years, but leave the nervous system ripe for the advent of other nervous derangements. When the first symptoms of chorea appear, a child should be strictly watched, to prevent his hurting himself, until a plan of treatment can be adopted.

Epilepsy.—This is another nervous affection, consisting in the sudden loss of consciousness, and attack of convulsions, which generally only last a few minutes. It is almost always hereditary, and attacks more frequently males than females. The observations we have just made relative to causes of chorea, apply equally to epilepsy. The precautions to be adopted are similar. Of Hysteria we shall speak at the next epoch, when it is most frequently observed.

Scrofula.—To what we have already said of this complaint at page 119, we have only to add, that it is still very frequent during the whole of this epoch, but that at the age of 14, as well as at 7, there is a marked effort of nature to sweep away all tendency to scrofula, and that this salutary effort should be assisted by diet, exercise, treatment, and travelling, if judged expedient.

Ophthalmia and accidents to the eyes.—Availing ourselves of the statistics given us by Mr. Boissonneau, we find that out of the 4,984 individuals to whom he has applied glass eyes during the last nine years, in 939 did the accident

occur from 6 to 15 years of age, and the loss of the eye was owing to the following causes:

Ophthalmia	201 cases.
From various causes	360 "
From accidents while playing with balls, with bows and arrows, &c. . .	37 "
From wounds received from fire-arms and percussion caps, whether exploded by means of a hammer, or else by children's guns	341 "

A caution to parents and tutors never before suggested by so imposing a show of figures.

At 8 years of age, or at a subsequent period of life, it not unfrequently occurs that on first taking up a book the child sees every thing clearly; but after reading for a short time all the letters appear jumbled into one confused mass of indistinctness. Such children recover their habitual clearness of vision by making use of convex glasses. When, however, this peculiar weakness of vision is discovered, the future career of the child should be marked out accordingly, all pursuits necessitating close application being of course avoided.

TEETH.—The teeth most liable to be affected by decay are the central incisors, or cutting teeth, of the upper jaw. The teeth that require removal most frequently are the lateral incisors; and in general, to secure a regular outline of the central incisors, the canine or eye teeth appear often irregularly in the upper jaw. Caries may appear in the first molar.

The teeth alone are often sufficient to indicate that they belong to a scrofulous child, and on their surfaces may be read, as in a book, the successive epochs of health and disease experienced by those to whom they once belonged; for during each attack of illness there is an imperfect formation of enamel, and a rough and coloured hue marks where it is missing.

The early decay of teeth at puberty, which blackens if it does not destroy the front teeth, always coincides with an unhealthy state of the gums, which when pressed exude a dark sanious fluid. This needs the active co-operation of both the dentist and the physician.

We have already stated (page 122) what is the usual attention required by the teeth.

SPINAL DEFORMITIES.—"If man is so much more prone to deformity and disease than other animals, it is because the dictates of instinct, safe whenever the *animal* man is concerned, are interfered with by his artificial and mistaken notions." Nothing can be more true than this assertion of Lord Bacon; and we find, accordingly, that wherever man leads a merely animal life, there is very little spinal curvature.

In vain, to preserve the rectitude of the spine, and to make the human body self-supporting, did the Divine Architect give to bone the solidity of oak; for nothing can withstand the continued action of the many pernicious influences already pointed out in the previous portion of this work. The full-grown oak may break, but will not bend, like the sapling, to the wind; and by constantly bending to the same wind, the young stem may become permanently curved. So it is with the spinal column. Until its full growth, or until about twenty-five years of age, it will bend, but most in youth, and in proportion to the strength of the agencies unintentionally made use of.

Women are most subject to spinal curvature, and it has often been asked why? Such a question is equivalent to asking why a woman is a woman; for it is evident to all that there is a greater degree of delicacy in the materials or the structure of the female constitution, and the delicacy of structure which we observe in the skin of women is equally

met with in their muscles, and likewise in the bones, in the cartilages uniting the bones of the spine, and in the ligaments which so bind the bones together as to form joints. These anatomical differences endow the spine of woman with much greater extent of movement; indeed, the flexibility of the spine is so great in some girls that, by bending backwards, they can make the head touch their heels.

We have already said that we are generally consulted for spinal curvature in girls about the age of puberty, or during the few years which precede this crisis; and in the great majority of cases the girls are delicate-looking, thin, have a tendency to be chlorotic, are often completely so, and sometimes hysterical.

When these persons are undressed for the spine to be examined, the dress is generally found not to be supported by the shoulders, but pressing on the outer side of the shoulder-joint; the tight-laced stays are often full of bones, and are seemingly not intended to fit the bust. The body, too, is sometimes marked with red lines, or patches of red, which show that in those cases the girls have suffered from the pressure of the stays. Besides these, there are many other causes of spinal curvature.

It is well known that the growth from seven to fourteen years is often so rapid that the body then attains its full height. Without any knowledge of medicine all can understand that growth should be harmonious; for instance, that the growth of the bones or levers should keep pace with that of the muscles, and that the whole expansion of the body should proceed gradually, and not by sudden fits and starts. Any rapid fit of growth should be looked upon with great anxiety, as the sudden strain of the whole system in one direction is often the precursory symptom, or the consequence, of disease. The medical adviser can

alone suit the necessary means of support to each particular case.

When nature puts forth her strength in the elongation of the bones, while the muscular and nervous systems remain in a state of comparative debility, then it is that habitually bad attitudes will give permanence to spinal deviations, and to the curving of bones, that still retain much of the ductility of childhood; for if at all times the harmonious action of all the muscles of the body be necessary to maintain it in equilibrium on so small a basis as that covered by the feet of adult women standing in the erect position, how much more must this be the case during the period of youth!

If we inquire into the habits of girls at school or at home, we generally find that "the solemn procession" is their only exercise; that two or three hours' sitting posture on the music-stool is changed to that required to draw or to learn lessons, which they often repeat standing listlessly, the weight of the whole frame being not unfrequently thrown on one leg, the body swayed to one side, the opposite knee being bent, and the hip raised. When permitted to sit, they are not allowed to bend their back, but are supposed to be capable of sitting bolt upright; and when nature forces them to "sit at ease," they are reminded by the teacher to hold themselves well. These various attitudes have so powerful an effect in helping to distort the spine that we must call the serious attention of parents to their effects; for it is much easier and far more economical to prevent spinal curvature than to cure it.

With regard to the attitude to be assumed while sitting (a matter of some importance, since young persons remain in that position for several hours in the day) a moment's reflection will show that if a girl is to sit upright for any length of time, she must have her back supported, as Dr.

Mayo has carefully shown. The reasons are thus given by Mr. Bishop:

"Any one sitting with the trunk erect soon feels the position exceedingly irksome; and, if there be no support behind, the trunk very soon inclines forwards. The explanation of this tendency is as follows:—In sitting, the trunk is in a position of unstable equilibrium, and the extensor and flexor muscles are in a state of constant action; but, since the flexors are much weaker than the extensors, the body is naturally inclined forwards, by which means the former are relieved at the expense of the latter. Hence it is evident that, in sitting, the upright position cannot be long maintained without fatigue; but that, by throwing the body forwards, the great power of the extensors enables us to sit for a considerable time without being tired. Parents, governesses, and the masters and mistresses of schools, are constantly ordering young people to sit upright, under a mistaken notion that the flexed posture leads to stooping, whereas it really strengthens the extensor muscles of the back."

Mr. Jenkins, whose ingenious instructions have been of so much use to the youth of the last twenty-five years, observed that there was one sure receipt for producing crookedness, "That a child should bolt his food, and habitually stand on one leg." The evils proceeding from the mischievous combination of bad digestion with faulty habits of posture, are well conveyed in this apothegm.

With regard to the effects of attitude in producing distortion, we cannot do better than again borrow the words of one of the latest and best writers on the subject. Mr. Bishop observes: "If, for instance, one of the legs is bent, the weight of the body is transferred to the other. To effect this, the trunk is rested upon the hip-joint of the support-

ing leg; for which purpose the pelvis must be inclined, so that the line passing through the axis of the hip-joints, instead of being parallel, becomes oblique to the horizon, and the whole trunk must so accommodate itself to this new position as to bring all parts into a state of equilibrium; otherwise the person would fall to the ground. This attitude, which is so commonly assumed by young and delicate females, produces unequal pressure on the bones of the spine, and the inter-vertebral cartilages; and, if continued for a long time, or frequently repeated, ultimately causes distortion. The protrusion of the hip-joint, the unequal height of the shoulder-joints, and the curved state of the spine, are effects which ought to be noticed and corrected before any bad consequences result. The mechanical analysis of the effects of standing on one leg will be given when the cases of unequal lengths of legs come to be investigated."

Now if we examine the consequence of habitually standing on one leg, we shall find that it is to exaggerate the natural curves of the spinal column; which is done by the attenuation of the inter-vertebral cartilage on the inner side of the curve, and by the thickening of the corresponding portion of the same cartilage on the opposite side. Now the growth of a child and the nutrition of every part of the body being constantly going on, while the child is standing on one leg it is literally *growing* crooked; for, as nutrition takes place by the free deposit of plastic substances, coming from the blood, it is evident that, in that part of the inter-vertebral cartilage made thinner by compression, little room is afforded for the admission of new deposits.

If bad attitudes have so prejudicial an influence under these circumstances, it is more than probable that ill-judged gymnastics have often crippled children for life; and here

we must take the opportunity of deprecating a practice made use of as a punishment in some schools, of making girls stand in one place, immovable, for several hours.

When a mother perceives that a lively, active child becomes dull, leaves her favourite games, loses her activity and appetite, seems serious and pensive without reason; when days pass over, and the child grows more and more sullen and morose, looking pale and languid, a sort of anxiety appearing on her face, seeking for rest, leaning on objects around her, taking all sorts of awkward positions, and appearing rather to crawl about than to walk; deformity is to be feared, and it is still more likely to occur during the continuance of scrofula or other chronic disorders, or during convalescence from any acute disease. If remedial means are not adopted, one soon sees what is generally called a shoulder growing out, the head projecting forward, a stooping of the body, and the standing on one leg: when this second symptom appears, the spine may be supposed to be already crooked. Without waiting for this, the mother should herself ascertain whether there be just cause for fear. After having her child undressed, and causing her to stand upright, the end of a plumb-line should be held with the finger to that part of the spine which is united to the head. If the line coincides pretty nearly with the line of the spine, all fears are groundless; but should the spine make a considerable curve on either side of the line, every prudent mother will be prompted to put aside foolish pride, and to consult some professional man who has given his particular attention to the subject. But while examining the spinal column, care should also be taken to notice whether the warping of the spine does not depend on the unequal length or deformity of the legs, a very important point to ascertain, and which, it appears, has

sometimes even escaped the attention of the profession: for, as Mr. Bishop very justly observes, "To prop the spine, which is curved by the state of the legs, is just as if a person who has the foundation of his house defective, which causes the superstructure to incline, should attempt to remedy the evil by propping the upper parts, and neglecting the repair of the foundation, which is the seat of the mischief." An architect would be called insane were he to adopt such means to remedy the evil; yet this is precisely analogous to the plan of propping the spine, and neglecting those defective states of malpositions of the lower extremities which give rise to the greatest number of cases of lateral curvatures.

Till lately the treatment of spinal deformities has been too much neglected by surgeons; and the patients have been handed over to the tender mercies of instrument-makers, little conversant with the structure of the human frame, and the wonderful laws by which it is governed. The result has been puzzling to the public, for to whatever instrument-maker they might turn, they were conducted between two rows of casts; those on one side exhibiting frightful distortions, while the casts on the other side were said to be taken after the patient's recovery, and to evince the triumph of art by the restoration of the distorted spine to its almost natural state. Now a new era opens for Orthopedic Surgery, for there is a Public Institution where the profession is at liberty to watch the progress of the treatment, and the author whom we have quoted on the subject has shown that the re-establishment of the tottering human edifice, like that of any other building, must be in a great measure deduced from mathematics and mathematical investigations of the highest order.

The parent will of course bear in mind that all mechanical means will be useless, unless the constitution be strengthened by the sanitary measures of which this volume treats, and

by gymnastic exercises appropriate to each case, and indicated by the surgeon.

We have purposely given considerable length to our inquiry into spinal deformity, because of the great frequency of its occurrence, as well as on account of the extreme annoyance which it causes to the patients and their friends. The possibility of always giving alleviation, and of often curing the patients, is another motive; and by explaining the action of the causes which produce spinal curvatures, their frequency may be prevented. Lastly, the subject deserves great attention, for spinal deformity is not only the result of constitutional disease, but, when once established, it will of itself tend to produce constitutional derangement. The quantity of vital air or oxygen introduced into the lungs is in proportion to the capacity of the chest,—the smaller the chest, the smaller is the quantity of oxygen introduced into the lungs, to the detriment of the blood; and as this fluid contains the plastic substances of which all parts of the body are built or repaired, the body is built or repaired out of bad materials.

Re-vaccination.—Small-pox, measles, and scarlatina generally protect from a second invasion those who have once been affected by their peculiar poison; but not always so: there are many well authenticated cases of persons having had these complaints twice, and even thrice. Need we then wonder that cow-pox, or the matter of vaccination, should not invariably protect from the small-pox? It is reasonable to believe that at certain periods of life it is prudent to repeat vaccination, for if it should fail to take, no harm can be done: when, however, in adults the vaccine eruption follows its usual course, it is fair to infer that they might have been with equal facility affected by small-pox, if placed within its reach.

Another reason for persons being re-vaccinated is, that

they are often imperfectly vaccinated in childhood; and it would even seem from what Mr. Leese tells us, that vaccination is much more liable to take in adults who present but three cicatrices than in those who offer six, which would show that the preservative influence of cow-pox was in some proportion with the number of specific pustules determined; a fact, however, which requires further and more extensive confirmation.

Instances might be mentioned of persons, after re-vaccination, taking the small-pox, when fearlessly attending some relative thus afflicted; but even in these cases the milder form assumed by the disorder proves the power of its antagonistic virus—vaccine. We therefore think that every person should be vaccinated about puberty; not, as some suppose, because vaccination is an infallible preservative till then—for there is nothing infallible in this world—but because it should be done at some stated times; and if in this respect England were to follow the example of Germany, where the whole population has been re-vaccinated, we should not have our weekly returns so full of deaths from small-pox.

The rate of mortality during this epoch of life is satisfactory, as will be gathered from the following table:—

(Of 1000 Children born alive.)

Age on Birthday.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
8	6	3	3
9	5	2	3
10	4	2	2
11	3	2	1
12	4	2	2
13	4	2	2
14	4	2	2

The mean duration of life will be gathered from the following table:—

Age (or Birth-days.)	Mean Future Lifetime, in Years.		
	Persons.	Males.	Females.
8	49	48	49
9	48	48	48
10	47	47	48
11	47	46	47
12	46	46	46
13	45	45	46
14	44	44	45

The various rates of life insurance are as follow:—

Age on Birthday.	Life Insurance £100.								
	Uniform Annual Premium.						Premium for a Single Year.					
	Males.			Females.			Males.			Females.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
8	1	4	1	1	3	10		15	0		15	7
9	1	4	5	1	4	3		12	1		13	6
10	1	5	0	1	4	8		9	9		11	10
11	1	5	8	1	5	3		9	10		10	4
12	1	6	4	1	5	11		9	10		9	8
13	1	7	1	1	6	7		12	1		11	1
14	1	7	9	1	7	3		13	2		12	10

The Counties' Union Assurance Company has succeeded in rendering educational assurance more beneficial to the parties interested; its tables are so calculated for the benefit of the children who may become orphans during the educational period of the policy, that, in the event of the death of the father, their board and education shall be continued to the end of the term assured for, without further payment of premiums. Other advantages, also, would be afforded,

on equitable terms; especially, that a parent may assure expressly for the maintenance and education of the child from birth to any period, in case the father should die before the educational period commences; so that by this means orphanhood is completely provided for.

Annual Premiums to secure £30 a year for the education of a Child from 9 to 14, in case the father should die at any time previous to the attaining the Age of 14.

Age of the Child.	Age of Father.											
	30			40			50			60		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
0	2	5	9	3	1	11	4	7	11	8	10	5
1	2	4	6	2	19	7	4	5	0	7	19	9
2	2	3	6	2	17	9	4	2	3	7	12	0
3	2	2	9	2	16	3	4	0	0	7	5	9
4	2	2	3	2	15	0	3	18	0	7	2	3
5	2	1	11	2	14	0	3	16	3	6	18	0
6	2	1	8	2	13	3	3	14	7	6	14	3
7	2	1	5	2	12	7	3	13	3	6	10	9
8	2	1	2	2	12	1	3	11	11	6	7	6

CHAPTER V.

FOURTEEN TO TWENTY-ONE YEARS.

The Numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality per cent. for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Fem.	Males.	Fem.
950	947	50	53	5·027	5·298	·718	·757

Thus, out of 1000 *youths alive at fourteen years of age* 950 *completed their twenty-first year, the remaining* 50 *died during the period* 14–21. *The mortality for this period was* 5·027 *per cent. The annual mortality was* ·718 *per cent.*

No period of life is marked by more important changes than that wherein puberty takes place.

Up to the fourteenth year the different parts of the bodily structure and faculties of man gradually developed themselves in harmonious action and re-action, but about this period of life certain other dormant portions of the system wake up in anticipation of their future destiny. About this period they acquire so great an activity that frequently the nervous system of both sexes becomes surcharged with some unexplained influence, whose properties are partially intimated by the vague terms of Nervous Irritability, Nervous Power, or Electricity. Under the influence of this new stimulus the human intelligence also wakens into new life, conceives more or less clearly a new chain of ideas; and

that portion of current language which hitherto fell upon the ear like the accents of an unknown tongue is now more or less understood.

Some, indeed, there are, endowed with a constitutional torpidity, which enables them to pass unmoved through this important crisis; but this sudden revelation of their nature, and the knowledge of their relative position to the opposite sex, and to the rest of creation, acts upon most of us as the partial uplifting of that veil which must ever on earth enfold the statue of truth, or as the falling-off of the shackles of the emancipated slave, prepared to assume dominion over himself and over creation. Time may indeed undermine our vigour, bend our frame, and strew with wintry snow the oft-fevered head; but memory will ever hold up the past as in a mirror and recall the events of that perilous crisis, its joys, its exultations, and its magnanimities. Maturely pondering over past sensations, we can analyze now what then was instinctively enjoyed; we can understand how the state of physical health was such that the mere fact of living was a positive pleasure, how the mind was buoyed up by such an elasticity of spirits that we longed for wings to take the place of too tardily moving feet, and we can recall how difficult it was to bring home to our conviction that all this energy might soon fail, the idea of death appearing like some vanishing point of termination in the far, far future. Now can we understand the mental movements of that epoch, with its lightning-like illuminations of truth, its quick guesses at things, a faint glimmering of light being then deemed so substantial that, if followed, floods of knowledge must soon burst forth, and darkness be irrevocably swept from the fields of human science. Now, too, can we remember how what was called love in children up to puberty, was scarcely deserving of the name, for it was but a feeling of grati-

tude for food, for raiment, or for an exchange of sympathy; but love, at this period, becomes something more: the feelings expand, become more intense, and without hope of return would we give freely, magnanimously, that affection formerly bartered for a bun.

Most of these feelings are shared by both sexes, but with different intensity. That which makes man more bold, will generally awaken greater timidity in woman. Puberty, which gives man the knowledge of greater power, gives to woman the conviction of her dependence. Puberty is first intimated to her by an occurrence often followed by a series of disorders chequering life with infirmity; while the corresponding change seldom produces any additional chances of ill health to man.

If such then be the effects of puberty, if it be granted that the importance of the change on the future life of both sexes cannot be calculated too highly, it is a matter of some consequence to know how the health is to be managed during this crisis.

We are aware that many will deny the utility of treating such a subject in a popular work. They will say that it is a natural change, and therefore may be left to nature; that mothers, nurses, and female servants, know sufficiently what is necessary for health; that in cases of emergency the profession can be appealed to, but that on so delicate a matter women should know as little as possible.

Before answering these objections, we shall state that it is generally admitted by the profession, that while this period is one of intense restlessness and struggling after fresh development, all the human faculties are simultaneously so exercised as to endanger health, if not life; and Dr. A. Combe, who successfully devoted much time to hygiene, says, "A good deal of observation has satisfied me that too little attention is paid to the preservation of health at

this critical period of life; and that by proper management during the transition from adolescence to maturity, many might be saved who now fall victims."

If such be the opinion of the profession as to the dangers of this epoch to both sexes, those who, like ourselves, treat especially the diseases of women, will, we feel convinced, give their hearty concurrence to the views expressed in the following passage by Dr. Meigs, a distinguished medical writer:—

"Certainly, in this country at least, too little regard is paid to the dangers of this crisis, and when the threatening consequences of mismanagement or misapprehension have become startling, those fatal mutations are attributed to some trivial cause, and the victim passes away to the sound of the passing bell; and no increase of knowledge, acquired by such a mournful experience, stands in the way of the next victim to a management as unwise and as thoughtless. If, then, wise care be not taken of the health of the growing females of a family, physicians will have the pain of witnessing their early subjection to dangerous and fatal disorders, or else to see them, even after the puberic phenomena shall have been all made manifest, and the age of puberty past, suffering those derangements of health which seem to render them useless to their friends, inefficient as the heads of families, and unfit to encounter and discharge the stern obligations and duties of life. Many are the examples we could cite from memory of persons who, even after being married for years, and after having been regularly menstrual, still continued to labour under the effects of a badly-passed puberty; showing these effects in an over-excitable circulation, excessive nervous susceptibility, dysmenorrhœa, sterility, and the impatience and discontent that necessarily wait on feeble health and disappointed expectations; some recovering completely under careful treatment, and others falling into weakness, becoming at last victims

of consumption, menorrhagia, or other disorders, of which the foundations had been laid in an improperly-conducted physical and moral education."

We also fearlessly assert that the liability to disorders incidental on the changes brought about in woman by puberty, increase daily as civilization increases; and the reasons assigned for keeping women in ignorance are the following, which may readily be answered.

I. It is supposed that the function can be left to nature.

Because a function is natural, it does not follow that it is not fraught with danger. Is not dentition sometimes dangerous? is not pregnancy? A knowledge of danger permits its being warded off; and if our high state of civilization prevents our placing the same dependence on the fixed operations of nature as those who live in barbarous hardihood, it is because we are amenable to greater variations, and must therefore accept the additional infirmities saddled upon us by civilization, as some drawback on its blessings; and, like rational beings, seek to ward off those disorders by a knowledge of their causes.

II. It is affirmed that mothers, nurses, and female servants, know all that is necessary upon the subject.

In the course of this chapter we shall be able to furnish sufficient proof that such is not the case. In the mean time we shall merely state that, unless prepared by professional instruction, which can be very rarely given, the best educated woman must be ignorant of many things necessary to be known, and as liable as the poorest of her sex to be guided by prejudices most injurious to health.

III. It is contended that women should know as little as possible about so delicate a subject.

To entertain a horror for an essential condition of health, is, in reality, to accuse the wisdom of Providence, who ordained its necessity. For this species of false delicacy,

this *amabile vitium*, as Quintilian would have called it, we have no sympathy; and to affect on that point a horror which is not really felt is a kind of mental weakness unworthy of a rational being. Far be it from our wish to diminish, even in the slightest degree, the strength of that true feeling of delicacy, which, throwing a veil over the least noble of our necessities, gives so great a charm to the relations of society. It is the boast of English women that they are particularly endowed with that feeling of delicacy, —and may its strength never be impaired by our intercourse with foreign nations!—but as it would be false delicacy for a woman in her hour of peril not to claim the assistance of a man of talent to save the life of herself and her child, so it would also be false delicacy in a mother not to seek to know how her daughter's health is to be managed when puberty has arrived.

IV. Lastly, it is thought that in any case of emergency the profession can be appealed to.

Before women should appeal to the profession to set right any function, they should know whether it be rightly or wrongly performed; and as a respect for the delicate feelings of women often prevents medical men being so particular in their inquiries as is sometimes necessary, some rational notions in matrons and grown-up women would often prevent their doing what might be positively injurious. Without at this time confirming the assertion by facts to be mentioned hereafter, we shall merely state that three months ago we were consulted by a lady 26 years of age, who for the last five years had been reduced to a state of great weakness and emaciation from various complaints, chronic uterine inflammation among the number, and though she had consulted many medical men, and some of known celebrity, not one was made aware that what,—up to the period of her illness,—usually appeared monthly had for

years occurred every fortnight. The doctors did not inquire —the patient's modesty prevented her telling them, and this state might, perhaps, have lasted much longer, had it not been necessary to ascertain whether an habitual uterine discharge was caused by some organic affection of the womb. We found that there was no organic disease, and by means of the treatment recommended in our work "On the Preservation of the Health of Women," the periodic function reassumed its monthly appearance, the patient's health immediately improved, and in two months she had gained flesh, and was comparatively well.

It is the wish of the medical philosopher, as well as the affectionate desire of a parent, to see girls attain to the perfection of womanhood, blest with a sound understanding, a clear intellect, and a moral principle of action, rendering them capable of those sacrifices so often required of women. These three component parts of human nature have progressed by gradual degrees from infancy to puberty; but their full development depends upon the influence and the right direction of the hitherto dormant system of reproduction. By this mysterious intervention does the awkward overgrown girl become instinct with grace, the body acquires beauty, the mind solidity, and the heart its fullest scope of power; for as nothing is contrived without an end, the strongest manifestations of the instincts natural to man coincide with the development of the organs which influence their energy, prompt their course, and satisfy their desires. If this intervention be not sufficiently strong, nutrition is badly performed, and the skin often becomes coloured with the pale yellow and green tints of chlorosis. If, on the other hand, it be too strong, the emotional powers may be wasted in eccentricities of temper, or frittered away in hysterics.

The task of maturing the body, as well as the mind and

the affections of the female child, so as to ensure health, is a sacred duty which devolves almost exclusively on the mother, and therefore it is incumbent on her to have correct notions relative to the function of puberty; and although its healthy performance is doubtless dependent on a healthy constitution, still, whenever out of order, it so strongly reacts on the whole system that we are fully justified in stating that *the proper management of this function is the only sure foundation of the health of woman.*

Having proved the necessity of mothers, and those who assume their sacred duties, possessing some correct notions respecting puberty, we shall now proceed to demonstrate that to a certain extent they have power over the arrival of this crisis,—that it depends upon them whether its first appearance be advanced or retarded.

Without entering into details unsuitable to non-professional readers, and which members of the profession will find in the author's works already published, or in those of other writers, it is sufficient to say that climate has a marked effect upon the time of the appearance of puberty in women; that while it appears at about thirteen years of age in India and in similar hot climates, in cold, as at Copenhagen, its appearance is protracted to nearly seventeen: however, in London, and other temperate climates, fourteen is the average time of its arrival. What, however, is still more to the point is, that this epoch varies according to the different modes of living: thus, Brierre de Boismont, comparing the period of its appearance in the various classes of women living in Paris, found that in the daughters of the rich, puberty appeared nine months before it did in those in the most comfortable circumstances amongst the working classes, and fourteen months previous to its appearance in the poorest women.

No. of women.	Social condition.	Mean age of puberty.
171	The poorest class	14 years 10 months.
135	The well-to-do working class	14 " 5 "
53	The opulent class	13 " 8 "

The results we have obtained in London are very similar to those obtained in Paris by M. Brierre de Boismont, and our friend Dr. Ravn at Copenhagen.

No. of women.	Social condition.	Mean age of puberty.
775	The well-to-do working class	14·3
67	The opulent class	13·45

Besides climate, therefore, other causes have a powerful effect in advancing the period of puberty, and we are naturally led to infer that it is owing to the diminished vigour of the body, and the greater development of the nervous system, that, in girls in affluent circumstances, puberty occurs earlier than in those in whom the whole energies are devoted to laborious exercise.

Hence we are justified in stating that mothers in the middling and higher classes of society may influence the development of this function. They may forbid their daughters the required amount of exercise, they may keep them in hot rooms, pampering them with luxurious food, exciting their nervous susceptibility by music and novel-reading, all which may have a fair chance in bringing it on sooner. They may retard it by the contrary course, by subjecting girls to the strong principles of education previously insisted on, and by causing, as far as possible, their circumstances in life to resemble those of the poorer classes. It would be a capital rule in every system of education to retard as much as possible the first appearance of puberty, and this for two reasons: first, that women may have a greater probability of longevity, and, secondly, that they may enjoy a greater amount of health. It is a

known fact that in Norway, Sweden, Russia, and those cold countries where puberty is most retarded, human life is most prolonged, while it is shortened in the tropical regions. Of course other reasons may be urged for this fact, but may it not in part depend upon "Nature finishing her periods in larger cycles" in cold climates, as Lord Bacon has quaintly said? But, supposing this first reason to be merely a strong probability, is it not manifest that in our climate the retardation of puberty is greatly conducive to the future health? The study of diseases of women enables us confidently to state that the longer the reproductive apparatus remains dormant in women, the stronger will be their constitution, the more harmoniously will the physical functions be performed, and the more favourable will be the influence of this apparatus on the whole system.

We constantly hear parents talk of "bringing girls forward," but the art of educating girls, in order to bring them to the full perfection of womanhood, is in reality to *retard as much as possible the appearance of puberty*.

If there be any possibility of effecting this purpose, it must be by delaying their introduction into society. Girls should be kept as much as possible in the school-room, which, in the usual acceptation of the term, means rational food, rational hours of rest and of rising, and rational exercise at judicious times. It means the absence of sofas to lounge on; the absence of novels fraught with harrowing interest: it means the absence of laborious gaiety, of Theatres, and of Operas; the absence of intimacies which are of a too absorbing nature, and a wholesome subjection of every minute to rule and discipline. In other countries, girls from the cradle sit at their father's table, and are subject to the baneful influence of the mixed society to be met with at their homes. In our opinion a different plan is the principal cause of the pre-eminence of English women

in vigour of constitution, soundness of judgment, and still more in their rectitude of moral principle. Under all circumstances girls should as long as possible be kept under this restraint; but when there exists any constitutional weakness—any very painful performance of the monthly function, a girl should be kept in the school-room much longer than usual—by those, at least, who wish to build up power for the future, and think their daughter's health preferable to a life exclusively made up of excitement and disease.

But supposing a mother has carefully fulfilled every duty to her child, has retarded as much as possible the appearance of puberty, by what signs is she to infer its near approach? This must be our next consideration; and when girls, however tender may be their age, suffer habitually from headache, and when this is accompanied by dizziness, heaviness, dullness of intellect, and great tendency to sleep, it is most probable that puberty is impending; particularly if these head symptoms coincide or alternate with pains in the back and lower limbs. With a wonderful uniformity of language, they talk of feeling "a heaviness in the head," "a stupid feel," "a stupid headache," or "of feeling stupid, but without pain," "feeling heavy for sleep," "of being drowsy," "of the possibility of sleeping any where, while at work or standing," "of feeling lost, bewildered," "of losing their wits or memory for a time," "of feeling a dimness of the eyes, or a temporary loss of sight," "of falling down on stooping," "of involuntarily dropping plates and dishes," "of forgetting when sent on an errand what they were sent for, and then being obliged to stand still and make an effort to recollect, and in some cases not being able to do so." Additional confirmation may also be found in the change which may be observed in a girl's character. If she no longer takes pleasure in the society of children, shuns companions of her

own age, and finds in solitude charms hitherto unknown; —if, uneven in temper, she is at times as usual, cheerful and expansive, at others, cold, peevish, fretful, and even mischievous, atoning afterwards for these inconsistencies by the most fervent expressions of tenderness; if her eyes shine with unwonted lustre in mixed society, having lost the innocent, confiding expression of children, who boldly dive into the depths of other eyes, because they know not of dangers to be encountered there. If, without any discoverable source of illness, the heaviness, giddiness, and tendency to sleep are carried to an extent which resembles some of the effects of intoxication; if there be a disposition to faint and to fall into hysterical fits; if the ankles and legs swell; if the limbs and joints are often the seat of pains called growing pains; if there are habitual pains in the lower part of the stomach, and if there be a tendency to bleed at the nose.

The time at which puberty has generally taken place in her family may also form some guide to a mother in reference to the period when she may expect it in her daughter, though, indeed, there are numerous exceptions to this rule; but when a prudent mother sees these, or any of these signs, when her daughter has become to herself a mystery, the mother's duty is to unravel that mystery, and to inform her daughter of what is the common lot of all her sex, in order that women may continue in health, or regain it when lost. This will prevent fright at its appearance, or the idea that she has wounded herself; and prevent her from frustrating the inauguration and due establishment of the function, as so many do when taken by surprise.

But a mother may say, "Suppose I am mistaken, and fancy that I see these signs long before the event happens, where will be the use of taking away my girl's childish gaiety, and making her fancy herself a woman?" There

would still be this use in it, that her daughter would escape the serious consequences ensuing from such an event coming upon her unawares, a circumstance so common and so little guarded against, that we find, from our statistical inquiry, deduced from the cases of nearly 1000 women, that 25 per cent. were totally unprepared for its appearance, that 13 out of the 25 were much frightened, screamed, or went into hysterical fits, and that 6 out of the 13 thought themselves wounded, and washed with cold water. Of those frightened the flow was checked in 7 instances, was never restored in 3, and the general health of all was seriously impaired. Of those who washed with cold water, 2 succeeded in effectually suppressing the flow, which only reappeared after several years, and then at irregular intervals, and was never healthily established.

It may be said that it is only in the lower classes that girls are kept in darkness relative to what is of so much importance; but this is by no means the case. The same bad management equally prevails in the middle and the higher classes of society. Girls in affluent circumstances, and well educated, are, we know, often taken by surprise at the appearance of this function. Mothers who, in other respects, act judiciously, will not condescend so far to bow down to the exigencies of their nature, as to give the necessary advice to their daughters; but when the event happens, they are too often turned over to the management of an unmarried attendant. We have been also informed by several ladies presiding over large establishments of young ladies, that the pupils who are placed with them after the appearance of that function, have never been properly prepared for the event; that many are so ignorant that it is extremely difficult to prevent their washing with cold water, in the endeavour to remove what they naturally view with feelings of disgust.

We had selected a few cases strongly illustrating the fatal effects of allowing young persons to be taken unawares, but want of space will not permit us to insert them in the present edition.

It has already been stated that puberty occurs at different periods, according to the country, class of society, and even the constitution; but it is also necessary to remark that it is sometimes delayed many years beyond the usual time; and the knowledge that such may happen should be sufficient to prevent the infatuation of so many well-intentioned mothers, who, merely because "the custom of women" has not appeared in their daughters at the same age as it appeared in themselves, do not hesitate to administer forcing medicines, without asking the sanction of a medical opinion.

The following sad history, related by Dr. Dewees, is the best case that can be given on this subject:—

"We too often call to mind, with bitter recollection, the fate of a most amiable, interesting young creature, for whom we were requested to prescribe for the expected menses, but who had not one mark that could justify an interference, more especially as she was in perfectly good health. 'She was fifteen; it was time;' and this was all that could be urged by the mother in favour of an attempt 'to bring down the courses.' We relied too much on the good sense of her anxious parent, and freely explained ourselves to her. She left us apparently satisfied with our reasoning, and we heard nothing more of the child for six months, when, on being suddenly summoned to attend her, we found her throwing up blood in considerable quantities from the lungs, of which disease she died in a few days. The distracted mother told us that though she appeared satisfied with what we had said, she felt convinced we were wrong, and that her daughter's health required the imme-

diate establishment of the menstrual evacuation. With this view, she determined upon trying a quack medicine of some celebrity in similar cases. She gave it according to the direction, and in a few days the daughter became feverish, lost her appetite, and suffered from nausea; her strength gradually diminished, and she was soon confined to her bed. The mother called in the quack doctor, who encouraged her to persevere, by telling her the fever was an effort of nature for the end proposed. She persevered, and in a few days lost an only and a lovely daughter."

Nothing can be plainer than the line of conduct a mother should adopt in reference to her daughter's health;—if she be well, however late the first appearance may be delayed, no physic is required;—if she be ill, medical advice should be sought, as ill health may then depend on opposite conditions of the body,—on a fulness of habit which may require lowering measures, or on constitutional weakness or decided chlorosis, necessitating a judicious combination of strengthening measures.

A mother should also be aware that in some very rare instances this function may not appear until after marriage, until after child-bearing, or even, as in some still more exceptional cases, not at all. We know of two such instances: both ladies are married, and enjoy good health, but have never had children. From the intervention of certain exciting causes, the first appearance of this function may also accidentally and prematurely appear; for if its non-continuance after the first appearance sometimes proceeds from too great a fulness of habit, and sometimes from weakness, it also very often depends on its having occurred before the constitution is prepared to bear a monthly drain. We have remarked that those who attain to puberty very early are seldom regular before the age of eighteen, and on this point our experience is confirmed by what has been

told us by several ladies, who have for many years presided over large establishments for the education of girls belonging to the higher classes. Now, if this were to be carefully instilled into the mother's mind, there would be less mischief done by the injudicious administration of forcing medicines to promote the return of what, in fact, ought not to have appeared so soon. Mothers should be made aware that, without any detriment to a girl's health, this function will most probably be arrested by any great change of abode or circumstances: that when a girl leaves the country and goes to school in town, the flow will be very likely to stop for three or six months, and then proceed regularly even without medical treatment; and that when accustomed to a town residence, on her returning to it after passing the holidays in the country, the function may again cease for a few months.

This fact is so little known by women, that we were scarcely surprised at being informed by Dr. Julius, of Richmond, that in a school he attended, generally averaging from eighty to ninety girls, this delay in the usual appearance occurred so frequently, on the arrival of girls, that the lady presiding over the establishment felt convinced that it depended on the unwholesomeness of the situation, and she intended to urge the removal of the institution to another locality, had not Dr. Julius, with some difficulty, persuaded her of the real state of the case.

That this temporary suppression depends on change *only*, and not on a change from agreeable to less agreeable circumstances, is proved by the fact, that when the courses have proceeded regularly in town, they sometimes stop for several months when a girl returns to her home in the country.

The perturbing influence of a sea-voyage over the ganglionic system in particular of those who are unaccustomed

to the motion of a vessel, enables us to understand the powerful effects it produces on this function, which is evidently to a great extent under the control of the same nervous system; for the function is almost always arrested during a sea-voyage, and seldom recommences until several months after an arrival in a strange land. This is observed to take place as frequently with ladies arriving in India after the long sea-voyage, as it is with the poor Irish emigrants deposited on the hospitable shores of America.

It cannot be too forcibly impressed upon the minds of parents, and of those who preside over the education of youth, that the system generally followed in finishing-schools is very defective, too little attention being paid to invigorating the constitution, while the mental faculties are overstrained in the attempt to acquire a multitude of accomplishments. The result is, that so large a portion of the nervous energy is concentrated in the brain, that other organs are not allowed to fulfil their proper functions. This is what physiologists call the "law of derivation," and induces a kind of suppression, which should be remedied, not by purgatives or forcing medicines, but by relaxation from study, and by additional exercise in the open air.

The extent to which the pernicious practice of giving forcing medicines is carried, is hardly to be credited; and so general is the error, that the active co-operation of the profession will ever be required to eradicate so mischievous a prejudice. Neither are mothers sufficiently aware that they have no right to try experiments on their daughters, in case the accustomed tribute, after its first regular establishment, should not be paid with due regularity. This may depend on a cold, or on some more serious disease, which would only be increased by the means usually employed to promote a return, only to be safely effected by the adoption of such

treatment as may check the disease itself; and this is one of the most complicated problems of medical art.

Case.—We were lately consulted by a lady, justly alarmed about her daughter's health. She was a delicate, pale-faced girl, with light hair and blue eyes, and very tall and slender. The courses appeared at 14, without any previous disturbance; and had proceeded regularly for two years, but were sometimes scanty, at others profuse, and always attended by much pain. After amenorrhœa had continued several months, the mother, without consulting any professional man, repeatedly gave purgatives, which increased the general debility, but did not bring on any return. She then followed up this system by administering the cake-saffron in pennyroyal tea, which she had frequently given to some of the poor women in the vicinity of her country-house. This was followed by spitting of blood to so alarming an extent, that the mother called in a medical man, who adopted measures which checked this occurrence, and very properly told her he would not answer for the patient's life if she continued to manage her daughter in so inconsiderate a manner. The girl's health improved, but always remained delicate: at times she was much troubled with cough, and as the courses had not returned, we were consulted. The girl is 18, consumptive, and little hope can be entertained of her recovery. There is no consumption in the family; and we believe this disease would not have been developed—certainly not at so early a period of life—if it had not been for the perverse love of giving medicine, which the soon-to-be-childless mother now so bitterly repents.

It has been shown by what means the female organism may be best disposed to favour the first establishment of the important function which marks the advent of womanhood; and it might appear that when once this function has begun,

the continued careful vigilance of a mother, and of a medical adviser, are no longer required, nature being safely to be trusted with the rest. If this be true to a great extent with respect to women whose constitutions are hardened by privations and the constant habit of exercise in the open air, it cannot apply to the management of those who are brought up in the midst of comforts or affluence, and in whom the emotional susceptibilities are often developed in direct proportion to the weakened energies of the body. It must also be remembered, that there are great differences in the mode of the first appearance of puberty; for if we attend to what happens to those in whom this function has been most healthily performed, we find that, at first, the flow of little amount acquires by degrees a quantity, quality, and length of duration, which becomes the actual measure of health in each individual case. It is therefore not unreasonable to suppose that this would always occur if nature had fair play; but while the performance of the function is impending, many exciting causes may intervene to determine an appearance before its appointed time, and that in an unusual manner. Sometimes we have known it to occur from a fall, or after an extraordinarily long walk. Thus a girl, 12 years of age, fell into a saw-pit, and was surprised on rising to find herself bathed in blood; she washed in cold water, checked the flow, and was laid up with violent pains in the head and limbs for thirteen weeks, and did not recover her health until the courses returned regularly, a year after their accidental appearance. Sometimes a fright, or a violent emotion, brings them on suddenly; and, as far as our experience goes, in all such cases the function is inaugurated by an amount of discharge which deserves the name of initiatory flooding. In 30 per cent. we have found this function to begin by a very considerable flow; in 8 per cent. it was said to have amounted to a flooding, and lasted from eight

to ten days. These facts are interesting, because they are not in accordance with general belief, and because they are suggestive of useful advice necessary for a mother, who ought to be warned of the possibility of this accident, in order that by her own frightened demeanour, and that of inexperienced attendants, the girl may not be alarmed at the occurrence. Duly forewarned, a mother will not only maintain her own composure, and impart it to those around her, but she will be able to assure her daughter that nothing has happened but what is usual; and she should be informed that while waiting for professional advice, her daughter should be kept in a horizontal position, with scanty covering, in a cool, well-ventilated apartment. These means, with the addition, in some cases, of acidulated drinks, will probably check any excessive discharge; but should the flooding assume an alarming extent, nauseating doses of antimony, or other remedies, should be given, and it may even be necessary to have recourse to the local application of ice.

Food.—The effects of luxurious living have been noted even amongst the lower animals: thus Dr. Parry, in the second volume of his "Elements of Pathology and Therapeutics," says that "singing-birds and lap-dogs, which are highly fed and kept in confinement, are subject to a whole train of nervous affections, such as palpitations of the heart, loss of breath on slight motion, hysteria, convulsions, epilepsy, hemiplegia, and apoplexy." If such be the case in the lower animal creation, how much more likely are similar causes to produce an undue action in the more complicated nervous system of man. Plain but varied food, and plenty of it, taken at regular times and properly masticated, must at all times be most conducive to health, and table-beer or bitter ale will form a good accompaniment. Of wine it would be better for both sexes to take as little as possible. Girls have no taste for it; and as fashion

does not dictate its use to them, they find no difficulty in abstaining from it. This, however, is not the case with boys. The gross intemperance of former times has fortunately disappeared; still it must be obvious to all, especially to medical men, that even now much more wine and spirits are taken than is required by the system; and if a stripling takes but little or none, he is sure to be taunted by some of the old school, or even by some of his elder companions, who try, as they say, "to make a man of him," inviting him to inflame his young blood by stimulants, which are always more or less injurious. If youths were sufficiently masters of themselves to learn to say "No," after the first two or three glasses, they would find the advantage in after-life, for then less wine would suffice to keep up the over-taxed energies, or to stimulate them to the utmost of their power on great occasions.

CLOTHING.—The clothing of man, although objectionable in an artistical point of view, does not afford motives for energetic medical strictures; but this cannot be said of that of women, for in their dress two evils are to be guarded against—insufficient and injudicious clothing. Rich young ladies suffer as much from insufficient clothing as the daughters of the destitute; for poverty and fashion are two tyrants which exact the same things, and often bring on the same diseases.

So much uncovered as is the upper part of the chest during certain times of the day, and so necessarily are ladies subject to draughts when, in "diaphanous attire," they go to and from places of nocturnal amusement, that it would be well for mothers to learn wisdom betimes, and let the fear of consumption, to which their daughters may be more or less liable, prompt them to take every precaution, and induce a more moderate submission to the rules of fashion which so heavily tamper with dietetics.

Another portion of the body is about this period also left insufficiently protected. In our work "On Diseases of Menstruation," we have laid great stress on the fact that girls are clothed in trowsers until they are about to become women, and then trowsers, drawers—all are thrown aside, and the body is exposed to our piercing easterly winds, and an ever-varying climate, where often "in one monstrous day all seasons mix,"—an atmosphere in which the morning and evening is at all seasons cold and clammy, or to cutting draughts when waiting for the carriage, in hall or passage, after continued active exercise in a hot, crowded room. Should fashion command, the loins will be constantly kept in a state of undue warmth, by two or three inches of padding, petticoat, and dress; why, then, should the slenderest covering be denied to a part of the body hitherto carefully protected? Evidently the use of drawers would preserve women from numberless infirmities—sometimes even from death. A great physician, Joseph Frank, relates that a beautiful girl, in splendid health, went to a ball,—although the period of the month was inconvenient to her,—and returning home in perspiration, was seized with acute inflammation of the womb, and died of that complaint on the fourth day from the attack.

M. Brierre de Boismont and other high authorities express similar opinions upon this subject. Those suffering from disordered uterine action have also generally derived marked benefit from the adoption of drawers, a circumstance easily accounted for by the additional warm atmosphere in which the body was continually encased. Unless the constitution, however, be peculiarly weak, we should not recommend the drawers to be made of flannel, but of fine calico, and they need not descend much below the knees. Thus understood, the adoption of drawers will doubtless become more general in this country, as, being worn without the

knowledge of the general observer, they will be robbed of the prejudice usually attached to an appendage deemed masculine. From drawers to trowsers the distance was never great; so, perhaps, some of our readers may ask, "Should not, then, the costume worn in childhood be retained?" To this we at once reply in the negative. The usual dress of English women requires no such modification, either for health or grace. As it is, it imparts warmth, comfort, and elegance. But besides imparting warmth to the body, dress has its undoubted effect over the imagination and conduct of the wearer; and in assuming our costume, there would be a great likelihood of women assuming our masculine manners, which would not enhance their charms. It is, therefore, important that there should be a different costume for the girl and the woman, in order that on quitting one for the other, girls should feel that they are promoted in society, and that therefore more is expected from them. Far, then, from advocating Bloomerism, we consider it has justly met with the failure it deserved; and for other particulars respecting this great feminine bubble of 1851, we must recommend our fair readers to the authority of "Punch."

When, however, girls are promoted to the dignified "long clothes" of womanhood, there should be a clear understanding as regards what they are to do with them when walking in the muddy streets of London, or in the equally clogging lanes of the country. In other words: as 178 days out of the 365 of the year, are in London wet under foot, what is then to be done with the long petticoats and dress? In respect to walking, ladies may be divided into three classes:

I. Those who never raise the dress, but walk through thick and thin, with real or affected indifference to mud. These are generally country ladies, who have never been abroad, and but little in town.

II. Those who raise the dress, but allow the mass of underclothes, like the mud-carts in Regent-street, to collect the mud and beat it up to the middle of the leg. This class is the most common.

III. Those chosen few, who, without offending the rules of modesty, which of course must take precedence of all others, know how to raise both dress and petticoats, so as to protect both.

Is there any thing indecent in showing a neatly-dressed ankle? or, to view it in another light, is economy no object? Is it immaterial whether a dress be spoiled or not, whenever it is worn out walking? for nothing succeeds better in ruining a dress than mud, especially ferruginous London mud. But supposing economy be no object, what are we to say of health? How many of our fair readers have caught colds or serious disorders of the monthly function, from remaining for hours with a mass of wet clothes wrapped round the feet and legs, eventually leading them to the determination never to walk out unless there be no chance of soiling their boots —thus again undermining health by close confinement; and by following an absurd species of false delicacy, fostered by a mother, who, while condemning the appearance of a narrow line of white above the boot in the morning, will take her daughter at night to the Opera, and teach her to admire the grace, the poetry, and the display of a set of semi-naked women. This, however, is but one of many educational absurdities.

The Gutta Percha Sole is an invaluable adjunct to the boots of those whose health, inclination, or business obliges them to walk out in all weathers; but as some of our lady-patients have loudly declaimed at our recommending them to wear any thing so clumsy, Mr. Atloff, of Bond-street, has, at our suggestion, made ladies' double-soled boots with a thin layer of gutta percha between the soles,

which makes them impermeable to wet, avoids the aptitude to slip which the common gutta percha sole exhibits, and they are as light and good-looking as any ordinary boot.

STAYS.—Philosophers, milliners, and medical men have given much attention to the dress of women; but the little philosophers know about the operations of the human mind does not qualify them to give an opinion upon dress; and as dress-makers have not given themselves the trouble to study the form of the object given them to fit, medical men are alone competent to understand and to decide upon this matter. This is our excuse for offering a few remarks upon the subject.

The stays are the basis of feminine attire. Most of the other habiliments are fastened to them, and to a great extent they govern the shape and appearance of the rest of the dress.

To point to the unirritable females of warmer climates, who are accustomed to go with very little clothing, or to the strong, hardy peasants of our own country, and say that because they wear no stays, the women of our present, —of our London civilization, are to do the same, seems to us unreasonable; for when once the body has taken its full set, we see no objection to women wearing rationally-constructed stays: indeed, so long as the dresses are made tight and full of bones, after the present fashion, those who do not wear stays will equally experience the evil effects attributed to them. Badly-constructed stays, however—those not made to fit the body—from the undue pressure on some parts, help to produce spinal curvature.

As to tight-lacing, one is at first sight at a loss to understand the origin and prevalence of a plan which must be rather uncomfortable than otherwise; but a little consideration shows us that it must have originated in the final cause of woman, who is instinctively anxious to set off her personal attractions by establishing as strong a contrast as

possible between the girlish waist and a breadth of hip promising the avoidance of many of the perils of maternity. Such seems to us the cause of that fashion which leads women to mar one of God's most beautiful works, for tight-lacing also interferes with beauty. The Arab says, "There is no gain in amending the ways of God;" and none of the beautiful models of feminine beauty handed down from antiquity show any approach to the spider-waist. We are, however, aware that many a young lady will appeal from this decision of olden time to the hour-glass examples of female beauty sent to her every month in the "Ladies' Companion."

But to consider tight-lacing in a far more important light, it materially affects the health. In her natural condition, woman expands the ribs during respiration more freely than man. Tight-lacing prevents this free action of the ribs; for if by the undue pressure of the stays on the abdomen, that portion of the act of breathing which was intended to be performed by the midriff is much diminished, then the ribs are called into increased action, as it is often seen in the tumultuous heaving of the chest in singers, and in most women under the influence of emotion.

While the functions of the lungs are hereby impeded, the midriff cannot descend and influence the abdominal viscera by its perpetual upward and downward movements; the liver becomes so indented as to oppose a permanent impediment in the way of digestion of food and its assimilation; and thus a catalogue of dyspeptic and nervous symptoms are set on foot. Can we, then, wonder that the sex suffers from shortness of breath, palpitation, indigestion, hysteria, and a host of maladies, which, though not immediately fatal to life, are incompatible with sound health?

It is generally supposed that tight-lacing tells most on the system, by accelerating the approach of consumption.

Thus it has been remarked, that between the ages of 15 and 30, the very time that tight-lacing is most employed, the deaths of females are more by 13 per cent. than those of males; and as 8 per cent. more females die of consumption than males, the habit of tight-lacing is considered one of the causes of this excessive mortality. Dr. Hutchinson, however, to whom science is much indebted for his accurate study of respiration, informs us that many who think themselves affected with consumption suffer only from a form of dyspepsia presenting many symptoms similar to the more severe infliction; and it is probable enough that the imperfect aëration of the blood induced by badly-formed stays, must predispose to debility and spinal curvature.

Indentations of the breast-bone have also been frequently traced to the pressure of the busk; and the flattened nipple, and certain tumours of the breast, may have their origin in tight-lacing.

But as, whatever the medical profession may say against stays, dress-makers will support them, and carry the day against the combined faculty of Europe; let us ascertain if stays cannot be so made that fashion may adopt what medicine cannot object to.

If some of the benevolent persons who leave large sums of money to be given in prizes to those who try to solve questions of purely speculative interest, would condescend by the same means to forward the solution of some of the little practical questions on which depend the health of woman, they would indeed confer a lasting benefit on mankind. We do not yet despair of living to see a prize of 300*l.* given to the inventor of the best stays or of the best garters; for a rational garter has not yet been invented, one which will keep up the stocking, and yet not tend to cause varicose veins by impeding the return of blood from the lower limbs to the central regions of the body.

Those who seek to solve the stay-problem should bear in mind that women ought to feel as easy in their clothes as we do in ours. Stays, therefore, should not unduly press upon any part of the body, but form an anatomical fit like the cast to a statue. They should have as few bones as possible, and these should be so placed as not to press on any of the bones of the bust, and merely of sufficient strength to prevent the creasing of the stays. The busk is generally objected to on account of its weight, and lately it has been accused of "carrying off by its polarization the electricity of the body." We see no reason for objecting to the busk on such grounds; and if it be necessary for the conformation of the stay, it should not be made of too thin steel, for in that case it would press against the breast-bone every time the body bends forward; neither should it have the curve which gives rise to undue pressure on the chest. The waist should be made below the floating ribs, and not on the true ribs, as in ordinary stays; and in addition to all these requisites the stays should contain broad bands of elastic tissue in their whole length from the armpits downwards; for if they fit the bust accurately, so as to prevent the possibility of tight-lacing, it is evident that when the elastic web is warmed by the heat of the body, the stays thus made will permit of food and of exercise being taken without impeding either digestion or respiration.

The stays we have described are those which were exhibited at the Crystal Palace by Mrs. Caplin, of Berners Street; and in stating that we consider them the best hitherto invented, we merely re-echo the opinion of the jury who awarded her the only prize given for that article. The names of Mr. Lawrence, Mr. Green, Professor Roux, of Paris, are sufficient guarantees that the prize was not awarded without a careful study of what was submitted for inspection.

One of the great objections to the old stays was that two inches, or even more space, were left, so that women might fit into their stays by dint of tightening in, whereas those we have described accurately fit the body, nearly meeting on each side of the spinal processes of the vertebral column, and as the vulcanized elastic tissue gives two inches, there is no possibility, as with other stays, of a young lady tight-lacing.

It must not be supposed that a perfect stay, one completely modelled to each particular figure, will ensure a lady from injudicious pressure on the vital organs. If the petticoats are made to tie tightly round the waist in front, there will be undue pressure independently of the stays. To meet this difficulty, the petticoats should be retained in front by a hook soldered to the busk, all strings should be tied behind, and the divided weight of the petticoats would be made to bear upon the hips. Again, dressmakers put so many bones in the dress, and make it so tight, that Mrs. Caplin assures us that ladies not unfrequently ask her to alter their stays, because they fold under the dress, which has been made much too tight. Here also we may remark that those who boast of wearing no stays at all, do not tell us how many additional bones the dress-maker employs to form their corsage. The bones in the dress and the strings often mark the body with red lines, and make such ladies experience many of the evil effects of badly made stays.

These observations refer to morning dresses; but it will be evident to all who give the subject a little reflection, that evening dresses are also liable to many objections. The two or three upper inches of the body of the dress are always made much tighter than it should be: this prevents the free expansion of the chest, and as the dress is thrown off the shoulders, the arms are necessarily pinioned, and could

not be raised without splitting the dress. By the pinioning of the arms, the shoulders are raised and the head is awkwardly pushed forward. This injudicious practice of milliners must be prejudicial to the carriage of those ladies who wear low dresses every evening; and is perhaps the cause of a mode of carrying the head which is far from graceful, although frequently to be met with in the wealthiest classes of society. If fashion renders it necessary to expose the shoulders, there is at least no reason for pinioning the arms. Why cannot dress-makers contrive to leave the arm completely free? they could easily cover as much of it as they liked with a fall of silk or of lace, which could be looped up with flowers or riband.

EXERCISE.—While men have so many modes of taking strong and healthy exercise, educated women have but three. Dancing was formerly considered an act of devotion, and so it is now in Eastern countries, where there are many communities of dancing dervishes, who are highly venerated by the people. Many a lady-pilgrim to Constantinople has often envied them the power of continuing so long as they do, their incessant wheeling round to the monotonous tune of the same religious hymn, while others may have regretted that so much good dancing should be thus employed. With us, however, dancing takes place at such unseasonable hours, and in such close, hot rooms, that the disadvantages to be derived from it are greater than the advantages. But horse-exercise has no such drawbacks, and should be encouraged as much as possible, as this is the healthiest species of active exercise, and tends to counteract some of the evil effects of stays by the succussion of the body which it determines, causing the tide of the blood to mount fuller and swifter in the pelvic viscera. Walking should be taken in the morning, or in the middle of the day, so as to have the combined influence

of exercise, of good air, and of the invigorating effects of the sun. In fact, mixed, continued, and varied exercise is indispensable at this age for girls, to strengthen those constitutional powers which are to enable them to pass well the crisis of puberty: it relieves the pains in the limbs, and even the intolerable headache of that period, and, by inducing fatigue, is the wholesome opiate of their repose. Let us not, however, be supposed to favour *over-fatigue*, an error too often fallen into by the lovers of violent gymnastics, a species of exercise which, taken in moderation, is no doubt very beneficial, but which in its excess is highly objectionable; and besides, if a fall, a jump, or a very long walk has often brought on prematurely the first appearance of womanhood, so would violent gymnastics, and not only so, but sometimes even derange the function after its regular establishment.

Sleep.—It must be well remembered that the system in both sexes not having attained to its period of stability or mature growth, all strain at this period must be paid for in after life by a corresponding prematurity of failure in strength. Thus, if the daughter of fashion passes night after night at the ball, the concert, or the Opera, or if the poor needlewoman, to obtain her scanty pittance, sits up night after night making dresses for those whose worldly prosperity is never destined to shed a ray of splendour over her poor fevered eyes, both must suffer, either by a shortened career, or by ill health. The great secret is to make no strain on the system until it has become settled; then an occasional excess of action will do no harm. A change of living, like that of air, is in fact frequently beneficial: it increases the appetite and promotes sleep: and while we are on this subject we must not forget to intimate that feather beds are not good for either sex. Woollen mattresses, or those made of wool and horsehair,

are much more conducive to health; and the heads of families should be made aware that these should be opened, and the wool carded and exposed to the sun, or the heat of an oven, at least once every year. So few follow this plan, that one is led to imply the general conviction that it is wholesome to sleep on mattresses which, from time immemorial, have received the full benefit of the nightly emanations from the human skin.

Baths.—The habitual use of the bath was found so beneficial by the Greeks and Romans, and is now in such constant use in neighbouring countries enjoying a climate similar to our own, that it is surprising that so few English women, of whatever grade of society, have recourse to bathing, except some, perhaps, for a few weeks of the year at the sea-side. The practice of bathing is not only to be advocated on the plea of cleanliness, and facilitating the removal of the excretions from the body, but it has a direct sedative influence on the nervous system; it seems to absorb that morbid irritability arising from an undue development of the mind at the expense of the body, and leaves a feeling of comfort and repose not wholly to be attributed to the consciousness of being clean.

Baths influence the human frame by their temperature, and by the increased density of the medium in which the body is plunged.

Tepid Baths.—If the temperature of the bath be somewhat below blood-heat, the body increases in weight. Thus M. Berthold has ascertained that, in a bath heated from 68° to 82° Fahrenheit, the body, at the end of the first quarter of an hour, had increased three drachms, and a little more than an ounce at the end of an hour. This augmentation of weight is not only owing to the water absorbed, but also to the diminution of insensible perspiration in the denser medium of the water. If the temperature of the

bath be increased the body is relieved by perspiration, as it is in the air, but not to the same extent. Chossat has ascertained that by remaining for a considerable time in a bath heated from 82° to 86° Fahrenheit, the pulse descended from sixty to thirty-eight pulsations, a strong evidence of the soothing effects of the tepid bath upon the system. It is useful as a defensitive against disease, after long pedestrian excursions, or that other species of muscular fatigue determined by railway or carriage journeys of long duration. But the soothing influence of the tepid bath on the innumerable nervous expansions on the surface of the body, is the most manifest in its effects: it relieves the irritability of convalescence, that also of pregnancy, and is equally invaluable as a never-failing means of allaying the long-persisted nervous irritability which so frequently torments women at the change of life.

Hot Baths.—Bathing in hot water is in no wise conducive to health. It gives rise to a temporary plethora, intense headache, and a sense of weakness, which may proceed to fainting before the body can have been weakened by perspiration. It also affects the appetite, and gives rise to a clammy feeling in the mouth. Such were the effects of a very hot bath upon ourselves; and they sufficiently show that so powerful a modifier can only be handled by the medical man, who may sometimes avail himself of it to recall some eruptive disease accidentally suppressed.

Cold Baths.—Recommended by Hippocrates, by Galen, and at different times by numerous other physicians; strongly advocated in England by Currie; carefully studied in its effects upon himself in 1819, by Dr. Begin, (Art. *Scrof.* Dic. des. S. Méd.;) it is, after all, to the peasant of Graefenberg that we owe the popularization of cold bathing, as a means of modifying the human body; and whether for good or for evil, few agents act with greater power.

On entering water from 20° to 30° Fahrenheit, the first sensation is that of suffocation, and of great rigidity. On moving about, after a short time, respiration is easily performed, muscular motion becomes free, the skin warm, and there is a general feeling of elasticity and of unusual vigour; but, after a certain time, varying according to the constitution, the same symptoms again occur, and if the bather does not make a retreat, the body shivers, muscular motion becomes impeded and irregular, and drowning would follow a prolonged stay in the cold water.

On leaving the water before the evanescence of the healthy reaction determined by the first shock of the cold water, the body feels as if coming into a warmer atmosphere, because the density of the air is so much less than that of the water, and because the sensibility of the skin is blunted. The body also feels strung together in a more closely knitted mass, and is in reality thinner than before entering the cold water; and the concentration of blood to the internal organs is probably the cause of the frontal headache, which often persists when the skin is tardy in its subsequent reaction.

When the water is less cold the first shocks are less marked, the sojourn in the water can be longer endured, and the reaction on returning to the air is less, and can therefore be more frequently utilized for the recruital of debilitated frames. Thus, from the continuance of bathing in the summer season the muscles gain strength, and permit longer walks to be taken, the appetite increases, health improves, and the intellect participates in the general improvement. There is no better means of giving strength to scrofulous children, to chlorotic girls, and to men debilitated by study, recovering from sickness, or when converted into living barometers by over-clothing and the mollycoddling of a sedentary mode of life.

The cold-water or the shower-bath must not be used by women at this period, except under medical advice, or mischief might be incurred; but the morning calido-frigid ablution, the good effects of which we have already noticed, will now become still more serviceable in hardening the chest against a tendency to inflammatory affections. Drying the skin, after washing in ordinary fresh water, with towels soaked in salt water (two pounds of salt to a gallon of water,) and afterwards rough dried, will also prove beneficial.

When an order is given for the employment of a bath, the medical practitioner frequently mentions merely the name of the kind of bath he wishes to be used: it is therefore necessary that the patient, or her friends, should know the temperature of the different baths chiefly in use; and we extract the following table from Dr. Thompson's "Domestic Management of the Sick Room:"—

A temperature of from	60° to 75°	Fahr. constitutes the	Cold bath.
"	75 " 85	"	Temp. bath.
"	85 " 96	"	Tepid bath.
"	96 " 98	"	Warm bath.
"	98 "108	"	Hot bath.

The vapour bath produces effects equal to the Tepid when the temperature is—

	Not breathed.	Breathed.
	96° to 106°	90° to 100°
Warm . .	106 " 120	100 " 110
Hot . . .	120 " 160	110 " 130

Mental Development.—The brain, at this period of life is so well fitted for study, that triple the amount of labour at any subsequent period, will not return the same mental harvest. The time now lost can never be regained. This observation equally applies to both sexes, although, as health must always be the first consideration, the intensity of study must often be slackened, and sometimes entirely discontinued, when found to interfere with its preservation.

The occupations of both sexes now become more and more distinct; the youth prepares to fit himself for some one of the out-door relations of society; and the girl prepares to take her part in a world to which she will shortly be introduced.

YOUTHS.—It is no longer possible to confine the education of "the choice and master spirits of our youth" to classics and mathematics. The study of these must be combined with that of natural sciences; for it is now felt that the early ignorance of the rudiments of science by the youth of our educated classes, led to their neglect when they arrived at manhood. The neglect of science in the higher classes in England entails its neglect by the bulk of society, and Dr. Playfair gives this as one of the reasons why, at the late contest between all nations at the Crystal Palace, "England stood inferior in all productions where intellect was required"—a useful warning for the future.

When contemplating the stately and venerable universities and colleges of Oxford or Cambridge, who does not, in remembering the illustrious names whose fame still reflects lustre on those schools of learning, feel regret that the present race of men should not inherit more of the spirit of their noble predecessors? In the middle ages, when most of these colleges were built and endowed, the blessing of education was given as full, as complete, and as universal, as was known to those who dispensed it; but now, after the lapse of centuries of enlightenment, what progress has been made? We believe, that if the system of education in practice some hundreds of years ago were compared with that of the present time, the latter would be found to be comparatively inferior.

Although unable to appeal, on this point, to an erudition which we do not possess, we may be permitted to cite a passage from a lecture delivered some years since at the Sorbonne, in Paris, by Ducrotay de Blainville, the successor

of Cuvier in all his lectureships, and a man whose erudition was as profound as his science, and equal to the impartial rectitude of his mind. Lecturing on the history of science, he observed, "that although in later times material civilization had rapidly increased, at no time did the world present a grander aspect, in an *intellectual* point of view, than at the end of the thirteenth and the beginning of the fourteenth centuries; that it was sufficient to read some of the authors of *that period*, to be convinced that never, either before or since, were there so many schools and universities in England, Ireland, and France, Germany, Italy, Spain, and in Barbaric States; that never could the world boast of so great a number of learned men; and that the conception of human sciences, in their relation to the world, to man, and to God, attained a climax never to be transcended, in the cyclopedic brain of a Dominican monk, Albert the Great, about 700 years ago." We hail this happy coincidence of names; and as Albert the Great widened for all Christendom the scope of mental acquirements, may our Prince Albert so far succeed in imitating his illustrious countryman, as to enlarge the mental acquirements of the flower of our youth, and thus give to the cultivation of science in England an impetus, without which England must be distanced by other nations, even in its mercantile capabilities.

Girls.—Confined within a narrower scope of mental activity, the mind of girls should continue as steadfastly as possible the serious studies we left them engaged in at the close of the last period; for marriage may too soon come, with its many attendant duties, and rob the mind of an invigorating preparation for life.

With regard to the government of their mental faculties we have little to say, except that one ought not to be more fully developed than another; they ought to be kept in a

regular state of counterpoise, so as perfectly to develop the reasoning powers, and by more completely occupying the time and thoughts, to keep in check the too sudden development of those sentiments which may have already tried their young strength in many ways, and which, in girls of the higher classes, often assume a wrong direction, attain a morbid intensity, and are productive of the most deplorable consequences. Far better off in this respect are the daughters of the poor, in whom the wild freaks of imagination are successfully kept under by poverty and hard labour, which as effectually put an extinguisher on romance as they dull the acuteness of intellect, and give the skin a plebeian hardness.

"Chill penury repressed their noble rage,
And froze the genial current of their soul."

There is still another thing to be taught a girl,—and even the youngest can learn the lesson, though from no master, governess, or nurse—a mother alone can teach a child self-command, and the power of taking its sharpest sting from pain, with a determination to bear it patiently. From a mother's lips and example a child can soon learn that there is some proportion between the energetic will to do a thing, and the possibility of doing it.

"Possunt quia posse videntur."
VIRG. *Æneid*, lib. v. 231.

Without alluding to the value of such a habit in enabling women to cope with the innumerable adverse vicissitudes of life, what assistance would it not be as a lever, to combat and cure many of the diseases to which they are liable! We should thus be able to use the patient's will to throw off hysterical seizures, and even sometimes to arrest the advent of puerperal convulsions, which so often spread the silence of desolation around the domestic hearth.

Once, indeed, did we witness this power of the human mind exerted in one bound to us by the dearest of all earthly ties, who, after a protracted labour, said that it was only by the force of a continued effort of the will that long before the termination of her troubles she did not go into fits.

During the crisis of puberty, and until puberty is fully confirmed, there should be a general relaxation from study, which might otherwise too forcibly engross the mind, and the energies required by the constitution to work out nature's ends. Even in man the excess of mental labour is known to produce constipation, by some prostration of nervous energy: would it not then be likely to have the same effect on girls, besides checking the critical flow which nature contemplates establishing? Nay more, even when puberty is fully confirmed, some days before, and at the time occupied by the monthly function, the head is often very much affected by pain, vertigo, drowsiness, or dulness, in which case it should be less severely taxed than usual; and those who are occupied in the education of girls should bear in mind not only this, but likewise that the same regimen cannot suit all, and that each particular pupil may require a different amount and quality of mental exertion. Thus while recommending at this, as at the previous period, a much greater cultivation of the solid and masculine parts of understanding than is generally adopted in the education of woman, we make every thing bend to the maintenance of health, and as for the extravagancies of the transcendentalist supporters of self-culture in New England or any where else, they need no more deter woman from the steady, unobtrusive cultivation of her noblest faculties, than the eccentricities of bigots need lead her from religion.

The relaxation of studies necessitated by puberty or ill health, must not, of course, lead to vacancy of mind or to idleness; for the Latins have said: "Otia si tollas, periere

Cupidinis arcus," which, for the benefit of those ladies who have not yet learned Latin, we shall translate by the Spanish proverb, "The devil tempts others, an idle man tempts himself."

Moral Education.—Sound moral management is even more wanted than direct methods of cure for the insurance of health at this period, when puberty endows man with a new power. Like any other blessing, he can, at his own free will, use it, abuse it, or refrain from its use; and chastity, the last-born virtue and guardian angel of this new power, reacts so powerfully on those of earlier growth, that without its influence all are soon blighted.

Chastity permits the more perfect improvement of the mental faculties; it ensures the strength of the yet immature constitution; clothes it with a dignity of its own creation; and under the name of modesty it contains the secret of a charm no woman can dispense with, and which gives a beauty of its own to features otherwise destitute of comeliness. When our thoughts turn from the individual to the human race, chastity appears the safeguard of its maintenance, and the best suggestion which a medical man can offer for its improvement. Hitherto in life there has been but one code of morality for both sexes, and custom has not sanctioned its infringement by one sex more than by another; but while we exact of woman the strict observance of chastity, with what inconsistency do we neglect to steel her tender bosom against those influences which render it more difficult to guard! What is in general the life of a fashionable girl in any capital of Europe? As a child, petted, pampered, and spoilt by attendants and relatives: when introduced, she is subjected to the fascination of tones and looks, to the adulations of male admirers: when not so occupied, she reads novels: at night she begins the real business of the day: she is taken to the Opera, where music and dancing are

rather made to express passion and sensuality than beauty of body or grandeur of sentiment. She moves in the midst of contradictions which must bewilder her, if she thinks; she is told to be all modesty, and still she is taken to see opera-dancing and collections of statues and pictures representing every form, semi or wholly unclothed. This sensual mode of education often leads to derangements in the monthly function, to hysteria, or to other nervous disorders, unknown to those who may eat the same food, live under the same roof, but are not subjected to the same enervating influences.

The usages of society seem constructed as if they were intended to stimulate instead of to repress the desire for what is forbidden, which is neither prudent nor considerate, and the plan seems to afford an explanation to those texts of scripture wherein the *world* is described as something eminently contrary to the just, the right, the godlike. We shall therefore devote some space to the consideration of those usages of society which tend to warp the female mind. In what we have to say we shall be guided by recognised principles; and if our ideas are found not to tally with the received customs of society, so much the worse for those who have made it such, and who will not in any way seek to make it better.

The proper direction of the affections is one of the most sacred duties of a mother; and if we touch on a subject so delicate, it is because, in accordance with woman's destiny, her moral and mental conditions effectually react on those organs which direct that periodic flow that critically determines the measure of her health. For a mother, in attempting to perform her duty towards her daughter, to deny the validity of this principle in its highest earthly manifestations, would be folly: it should be admitted, and directed by a mother's experience and that of well chosen associates.

The excessive development of the nervous system, the predisposing cause of so much disease, can be produced by an undue stimulation of all those nervous expansions which, underlaying the whole surface of the body, render it capable of sensation, and principally by the prolonged and exaggerated exercise of such portions of the body where nervous substance and nervous energy are concentrated to become senses for the appreciation of special qualities: for the senses, and more particularly the ears and eyes, are the mysterious portals at which mind and emotion enter the material structure, to place themselves in communication with the mind and emotion of another being. Therefore the skin, by the habitual stimulation of heat; the palate, by luxurious feeding; the nostrils, by the indulgence in "soul-dissolving scents;" the ears, by a superabundance of musical vibrations; may give undue activity to the nervous system, may awaken the dormant powers of imagination, and by increasing the energy of the human passions, may react on the organs which they call into action. However impossible it may be to explain the effect of scents in awakening certain states of the nervous system, the fact remains certain that, applied as they are to that portion of the brain which is the least protected, they strongly excite that system.

Many facts in natural history would show how powerfully the sympathy between the sexes is thus excited, proving that there is some foundation for the poet's assertion:—

"O fleurs!
L'amour, dans vos parfums, excite le delire."

and again, in the idea of another French writer:—"L'odorat est de tous les sens celui qui est le plus contraire à l'innocence du cœur." Exaggerated, however, are the statements copied by one writer from another relative to the powerful

influence of flowers on the nervous system of woman in a southern climate. This may be true as regards some individuals, and during pregnancy; but it is not generally the case, for during a long residence in Italy we never saw an Italian lady faint under the influence of the prodigious bouquets which English girls kept all night in their hands; while, on the contrary, they testified their love of flowers as did our countrywomen.

Dancing in itself is excellent exercise. The ancients made it a part of their admirable system of gymnastics, and combined with music they thereby succeeded in calming mental derangement—an application lately revived with great utility in institutions devoted to the treatment of insanity; but there is nothing hygienic in the dancing of the present day, nor in the hours of its performance. Still we cannot admit the baneful influence which some medical ascetics have ascribed to this exercise, or agree with some German writers that waltzing causes the degeneration of the race. We have no hesitation in saying that a party, now and then, is an excellent means of keeping down the redundant spirits of excitable girls, or of throwing a little life into those that are chlorotic. But there is a difference between a party now and then, and the daily succession of evening amusements. We might urge numerous reasons showing the evils to be derived from the aguish existence of the votaries of fashion, and perhaps none, after all, would be so convincing as the loss of personal beauty, for no constitution can withstand constant excitement; and the inevitable consequence of turning night into day soon turns the bloom of the damask to the tints of the yellow rose, while emaciation soon destroys all youthful appearance of form, and at the end of the season blooming girls have become semi-animous wrecks.

Dancing we have allowed to be good, but we must not

omit mentioning what must be evident to all, that there are different modes of going through the very same dances; and even in the best circles gentlemen sometimes permit themselves to dance in a manner not altogether dictated by decorum. More than once have we heard of West-end dressmakers effectually silencing the complaints made by their fair customers, that the flowers for the corsage of an evening dress were not sufficiently good, by saying, "We never put any better, and you will find them quite flat and destroyed before the party is over."

Whether this is as contrary to morality as it is to hygiene, we leave to the decision of experienced mothers who may remember what effect waltzing had upon themselves. In a medical point of view we must observe, that women who have any tendency to diseases of the heart, the lungs, or the brain, should certainly abstain from waltzing, the gyratory motion of which must be prejudicial by its determining the blood to those organs.

MUSIC:—

"Puerum cithara perfecit Achillem,
Atque animos molli contulit arte feros."

If music could have such power on the rugged Achilles, who would deny its effect upon girls just awakening to the vivid enjoyment of every source of sensation? Music has ever been, and will ever continue, the language by which the heart will seek to express its most powerful sentiments.

Dr. Johnson says that "music is the only sensual pleasure which is innocent." But J. J. Rousseau, who wrote a treatise on music, and had felt and studied its effects, thought that for young girls the study of music should be confined to *harmonic exercises;* and that they should not be taught that which makes an eloquent appeal to the passions by

their expressive imitation. Dr. James Johnson, Dr. Laycock, Dr. Boismont, Raciborsky, and most medical men, side with J. J. Rousseau.

Plato calls music an imitation; and if it does not imitate the strong, it must the weaker propensities of our nature: and accordingly there are grave, religious, inspiring sounds which ennoble us; there are gay notes which make the spirit dance with exhilaration; but there are "softly soothing Lydian measures" which, laden with emotion, travel lightning-like to that undiscovered bourn where similar emotions can be awakened—to that *ultima thule* of the human microcosm where emotion and mind, the two irreconcilable powers, meet, and where emotion is strong enough to disturb the equilibrium of mind.

If there be any accomplishment that women most pride themselves upon, it is music, "doting on music," &c.; but if they are well given to understand that music may be too highly valued as an accomplishment, and that many others are equally desirable, those who really do not care for it would not pretend they did, while others would not talk so much of "their passion for music." The influence of the song of the male on the female bird will recur to those who are acquainted with the works of Buffon, Montagu, and Mudie.

We read that some great virtuoso of olden time was banished the Spartan territory for attempting to corrupt the morals of youth—he had but added one string to the Doric lyre, which till then had only echoed that

> "Harmony which breathes
> Heroic ardour to adventurous deeds."

That addition must have been the chord whose vibrations have been considered injurious to young and sensitive girls; but as we are not musical, we cannot note it down.

Dramatic representations have so powerfully contributed

to the advancement of human intellect, and are so susceptible of being enlisted in the cause of morality, and for the propagation of every ennobling virtue, that we cannot understand why they should now be so often devoted to the glorification of the ruling passion. Farce, comedy, melo-drama, or tragedy—it matters not which, for all are stuffed full of love—all hinge on matrimony, even if they do not derive their piquancy from something less fitted for the understanding of a young lady. Now all this may do neither good nor harm to those whose characters are formed; but we are of opinion that it is better to keep a girl from them as long as possible.

Admitting even, with Mrs. Newton Crosland, that the stage does not openly preach vice now, as in the days of Sheridan, we should still observe on the theatrical performances of the present day, what this accomplished writer remarks of those of the preceding age, that "it would be a grave and melancholy attempt to compute the amount of evil influence that plays have exercised on the malleable minds of youth during the long period of their admired representation. What contradictions have they not afforded to the lessons of the fireside and the promptings of a sound heart and a well-trained mind."

Instead of borrowing moral filth or melo-dramatic horrors from the French stage, why do not our dramatic writers, since they lack original inspiration, seek that of nobler models?—why not in Calderon, for instance, the greatest of all dramatists, whose stage conceptions of things are pure, and in harmony with Christian love, seen in its light, and painted with its celestial colours?

If what we have said of dancing, music, and theatres, be true, what must be their effects when combined with painting, in that most wonderful invention of modern times—the Opera?

Some people there are, indeed, blessed with a constitutional coldness which nothing can warm; but to others the Opera may be a potent engine of mischief, whenever it is not made a powerful lever to ennoble humanity. The animated dialogue requires the most passionate poetry to express the enthusiasm of feeling. The emotions are represented to be so intense, that in the language of music alone can accents be found sufficiently acute or sufficiently imposing to express their overwhelming grandeur. The human mind is then represented in so deep a paroxysm, that it disdains the slow medium of words to convey its meaning, but adopts the instantaneous, silent eloquence of look and gesture; and is not the whole of man supposed to be so *possessed*, that his very limbs are impelled to movements, rhythmic, poetical, and in harmonious unison with the exalted state of all the other faculties? And is not all this represented in the midst of fascinating scenery, ever varying in changes which impress the mind with the conviction of its reality? Such is the Opera; and whenever it seeks to take the human heart by assault, attacking it in its weakest part, then, in our humble opinion, would it be advisable to keep sensitive young ladies from it, at least until they are married. Why should not the same magnificent machinery be more frequently made use of for the glorification of so many other noble emotions dear to the human feelings? Is the historic page so poor in scenes of heroic patriotism, that none can be found grand enough to be adorned by the combined influence of painting, music, and poetry? "Masaniello," "William Tell," "Fidelio," and many others, not only interest us, but show that the Opera may be made a means of ennobling man.

Without wishing to see the Opera annihilated, we may hope to see it purified, renewed, ennobled; and so, doubtless, does Carlyle, who objects to it on the ground of its unveracity,

He does not see the meaning of "women whistling and spinning there in strange, mad vortexes, and then suddenly fixing themselves motionless, each upon her left or right great toe, with the other leg stretched out at an angle of ninety degrees—as if you had suddenly pricked into the floor, by one of their points, a pair, or rather a multitudinous cohort, of mad, restlessly jumping and clipping scissors, and so bidding them rest with opened blades, and stand still, in the devil's name! A truly notable motion; marvellous, almost miraculous, were not the people there so used to it; motion peculiar to the Opera—perhaps the ugliest, and surely the most difficult, ever taught a female creature in this world." His stern mind cannot imagine either why music, divine music, should be "condemned to go mad and burn herself for a kind of service which is rather Paphian, on such a funeral pile."

In the last century it was too fashionable to tamper with the mysteries relating to the future state of man; and it was found that the too curious investigation of what is above our comprehension, led to the unsettling of belief, to the sapping of morality and of happiness. Man is taught that the mysterious rays of revealed light resemble the light of the sun; that those who, not content with enjoying the benefits of both, will presumptuously gaze at them with a fixed glance, are soon obliged to close their eyes, blasted by excess of light—"Sui scrutator est magistratæ opprimatur a gloria."

But, without going beyond himself, man is full of impenetrable mysteries. We now stand but on the threshold of what may one day be known relative to the functions of the nervous system; and some of the mysterious phenomena, the contemplation of which gives a kind of religious awe to the truly learned, are now often made the playthings and amusements of fashionable circles. We allude to some of

the phenomena described under the absurd names of Animal Magnetism and Electro-Biology. In deducting the large amount of imposition always mixed up with public exhibitions of little-understood phenomena, there still remains the fact of the influence one man has over another, and which may be heightened in some individuals, so as to enable them to have a much stronger hold over others. Delicate and nervous girls are the most liable to be impressed by other people in the ordinary business of life, and still more by those who have practised the art of putting other nervous systems under their more immediate control. As such practices are always detrimental to the health, if not to the morality of the victims, we consider it highly culpable for any one to suggest that girls should subject themselves to these influences; and if those who have control over their own actions will do so, we warn them that they disturb the healthy action of the nervous system, even if they do not submit their will to they know not what kind of man.

If, then, it be wrong for ladies to be manipulated by magnetizers, it stands to reason that they should avoid countenancing by their presence those places of public amusement where poor girls are persuaded, for the sake of a few shillings, to be the victims of dangerous exhibitions.

Novels and romances, generally speaking, should be spurned, as capable of calling forth emotions of the same morbid description which, when habitually indulged in, exert a disastrous influence on the nervous system, sufficient to explain that frequency of hysteria and nervous diseases which we find amongst women of the higher classes. "Si votre fille lit des romans à dix ans, elle aura des vapeurs à vingt." It may be contended that many of these works contain excellent principles and admirable precepts of morality; but what do girls care about moral axioms, which are almost always obscured in the brilliancy

of fiction? They seek for the stirring adventure, the extravagant romance, the victorious hero, as if there were not sufficient romance in real life to excite the young imagination, without stimulating this faculty by fictitious creations.

Without alluding to those novelists who love the confines of impurity, even the best of novels, such as the inimitable productions of Scott and many others, should only be indulged in as an occasional relaxation, for their habitual reading wastes feeling, and totally unfits women for the stern realities of life. A forcible writer justly says, "One's indignation is excited at the immoral tendency of such lessons to young readers, who are thus taught to regard all sober, regular plans for compassing an object with disgust or despondency, foolish enough to expect some extravagant means of happiness, and turn melancholy when they find they may expect them in vain." We are convinced that very little good and much harm is done by the host of novelists who feed with trash the insatiable want of emotion in the fair sex. While writing these lines, our eyes have glanced on a passage in the "Critic," a literary journal, where the writer justly says, "Who are the Good Samaritans at present? Certainly not the readers of the galvanic school of authors. Love needs no teacher, and it is loving hearts who will ever be the true benefactors of mankind. But as far as the influences which are poured into our bosoms from without have power to give ardour and victory to our love, who can say that he has ever known a heart made more loving by the fictions of the novelists? These have made fiction so like reality, and reality so like fiction, that it is pleasant for those who listen to them to believe that earth is all a splendid lie."

It will doubtless strike every mother that the daily press, which more carefully records the corruptions than the

virtues of the age, should be carefully kept from the young unmarried woman. From the heart of this great empire there is daily wafted to its uttermost extremities a wave of pollution, which tinges, to a certain extent, the sentiments and thoughts of all, and leads many to act at last what they read.

At this critical period girls should be treated with that happy, even mixture of firmness and mildness oftener met with in the mother than in one of the sterner sex, who is too apt to check capriciously by parental severity those faults which he may have himself caused by undue indulgence. It is not wilful wickedness that often afflicts girls at this important period, but it is a transient want of self-control, in consequence of a new influence obscuring for a time the clearness of the moral principle. Until Nature assert her sway, gentle means, and a soothing treatment, to keep in check all eccentricities, added to the firm assertion of the rights of reason, blended with the tenderness of a mother's affection, without which all reasoning would be powerless, seem to us parts of the best plan to be pursued; for harsh treatment might, and probably would, give a permanent warp to the yet unformed character.

Even when fully established, this function often necessitates a much stronger appeal to the reasoning powers, or even to the religious feelings, than is at first believed. An additional annoyance is not felt by girls born in poverty and inured to hardships; but young ladies delicately brought up, in the midst of every luxury, when first subjected to this chain, are often painfully affected by so strange a necessity. "Am I to be subject all my life to this disgust?" is an expression which not unfrequently escapes a girl's lips; and if each revolving month brings back the same amount of intense pain, need we wonder if it should sometimes weigh heavily on the spirits, on the temper, and give

rise to nervousness and hysteria, to increased repinings at their state, and to murmurings against Providence?

There are many reasons which a medical man may suggest to a mother, as best calculated to remove these erroneous impressions; such as, that man was created independent because destined to govern his family and society; while woman was made dependent by a long chain of never-ending infirmities, as if to point out the sphere in which her activity could find more happiness, although it may be irradiated by a paler glory. Instead, therefore, of despising herself on account of fetters, evidently necessary, or they would never have been imposed, she should wear them with a proud humility, from the knowledge that in some mysterious way they seem to unite her more closely to her dearest earthly ties; from the remembrance also that if women have greater pains to endure, they are endowed with a greater capacity for joy, and that they derive infinitely more pleasure than men from the many forms of the one passion which alone harmonizes the terrible discordances of this world.

Instinctively do we shrink from pain as from the forerunner of dissolution; but, calmly considered, pain should be viewed as a kind monitor, urging us to ward off impending danger from some particular portion of our frame. Such, so far as the protection of individual life is concerned, is the providential ministry of pain; but in the present state of things, there are also pains which seem to minister to the preservation of the race. "I will greatly multiply thy sorrow and thy conception: in sorrow shalt thou bring forth children," says Holy Writ, and would it be going too far to add, that the severe pains attendant upon childbirth give something of solemnity to it, prevent in general its concealment, and heighten a mother's affection for her offspring?

The passage quoted not only seems to allude to child-bearing but also to the monthly period, in the vicinity of which (whatever may be our theories of generation) conception is known most frequently to take place. While reasoning women should consider these pains as allied to those of parturition, and in some manner necessary for the preservation of the race, Christian women should accept them as part of the primeval curse, and bear with patience that portion which cannot be removed by the assistance of medicine. Much, however, may be done to promote the healthy performance of this function; and for women to repine against a monthly infirmity, which must have been wisely ordained, is as useless as it is dangerous not to take it into consideration: it should, therefore, be met by a monthly regimen; not that we wish to recommend the total seclusion enjoined by Moses, and still practised in eastern countries, nor even the adoption of a well-understood conventional expression, by means of which the Swiss ladies denote their inability to accept an invitation,—"*Mes cousins sont venus de Lausanne;*" or by saying, with the Italian fair sex,—"*Il Marchese è arrivato, non posso andare.*" Without adopting phraseology ill suited to the delicacy of English ladies, is it not possible to find some excuse, if the maintenance of health is at stake, when so many can be found for trivial purposes?

Balls and entertainments should be carefully avoided, for as at this period there is a greater susceptibility to atmospheric influences, the chance of catching cold is increased. Abstinence from such entertainments would also prevent the temptation of taking ices and acidulated drinks, or of dancing too much. Travelling, particularly by railway, should be avoided, as we have known it bring on many derangements of the function which is about to claim our consideration. Such are the things which

are to be avoided at certain periods by women in good health; but if this time coincides with illness, an additional remark suggests itself. Were women made to understand that this process is a salutary function, which often alleviates many of their complaints, and sometimes obscures their true nature, they would not choose so inconvenient a time for consulting us, when, by stopping at home to nurse themselves, they may frequently avoid the necessity of having to seek medical advice. They should also learn to avoid at those periods all medicine or treatment hitherto prescribed, unless under the special sanction of their medical adviser.

The performance of any surgical operation, however slight, such as drawing the teeth, must also be postponed; and every girl should be taught the extreme importance of communicating the fact to her medical adviser whenever she may happen to be so peculiarly circumstanced during illness; for the concealment or ignorance of this fact has often led to injudicious treatment, and sometimes permanently impaired the patient's health.

DISEASES INCIDENTAL TO THIS PERIOD.

I. Some are common to both sexes.—II. Others are peculiar to women.

BLEEDING.—The human frame at this epoch is often disturbed by great functional activity, which sometimes shows itself by impelling the blood with undue force into the substance of the lungs: these impending evils are not unfrequently averted by the blood being forced out of its channels. Bleeding from the nose is very frequent at this epoch; and with girls is often a sign of approaching puberty. It therefore need not cause alarm: not so bleeding from the lungs, which may depend upon a more alarming cause than that just alluded to, perchance on the irritating effects

of the seedlings of consumption already deposited in the pulmonary tissue. Any irruption of blood should, however, be looked upon with more anxiety when it occurs in boys than in girls; as with the last it is a provision of Nature that the system should be relieved by the discharge of a certain portion of blood from various parts of the body. The most prudent plan is, to let the bleeding continue for a time, and then when paleness and weakness become evident, to place the patient on the floor in a cold room, making cold applications to the nose, and giving cold acidulated drinks, mouthful by mouthful. The medical practitioner can alone decide what other remedies may be required.

Inflammatory Affections. — Inflammatory affections are likewise frequent at this period, but what we have said at page 83, will suffice for guidance during the first appearance of disease.

Cutaneous Eruptions.—Cutaneous eruptions are very common to those of either sex who have light brown hair, and a dirty-looking skin, often spotted with black specks. Such are most liable to the various forms of an eruption which is called *acne;* especially girls, who, about the period of puberty, and until that function has been regularly established, show even to the unprofessional eye that the whole constitution is being modified; the eruptions on the face, eyelids, or back, being the various critical fermentations of a constitution tending to assume strength. A rational woman will, therefore, at once perceive that such eruptions cannot be cured, or at least *safely* cured, by cold astringent lotions, but must be attacked by remedial measures, in harmony with the change they indicate; for the development of puberty frequently relieves the system from all the cutaneous eruptions of childhood.

Spinal Deformity.—This infirmity is frequently met

with; and its prevention will be found described at full length at page 160.

Scrofula. — From 14 to 21, scrofula still exists in a certain number of cases; whereas, after 21, very few are to be met with.

Teeth.—The reader will find, at page 121, the means of insuring their health; we shall merely add that the bicuspides, or double spear-headed teeth, are frequently lost during this period, from caries, if they do not require to be extracted to correct the irregular growth of the cuspidate.

Diseases of the Ear, and Deafness. — Temporary deafness is frequently occasioned by a common cold, which seems to cause tumefaction of the membranes lining the passage of the external ear; or, when the throat is affected, obstruction of the Eustachian tube—which extends between the internal ear and the throat—either by swelling or accumulated mucus. These causes often continue in action, and keep up the deafness, long after the cold has disappeared.

In this way enlarged tonsils very frequently cause deafness; and it is better to remove the swelling and the inflammatory state of the mucous membranes of the mouth by judicious treatment, rather than to seek the cure of the patient by removing the tonsils. Mr. Harvey, and others of the profession, fully agree with us in deprecating this plan of treatment.

To cure any local affection the surgeon must be permitted to examine the state of the tissues which seem to be the seat of diseased action; and as the patients are in general scrofulous, chlorotic, or debilitated, constitutional as well as local measures will be required.

Functional Diseases of the Heart. — In reference to the liability of the heart to disease, at different ages

of life, the distinction between those diseases which are called *functional*, and those which are recognised as *organic*, or diseases of structure, must not be forgotten. A "functional disease" of an organ is one in which we are unable to discover any organic cause or explanation for the derangement or disturbance in the *functions* or duties which it has to perform. An "organic disease," on the other hand, is one in which the derangement of function depends on some physical alteration in the *structure*, which can be readily recognised. Functional diseases, in the present state of our knowledge, are generally considered to depend on the sympathy which exists between different organs. Thus an organ such as the heart, independent of any structural change, may become the seat of functional disease by its sympathetic relation with the brain, the stomach, etc. The progress of science has recently shown that many of these so called functional diseases have in reality a much more ostensible source than that of sympathy. It has been found that if the various excretions are not removed from the system, or if noxious articles of diet are partaken, the blood becomes loaded with irritating and injurious matters, which stimulate and excite the heart, and thus create a disturbance in its functions.

Bearing these distinctions in mind, we shall see that there is considerable difference as to the liability of the system, at different ages, to be affected by these two classes of disease. For example, the heart is most liable to functional disease at the period of life when the nervous system—the agency by which sympathies are conveyed—is most susceptible of impression; that is, from the age of commencing puberty to adolescence. This liability is also greatest in the more susceptible, the female sex, and proportionately in both sexes in those of nervous or excitable temperaments; in whom,

likewise, the liability commences earlier and lasts longer. Painful, distressing, and often alarming, as these symptoms are, the utmost care is necessary to distinguish them from still more serious structural diseases, and to suggest the means for their prevention or remedy. Amongst these it need scarcely be mentioned, that every thing tending to strengthen and improve the general health should take the first rank. Those lessons which we have elsewhere inculcated, for subduing the emotions, restraining over-excited feelings, and the cultivation of that stern control which prevents young persons being carried away by passing trifles of short-lived pleasure, or overwhelmed by transient disappointments, must be studied and put in practice. Neither must we, in seeking to prevent these functional diseases of the heart, lose sight of their still more important origin in connexion with derangements of other organs, such as the womb, or the liver; for every part of the system and every tissue will be affected by impurity of blood. It is necessary to watch that all these organs perform their functions; that, on the one hand, the matters which they should remove are not retained to become sources of irritation; and that, on the other, this vital fluid is not, so to speak, poisoned by being made to receive a variety of substances which it was never intended it should receive, through the influence of modern cookery and want of due consideration for the duties and functions of the stomach. In a word, nervous susceptibility, irregularity in diet and habits of life, undue indulgence, giving rise to an impure, impoverished, or deleterious state of blood, are the principal sources whence spring functional diseases of the heart. It is by correcting and remedying the former that we prevent the latter.

We have elsewhere said so much on the evil of tight-lacing—a practice by which organs needing the utmost

freedom of action are specially incommoded—that we need not again repeat how intimately it is associated with functional, nay, even with structural diseases of the organ.

II. COMPLAINTS PECULIAR TO WOMEN.—Under existing social arrangements, puberty is, in man, often attended by moral infirmity, but by no additional bodily inflictions. It is, however, the reverse in woman,—for while retaining her moral health, she is subject to numerous bodily infirmities, which may in general be prevented, and always diminished. The knowledge of "what ought to be" will prevent women being satisfied with "what is," and will lead them, when suffering, to consider whether their ill health may not be caused by the wrong performance of their particular function, and whether medical advice is not required to place their constitution on a surer basis.

The function which puberty inaugurates, to be healthily performed, should fulfil the following conditions:—

I. *It should be uninterrupted; otherwise chlorosis, or green-sickness, may occur.*

Chlorosis, vulgarly called green-sickness, is almost exclusively met with in women; and its importance is not derived from its fatality, for it seldom of itself destroys life, but embitters it from the frequency of its occurrence and the number of its attendant infirmities to the unmarried, the married, or the pregnant.

Chlorosis seems to originate in a diminution or a perversion of that power which presides over the nutrition of all living bodies, for we can induce this complaint in vegetables; but the absence of natural colour, and the tenderness of tissue, which it is so satisfactory to meet with in celery and lettuce, is a deplorable condition in a young lady.

This affection is not confined to our hemisphere, for the African cachexy seems to be the chlorosis of the negroes,

and is characterized by a similar paleness of the mucous surfaces, by palpitations, and by the same vitiated appetite. The frequency of chlorosis is greater than is generally believed; for although we are only consulted for it in extreme cases, two-thirds of the women, of whatever class, who are seen walking about the streets of large towns, are more or less tinged with this complaint. Indeed, this state of semi-chlorosis is for woman the bane of a high state of civilization; it constitutes a parallel affection to the "Cachexia Londinensis," or the Londonish feeling peculiar to men obliged to live in London; and both states are much relieved by using the same remedies. But such persons think and call themselves well: if, however, they were closely questioned, it would be ascertained that their strength, in whatever way tried, is below par; that their constitution is without stamina; and that, when subjected to any cause of disease, they rapidly become its victims.

The milder form and early stage of chlorosis frequently comes under our notice on account of the infirmities to which it gives rise.

We have already stated that spinal curvature is most frequent in such subjects. Chlorosis also helps to evolve the latent seeds of consumption, and of many other complaints, and even renders young women liable to as sudden a death as apoplexy; for it is well known that perforating ulcer of the stomach, in girls of a chlorotic habit, will in a few hours cause the patient to pass from comparative health to the grave.

The great frequency of the complaint in towns, and among the higher classes, proves that it is produced by want of attention to the physical development of women, want of food, of exercise, of pure air, and tight-lacing, &c. Under the influence of these causes there is an imperfect evolution of the ovaries, which now attempt to bring about

puberty; while at the same time we must remark that in certain constitutions chlorosis is also induced by some perversion of healthy ovarian action in those residing in the country, and whose physical education is faultless. Of all the causes of chlorosis, none is so frequently observed as the application of cold and wet to the feet and legs, particularly during the flow, or a few days before or after its appearance.

The body of a girl is like a chrysalis, which up to puberty has gone on well; but if ovarian evolution remains imperfect, the human chrysalis will not have strength to proceed with those ulterior changes destined to bring it to perfection. Even when by the proper reaction of these organs puberty has been happily established, disorders in their structure and derangement in their functions may and do daily bring on chlorosis, or it follows in the wake of the other causes which may bring it on.

To prevent chlorosis, the rules previously given should be scrupulously observed; and to cure it is often as much in the power of parents as of the medical man. Look, for instance, at a girl under the influence of sudden sorrow: her blanched cheek, relaxed tissues, lustreless eyes, aching head, palpitating heart, and trembling, aching limbs, offer a case of momentary chlorosis, which is an affection marked by a long continuance of similar symptoms. If you want to cure your daughter, we should say to her mother, "Learn how to pluck from her heart the rooted sorrow, which has struck it as with a blow, causing it to flutter and to languish with deep feelings of pain."

"She never told her love,
But let concealment, like a worm i' the bud,
Feed on her damask cheek. She pined in thought,
And, with a *green and yellow melancholy*,
She sat like Patience on a monument,
Smiling at Grief."

One true preservative against chlorosis is so to bring up girls, that they may be less sensitive to excess of grief. Exercise is an easier remedy. Chlorotic patients are notoriously fond of ease, and all they want is to be allowed to remain in a state of muscular quietude; but this desire must no more be listened to, than that of travellers yielding to the soporific effects of intense cold; for the habitually cold skin of chlorotic patients causes a half-poisoned state of the blood, by the retention of what should be excreted; and with this blood the internal organs are overloaded. They should therefore be forced to exert themselves, so that the blood may circulate more rapidly, and thereby absorb that oxygen which imparts to it those vital properties which excite all the organs to perform their proper functions.

In severe cases, besides exercise, the limbs should be carefully rubbed twice a-day with the hand, or with a soft flannel, for half an hour at a time. The utility of friction in chlorosis puts us in mind of the important part ascribed to that practice in the preservation of health by the ancient physicians. Dr. Holland recommends the exercise of respiration, not only to improve any hereditary imperfection of the lungs, but also to invigorate the constitution by a more perfect oxygenation of the blood, a more perfect action of the nervous system, or the evolution of nervous power by the contact of such blood with the brain. Now when we consider that in chlorosis the chest in general is scarcely seen to rise, respiration must be very imperfectly performed. Chest-gymnastics should therefore be sedulously persisted in, so that the blood may be duly impregnated with oxygen. "Clara lectio," or reading aloud, is an excellent chest-gymnastic exercise, handed down to us from antiquity; so is singing; and if chlorotic girls, instead of practising the piano so much, would practise voluntary and deep respira-

tion three times a-day, for ten minutes at a time, and if possible in the open air, they would want less medicine.

With regard, however, to the medicine required, the medical practitioner must be appealed to; but we would draw attention to a curious analogy between the animal and vegetable kingdoms, which is, that however different may be the origin of the chlorotic state in animals or in vegetables, it is to be cured by the same means—by better food, by the wholesome influence of multiplied currents of air, and even by the same therapeutical agents. Thus M. Brogniart has favourably reported, in a French periodical, "Travaux de la Société centrale d'Agriculture, 1847," upon the interesting experiments of M. Eusèbe Gris, who has shown that various kinds of liquid manure would not effectually restore discoloured vegetables to their usual colour, while this was soon effected by watering them with a solution of sulphate of iron, ten to twenty scruples in every two pounds of water. This change to a healthy condition was even produced by slightly wetting the whitened leaves with water containing three scruples of sulphate of iron in every two pounds of water. The deficient performance of ovarian action is often indicated, not only by the yellow tint of the skin, but also by a deficiency in the amount of the periodical flow. In addition, then, to the constitutional measures insisted on, local means may be usefully employed at the times appointed by nature.

When there is a mere interruption in the return, provided there be no fever, the parent may safely permit her daughter to take additional exercise, particularly horse-exercise, and should enjoin a relaxation in study. If instead of chlorosis there be signs of plethora, the mother may, without indiscretion, give cooling drinks and less nutritious diet; but should this state persist, it may be necessary to prevent mischief by the timely withdrawal of a small quantity of blood.

In a great many cases, however, the interruption of the flow evidently depends on constitutional weakness, and then the parent may be permitted, of her own accord, to give a more generous diet—meat twice a-day, with an additional glass of bitter ale or good port wine; but on no account should she commence physicking without previous medical advice. Amongst the more immediate measures to be employed to bring on the catamenia, or increase them when deficient, may be mentioned a brisk walk, particularly if the patient remain afterwards in a room raised to a higher temperature than usual. Warm drinks taken at night will also assist nature. A hip bath, either of hot water, or with the addition of a few ounces of mustard, will be of great assistance; and likewise mustard poultices to the lower part of the abdomen and to the thighs. The utility and mode of adapting these mild measures, should be understood by all those who have girls intrusted to their care. Should the patient suffer considerably or be affected with those strange symptoms which are well understood by the term "*temper*," a warm purgative may be often administered with advantage the day before the flow is due; and the patient should be kept in bed great part of the following day, and be given a mild sedative.

Whenever the season permits, the constitution should be strengthened by cold-bathing in the river or the sea. To derive the full benefit from cold-bathing, the bather should walk briskly to the seaside, undress quickly, keep in motion when in the water, stay in but a short time, dress expeditiously, and walk gently home. She should not take more than one bath a-day, and bathing should be avoided three days before and three days after the flow.

Emmenagogues and purgatives are too often not only given to promote a return without any advice, but also to augment the quantity of a discharge which mothers, or those

who perform the duties of mothers, in their wisdom deem insufficient. Now, again, this would not occur if they were given to understand that a medical man alone can judge whether it be requisite to adopt measures calculated to promote its increase or not.

If daily recourse to the medicine-chest were confined to the male sex, we should not think it worth while to allude to the subject; but it has been truly said,

"Where woman is not, then the sick complain!"

and as one of the dearest occupations of woman is to soothe the sufferer in the hour of sickness, they fancy they *ought* to understand the secrets of a disease which they would fain alleviate by the tenderness of their sympathy; and thus, in the hope of affording relief, they think they have a *right* to prescribe, advise, and give physic. Hence girls, who are more under their mother's control than boys, are apt to be dosed with a very undue quantity of maternal medicine, and thus often suffer from an interference which tends to disturb the *monthly* re-appearance of this function—a condition which has already been pointed out as important for its healthy performance.

Before concluding what we have said relative to the means of increasing a deficient flow, we must briefly allude to the benefit often to be derived from the use of leeches. By the judicious application of a small number of leeches, the medical man will be sometimes able to originate the flow of the sanguineous fluid, in accordance with the views of nature. We say the medical man, for he alone can decide whether the application of leeches is necessary, and if so, how many, and where they should be applied; and the mother's office is to see that no ignorant prejudices interfere with the prescriptions of science.

While correcting these proofs, an elaborate work on

chlorosis, by Dr. Dusourd, a French physician, has come under our notice. The result of his extended experience so fully bears out our own assertions respecting the frequency and danger of chlorosis, that we cannot forbear translating his concluding page, for the benefit of our readers.

"It has become so fashionable to have a pale face, that this, in women, is no longer considered an indication of ill-health; and when chlorosis becomes evident, they consider it a slight affection, and not the most serious disorder to which they are liable. It is still more deplorable that chlorosis is not, in general, recognised by practitioners, until none can mistake it; so that when slight, complicated, or disguised, it is mistaken for other complaints, and ineffectually and unsuccessfully treated. It also not unfrequently happens that women, rendered indolent by long familiarity with suffering, think all attempts useless to lessen infirmities which they consider to be indissolubly wedded to their constitution. How many once young and beautiful, now pale, weak, sad, and shorn of all the happy attributes of youth, are destined to see their miserable existence shortened by cancerous affections, which might have been prevented by the judicious use of ferruginous preparations. The fountain of youth must have been a chalybeate spring, for such alone is able to restore the charms and freshness of youth to women who have fallen into premature old age."

II. *The function should be performed neither more nor less frequently than once a-month.*—Some physiologists and medical writers have inculcated that it might, with equal benefit to the health, occur every two, three, or four weeks, and that, in fact, all these different types equally fulfil nature's views. But we believe this to be incorrect. Our practice has shown us that the monthly is the only type of its *healthy* performance, and that any deviation from this rule rarely coincides with good health. Most of the cases

which have deviated from this law can be traced to an organic or to a nervous derangement of the ovaries, or of the womb; so much so, that when these diseases are cured, the function resumes its most habitual type. On referring to our notes, we find that in 23 per cent. it did not follow the monthly type; in 17 per cent. the type was 3 weeks; in 5 per cent. it was every 6 weeks; in 1 per cent. it occurred every fortnight. In one-half of the three-weekly cases the type was explained by ovario-uterine diseases of an organic nature, or by chlorosis; and in more than one-half of the six-weekly cases the patient's health was habitually bad, owing, in two instances, to uterine disease, which was also the case with the one that assumed the fortnightly type.

If it be admitted that the monthly is the normal type, it is obvious that we ought to seek its periodical establishment and recurrence, as it will entail a less considerable drain on the sanguineous system, and less perturbation of the nervous function, and thereby afford women a much longer term of immunity from suffering. It would be imprudent to attempt to bring on the return by direct and energetic means, but it is perfectly reasonable to watch carefully towards the end of the second or third week, so as to prevent the patient being unduly excited by purgatives, or by any of the causes to which we have alluded. Even supposing those views to be incorrect, the plan recommended is perfectly harmless, and therefore deserves to be put into operation, as it offers the possibility of great utility; and it would be well to continue this unremitting attention until the function, repeatedly accomplished with regularity, has been confirmed by habit.

In a paper "Upon the Use of Purgatives at the different periods of Menstruation," read before the Medical Society of London, and subsequently published in the London Monthly Journal of Medicine for August, 1851, we have dwelt on

this subject, from the conviction that, in the majority of women, purgative medicines cannot be given with impunity. Brisk purgatives taken a few days before those symptoms which generally precede each monthly epoch, often anticipate it by several days, vexing nature in one of her most constant laws; for we find it to have been perfectly regular in eighty-six per cent. of the women we have interrogated. These views may appear exaggerated, but we are convinced that they are warranted by what we have seen in our own practice and in that of others;—in a few cases we can ascribe the permanent disorder of this function to its having been treated by the patient exactly in the same way as a child plays with a watch, setting the hands backwards and forwards.

These observations apply also to the frequent use of mercury; for we are acquainted with ladies moving in fashionable circles, who seek to improve their complexion by the frequent use of calomel. They sometimes succeed in producing a delicate, pallid, and unhealthy appearance, but it is generally at the expense of the monthly flow, which is by these means either diminished or suppressed—a statement confirmed by the experience of Dr. Butler Lane. The fortnightly or three-weekly appearance depends sometimes merely on a disturbance of that nervous force which must preside over this function, which is evident from the fact that in many cases in which the irregularity could not be explained by organic ovario-uterine disease, we have been able to restore the function to its normal type by the exhibition of the sulphate of quinine. Thus we have shown that the monthly type is the rule, and that if this rule be frequently broken through, it is owing to injudicious management, and to the abuse of the pill-box, so frequently seen among mysterious-looking cosmetic bottles adorning a lady's dressing-table.

Another reason which should induce women to desire that this function should be brought to its proper type, is the additional amount of freedom from infirmity which they acquire, affording them time, taken from suffering, which might be devoted to the cultivation of talents and the acquirement of happiness. Thus, supposing four days of every month are given to the performance of this function (calculating fifty-two weeks to the year,) fifty-two days of inconvenience have to be suffered, while, if it occur every three weeks, there would be seventy-eight days of suffering, or, if every fortnight, there would be one hundred and four. Females who present this perversion from the natural monthly type are generally highly nervous. In a case which lately came to our knowledge, a lady who, whenever she happens to be *nailed* to any particular spot, as at a concert or dinner-party, is invariably troubled with what should only appear every month. This, however, does not occur when she goes out to an evening party or to a ball, and may in a measure be accounted for by the fact of her mind being placed at ease by the knowledge that she can leave at any moment without being observed.

III. *The pain should not be too violent, or of too long duration.*—Though we have shown that women must expect every month to suffer some pain, that pain need not be intense, protracted, and agonizing. A lady once told a medical writer, "I have for fifteen years suffered invariably at my periods such intense distress that I can scarcely think of any thing else than that on a given day my pain is to be repeated: language is incapable of expressing the degree of torture which I suffer under the pain, the approach of which fills me with horror." Fortunately, few suffer to so great an extent: but we have no hesitation in saying that the sufferings of most women can be relieved by judicious treatment.

If these sufferings are very considerable, and do not abate

with the appearance of the flow, the medical attendant should be consulted; for although the belief prevails, that because the function was a natural one, all its attendant pains must be endured, so little true is this, that the proper administration of certain sedatives frequently alleviates them, and insures the better performance of the function.

Besides the unreasonableness of undergoing suffering that may be prevented, these pains, though not inflammatory in their nature, may predispose to inflammation, and lead to disorders very difficult to cure. Warm fomentations, or poultices to the seat of pain, and the warm hip-bath, may often be advantageously used by the patient; but the medical practitioner will suggest the most effectual means of relief—sedatives which require to be given in a manner and in proportion to each particular case.

IV. *The flow should not be abundant, or of too long continuance.*—There is another deep-rooted and most dangerous prejudice, which makes women believe that, however great may be the discharge, if it occur periodically, it is in perfect accordance with the views of nature. Frequently have we drawn a parent's attention to the debility and ill health following an habitually too copious flow, and as frequently have we obtained the same answer—"She is always so;" so difficult is it to enforce the conviction, that the fact of a girl *being always so*, is the very reason for adopting such measures as should prevent her *ever being so*.

Contrary to the general belief, plethoric women are not in general those most liable to profuse sanguineous discharge; for this derangement is much more frequently met with in those whose constitutions combine the lymphatic with a nervous temperament, and who are nervous, irritable, and thin. This fact holds good in both sexes; Bordeu has justly remarked, that many men evidently plethoric never bleed, while those most liable to do so are thin, nervous,

irritable young men, who have something feminine in their appearance and constitution—a consideration which led him to admit that hemorrhage, instead of being the constant result of a superabundance of blood, may depend on a hemorrhagic cachexia, or on a state of the circulating system, known by the slight febrile excitement which precedes the critical emission of blood, and by a full, quick pulse, often hard, and rebounding under the finger. In men thus constituted, the emission of the smallest quantity of blood is often followed by great relief, while profuse bleeding would be fatal, exactly as it is with the periodical hemorrhage of women. Therefore, in some very rare cases amongst women who have attained their full growth, we may look upon the habitually profuse discharge as harmless, and let it flow without interfering, so long as the strength remains unimpaired.

When, however, it occurs in the weak and nervous, it must be considered as a most pernicious drain determined by a morbid nervous influence. It is generally followed by leucorrhœa, which, as Friend has noticed, seems often to determine, or rather to coincide with, the remittent discharge, and it will cause the womb to reject its fruit in the early months of pregnancy. Such are the immediate effects produced on the uterine apparatus; for when it is permitted in girls of a delicate frame, there are no means of strengthening such constitutions; increase of age brings with it no increase of strength, unless, as in some rare instances, child-bearing regulates the function. This continual drain, by depriving the organs of a sufficient amount of blood, and deteriorating the remaining vital fluid, tends to produce many diseases of vitiated nutrition, particularly consumption; and even if no organic disease be set up in such constitutions, they become subjected to all sorts of nervous disorders, and the only period of health which women

enjoy is during the few days previous to each recurring epoch.

It is, we fear, almost inherent in human nature to prefer swallowing medicine, however nauseous, rather than to adopt a well-devised hygienic system. The medical man is often asked for something to amend this or that symptom; but we are unacquainted with any specific capable of checking this prolific source of evil, which can only be safely diminished by adopting carefully the rules which we have laid down to promote the healthy action of the nervous functions, and to restrain that morbid irritability of the system, which stands in the double relation of cause and effect to the profuse monthly discharge.

The subject now under consideration affects too vitally the health of women to allow of our dismissing it in a summary manner, especially as we must rely very much on what is reported to us; we cannot at first tell whether it be merely, as we have hitherto supposed, an exaggeration of what ought to occur monthly, or the result of some ulceration of the womb requiring to be treated by local applications. Sometimes also the case is even more serious; the sanguineous discharge being caused by a tumour or a polypus, which it is necessary to extract before a cure can be effected, as in the following instance:

Mrs. P * *, by repeated and long continued loss of blood, was reduced almost to death's door. She could no longer walk, her appetite left her, and her complexion became like wax. She had been under several of the first London doctors, who had tried to give her strength by steel, bark, and astringents, but without success, because they neglected to ascertain what the protracted flow depended upon. Had they done so, they would have easily found a uterine polypus as big as a walnut, which we removed three years ago, following up the treatment by tonics, by which

she soon regained her strength and complexion, and is at this time in good health.

In a late number of the Dublin Medical Journal, Sir Henry Marsh relates the case of a gentleman who for weeks was subject to severe bleeding of the nose. Until lately he had never thus suffered; so it was evident something unusual was the matter, and on a minute local examination, a *vascular* spot of ulceration became apparent. A few applications of the actual cautery cured this bleeding. In like manner a profuse discharge of blood is sometimes caused by *vascular spots of ulceration on the lower portion of the womb*, and then it often becomes necessary to touch them with some caustic substance. "This gentleman," continues Sir H. Marsh, "had for five weeks been subjected to cuppings at the back of the neck, to astringent applications of ice, saline aperients, and all sorts of dietetic restrictions and constitutional measures." In the same way are many women treated who suffer from ulceration of the womb, and with a similar failure of success. "The cause of the oversight of the medical men in the case of this gentleman," says Sir H. Marsh, "was, that their attention had not been drawn to the possibility of the bleeding proceeding from an ulcerated surface by any local pain or uneasiness in the nose." So also the fact of an habitually profuse sanguineous discharge proceeding from the ulcerated womb is sometimes overlooked by medical men, because their attention is not drawn to it by local pain or uneasiness. Sir H. Marsh rightly concludes "that it is surprising how often such an oversight is committed in similar cases," a remark which applies even more forcibly to this neglect in uterine cases, of which the following is an instructive instance:

Frances W * * applied for relief at the Paddington Free Dispensary, July 1, 1850. She was 46 years of age, of sanguine temperament, and of middle stature. She was

a washerwoman by occupation. Puberty occurring at 17, she continued regular, and the flow was abundant for 7 days every month. She married at 21, and had 9 children, the last at 44. But this was a bad labour, and she suffered much ever since from pain in the back. Two months previous to her admission, instead of the usual discharge she had a *show* every day: a fortnight before she applied for relief she had a sanguine discharge, and on the day of her admission she had suddenly lost about a pint of blood. A few days after this she was taken with intense flooding, and in the space of 16 hours she had lost from 2 to 3 quarts of blood. Having been called to attend a patient some miles from town, Mr. Hammond of Paddington-green kindly visited her during our absence, and on our return we found her reduced to the greatest state of debility. There was a very weak pulse, fainting and jactitation. We succeeded in stopping the flooding, but it was followed by a muco-sanguine discharge. From a digital examination, we were convinced that there was serious organic disease of the womb, and from the irregularity of the internal surface of its neck, into which the finger easily plunged, and from the hardness of the tissues, we were afraid the disease was cancer; but on making a careful examination a fortnight after, we found the orifice of the neck of the womb surrounded by lobules about the size of a large pea, and its inner surface highly vascular, in some portions ulcerated, and the whole of the organ much engorged. Being convinced that the disease was of a purely inflammatory nature, we adopted the treatment most useful in such cases, and with six applications cured one of the most severe examples of uterine disease we have ever met with. The patient soon recovered her strength, but remained irregular. She again came to the Dispensary, Dec. 12, because the discharge had lately continued for a fortnight, and had been very

profuse. On examination, the womb, however, was found perfectly sound; and so it was when we last saw the patient.

These cases show very clearly the necessity of examination to detect deep-rooted disorders; and the possibility of curing them is one of the modern triumphs of medicine. Women should, therefore, be made aware that such examinations are sometimes necessary when the courses are habitually very profuse, in the same way as they are made aware that they may require the ministry of a man during their confinements. In such complaints it is even more necessary; for nature alone, or the help of a woman, may sometimes suffice in the lying-in room; but there are no women who know how to cure these disorders, except perhaps Eliza Blackwall, M. D., and she has returned to Philadelphia.

But while women are made aware of a fact that may be important to their health, they should also be protected by the knowledge that, in ordinary cases of ulceration of the womb, a medical man is not warranted in making an application of the solid caustic more than every three or four days, for the simple reason that, by doing so more frequently, he would inevitably interfere with the healing process he has sought to promote by the application. We said *protected*, and the word is certainly not too strong; for we have heard of practitioners in this country subjecting patients suffering from these complaints to examinations daily, and even twice a day, which we know to have occurred, even for eleven weeks! Let it be well understood that, in *ordinary* cases such a practice is unjustifiable, and common sense will dictate that if the case be *extraordinary* it should be a matter of consultation between, at least, two medical men, so that it may be treated in the best way possible, the feelings of the lady and of her family respected, while the dignity of the profession remains uncompromised.

V. *The monthly flow should never be suddenly suppressed.*—Volumes might be filled with illustrations of the pernicious effects of the flow being suddenly checked, either intentionally or accidentally. As the danger of this accident is, fortunately, generally admitted by all who have any experience of life, it will not be necessary to bring forward many cases to show the immediate danger which may ensue from the occurrence. We shall, therefore, merely quote the following instance, related by Dr. Meigs in his work on "Diseases of Females," which is one of a multitude wherein one imprudent act has compromised the health of women during their whole life.

"A young lady, in consummate health, wished to go to a ball; but unfortunately, before the time for dressing arrived, she was taken poorly, and began to fret at the occurrence. Her nurse, an old and confidential servant, made her take a hip-bath of cold water, and the courses disappeared. She went to the ball; came home before the end with a blinding headache; was attacked with a brain-fever, lost her bloom and embonpoint; and now, at the age of near 50, still feels the effects of the dereliction of duty on the part of the confidential servant. The uterus and ovaria, and all the branches of the hypogastric, the sciatic, and the ovaric arteries, were full—it was full-tide with all that system of vessels; the accompanying nerves were all ripe, and rife with the periodical excitement. The cold hip-bath produced instantly a spasmodic closure of the excreting orifices in the womb, and the uterus and ovaria became instantly the seats of intense engorgement, which, reacting as a disturbing force upon the cerebro-spinal system, laid at once the train, for years, of ill-health. That lady's whole life was rendered a scene of bitterness, of vapours, and caprices, by that single hip-bath."

The great and principal means of preventing such an acci-

dent is, to avoid the abrupt action of cold upon the body, as well as all shocks of mental emotion on the nervous system.

Cold may be applied externally or internally. It is in the power of all to avoid cold, damp, and wet feet at certain periods of the month, and at all seasons of the year. If cotton or silk stockings will not suffice to keep the feet warm and dry, lamb's-wool may be resorted to; and as to boots and shoes, without being very thick, they may be made impermeable by gutta percha, as we have already explained.

It is contrary, as we have shown, to sound judgment, cleanliness, and elegance, to subject the legs to a mass of wet clothes from a neglect of holding them up; but the great injury to *health* is done by remaining in damp clothes when no longer taking exercise. On returning home, therefore, the clothes, if damp, should be immediately changed, and the feet immersed in hot water.

Sitting down, in the summer, on damp grass, or on the iron or stone seats of public gardens, should also be carefully avoided.

Dr. Ravn, of Copenhagen, mentions that suppression of the monthly flow is extremely frequent in the Feröe Islands, on account of the women wearing, instead of shoes, a skin round their feet, which keeps them constantly wet, in damp, cold weather; confirming the assertion of Hippocrates respecting Scythia, that it was a cold, watery country, where suppression was very common. Now, if the application of damp to merely one part of the body is sufficient to produce this effect, it stands to reason how injurious must cold applications or cold-bathing be at that particular time! Let this, then, be a warning to those who are tempted by an insatiable love of novelty to confide their daughters' health to those hydropaths who, regardless of the laws of nature, roll women, at a certain period of the month, in wet

sheets, or plunge them into cold water. We have been told by Russian noblemen that such was Preissnitz' plan, at Graefenberg. To advance in justification of it that cold does not always check the flow, is so shallow an excuse, founded on so few exceptional cases, that we shall not weary the reader by pointing out an absurdity so manifest to common sense, and which can in no way impugn the rules we have laid down.

When we hear of the hair turning gray in the space of one night from the mind being racked with unutterable wo; when we know that even slight emotions may cause the heart to palpitate, and to push forth wearily the ever-gushing blood-stream; when, again, from emotion, the cheeks become damask with blushes, or pallid, damp, and cold, need we wonder that mental emotion should affect other equally sensitive parts of the body; that it should, in fact, turn off the sanguineous current from the pale-grown surface of the womb? It is, therefore, of no trifling importance to the health of women forcibly to impress upon their friends that at this particular period of the month no bad news or disastrous event should be suddenly communicated. If it be not possible to have some previous conversation with a female relative, the blow should not be struck until the gay and unsuspecting spirit has been untuned, and by degrees brought down to the diapason of grief, by an increasing gravity of manner, by gradual forebodings of possible misfortune, and such preparatory steps as can only be suggested by the nature of the misfortune. In London, however, or wherever news so quickly finds its way into the public papers, there is no real certainty that all our precautions may not be unavailing, and that fearful tidings heard or read at this critical period, may not give a severe shock to the system,—a shock impossible to be prevented by human foresight. It therefore behooves all who have the care of girls so to strengthen the nervous system that they may in after

life suffer as little as possible from this cause; a part of education which should be begun so soon as the infant, by its shiverings, fears, and passions, has convinced its mother that it has a nervous system. We have certainly met with ladies who at all periods of the month could with impunity wash in cold water, or take a cold bath, and we are acquainted with one who has, in winter, to break the ice on her bath before she plunges in; but we only notice these cases as remarkable exceptions, in order to show the possibility of these ladies being able to do so with impunity, on account of the absence of all tendency to nervousness, and the superior strength of mind exhibited by them under the most trying circumstances of an agitated life.

The conduct of a mother during cases of sudden suppression will show whether she be worthy of being placed by Providence to watch over the welfare of another generation. She should set aside all anxious forebodings, and, with an energy rising in proportion to the emergency of the case, should pacify her daughter's fears and get rid of the indiscretion of well meaning attendants, by despatching one for the physician, another to prepare a hot hip-bath, containing a quarter to half a pound of mustard flour, a third to warm the bed, and a fourth to get ready something warm for the patient to drink so soon as she can be placed in bed.

These precautions may not be always necessary, but can never do harm, and may sometimes prevent fatal affections of the brain, and thus save the life of many a blooming girl, the central point on which depends the happiness of many.

VI. *The monthly flow must not be accompanied by too much mucous discharge, commonly known by the name of "the whites."*—Those to whom inexperienced girls are confided should also have for their guidance some definite information respecting the nature of those discharges to which women are liable; for while some are attended with little danger,

others require energetic treatment. Here, again, the natural history of the functions of women comes to our assistance; for we find that the first appearance of puberty is generally preceded for several weeks, sometimes for months, by a mucous discharge. After the regular establishment of the function, it is generally both preceded and followed, for a day or two, by a white discharge, which we consider to be part of its phenomenon. This mucous discharge alone also sometimes constitutes it, taking place regularly at the monthly periods,—being accompanied by the usual symptoms, and even sometimes effectually relieving them. This is, evidently, not a disease, but an imperfect effort of Nature, and it should not be stopped by injections or cold applications, but be respected until time and the employment of constitutional means shall have caused it to be replaced by the normal flow.

A white discharge may appear between two epochs. This is a very frequent occurrence in women subject to the weakening influences of civilization; for amongst our cases we find it to occur in 30 per cent.; and as it is attended by no pain, it is merely suggestive of greater cleanliness, and not of any necessity for medical treatment. We have seen this much interfering with the patient's health, particularly in strong plethoric women—a remark coinciding with Friend's persist with the greatest obstinacy through life, without experience, though somewhat contrary to the dictum of theory and received opinions. The just view of such cases, in the 19th century, is that entertained by the first medical authority after the divine old man, Hippocrates; by Galen, who called this disease a rheum of the womb, the slight hypersecretion of the vaginal mucous surface having no more alarming import than the discharge from the mucous membrane which lines the nostrils.

When, however, instead of being white and unaccompa-

nied by pain, the discharge is yellow or green, and attended by much pain in the back and thighs, particularly if it have been allowed to continue long enough seriously to disturb the functions of the intestinal surface, the case alters, for in addition to the constitutional employment of steel, iodine, or mercury, local applications may become necessary to induce a more healthy action of the vaginal surface, and then one of the injections well known to the profession should be tried. In some rare cases, however, even these applications will not suffice, aided though they may be, by a proper dietary and sound constitutional treatment: rather, therefore, than allow a patient's health to be completely undermined, a careful examination should be had recourse to, for it is most probable that the interminable discharge is caused by various morbid conditions of the neck of the womb, which require to be modified by some local application, so as to allow the diseased tissues a fair chance of being rapidly healed. It would be quite unnecessary, in a book destined for the general reader, to multiply cases in proof of the value of these local applications, the more particularly as this is now generally admitted by the profession; and we shall only refer the reader to the case of Frances W * *, page 243, for an additional proof of their utility.

VII. *The monthly function should not be attended by much hysteria, or nervous symptoms.*—The most frequent of all nervous symptoms of this function is a peculiar cerebral symptom, not actual pain, sick headache, or hysteria, but *pseudo-narcotism*, which is a dull, heavy, stupid feeling, with a great tendency to sleep. It is seen in the greatest intensity previous to puberty, and at the change of life, and in the vigour of womanhood, as a consequence of the sudden suppression of the flow. It varies from a slight heaviness to variable shades of intensity, which prompt women at different periods of life to complain "of a dimness of eyes,"

of "a heaviness in the head," "a stupid feeling," "of a stupid headache," "of feeling heavy for sleep, but without pain," "of the possibility of sleeping any where," "of feeling lost and bewildered," "of a temporary loss of wits," "of the fear of going mad." But besides a variable amount of these symptoms, hysterical phenomena may be produced by the monthly crisis, or be intimately connected with it; inasmuch as a fright, which at other times would be tolerated by the nervous system, sometimes produces hysteria or epilepsy when it occurs at a peculiar period of the month.

All that it is necessary for mothers to know relative to this point is, that hysteria is a disease almost entirely peculiar to women, occurring most frequently at this period of life, and depending upon the exaggerated or perverted action of the organs constituting them women, on a nervous system deteriorated by hereditary predisposition, or the usual perverse plan of education.

When the nervous system has been very much debilitated by want of exercise or food, by over-taxing the mental powers, etc., it can no longer bear the reaction of the puberic crisis; and the undue accumulation of nervous power in the brain may vent itself in various ways. The same results will be still more likely to occur, if a bad system of physical education has induced permanent derangement of the monthly function. Thus a continued nervous, hysterical irritability may be engendered, modifying all the complaints to which women may be liable, imitating most of them, and often baffling the sagacity of the most acute physicians. This nervous irritability will for a time accumulate like poison, rendering a young person low-spirited and melancholy; or it may assume what is called by old Burton "a foolish kind of bashfulness." But this state cannot last very long; a point of saturation being reached, a reaction comes on, and the patient now literally becomes either "giddy from con-

stitutional joy, and fuddled with animal spirits," or successive convulsive attacks consume this accumulated nervous poison, relieving her for a time, but leaving her exhausted and predisposed to a return of similar sad attacks.

It may be useful to give a few hints respecting the plan of treatment for these attacks, whilst awaiting the arrival of the medical attendant. The dress of the sufferer being every where loosened, she should be placed on a mattress on the floor, so that she may not bruise herself against the bed-posts or fall out of bed; and she must be watched, for fear she might do herself injury. To shorten the duration of the attack, cold water, or a piece of ice, should be applied to the epigastric region, and the patient should be made to drink a full draught of cold water as soon as possible. The medical man must then take the case in hand, as he only can judge what further immediate and constitutional remedies may be required; but, as a preventive, we recommend the use of lavements with cold water daily, particularly when habitual pain above the hips, and great pain during the periodical function, renders it probable that hysteria is caused by some ovarian irritation.

The great point, however, will be to correct the evil effects of injudicious education. The food of such patients should be abundant; for in proportion to the quantity and quality of the blood will the nervous system be kept in order. In most cases, also, exercise dispels the gloom of melancholia; and as in insanity the advantages of out-door occupation have been found a most admirable means of cure, so also would it be found even more effectual in controlling the hysterical temperament: any strong permanent impression that can be made on a patient by travelling, visiting, or any agreeable and novel pursuit, will likewise be beneficial. Rush relates, that in the American revolution hysterical ladies had not time to be hysterical; and Frank observes, that the wives of merchants, who were accustomed to be

so in prosperous times, completely lost that complaint when their husband's reverses obliged them to exert themselves.

The reader will, perhaps, now for the first time perceive the utility of a long chapter upon the education of girls; he will see the necessity of giving them other subjects than marriage to meditate on, and of our insisting so much on the strengthening of the nervous system of woman, by the same means as we strive to fortify that of man. Dr. Armstrong says, that "the anxious sympathy of attendant friends being the very food of hysteria, that food must be cut off, and the patient must be upbraided for letting herself fall into fits." And there is much truth in this. By misguided tenderness a loving parent often does more harm than good. Let her well bear this in mind, remembering that at times we must "appear cruel only to be kind." Neither would this be often necessary, if girls had been taught to what extent they can control hysterical manifestations by an effort of the will.

If we have shown that the derangement of the monthly function causes irritability, nervousness, temper, and hysteria, the study of mental diseases shows that some forms of insanity really depend upon derangements of the reproductive system, and are cured when this can be restored to healthy action. The fact that such cases of intellectual aberration offer the greatest hopes of a perfect recovery, has struck medical practitioners of all age, and has been lately commented on by our friend Dr. J. Conolly. Hysteria is not only shown by continued lowness of spirits, by the sensation of a lump in the throat, and, in the severer cases, by convulsions; but also by strange pains, which often puzzle the most sagacious.

Hysterical Pains.—These pains may exist without any immediate connexion with hysterical attacks. They seem to be the exaggeration of the pains in the head, the spine, and the limbs, which are so frequently observed during the monthly flow, and in uterine affections.

When these hysterical pains persist for any length of time in the spine, or in the vicinity of the hip-joint, they naturally suggest that they may be caused by some serious disease of the bones; and then it frequently occurs, as shown by Sir Benjamin Brodie, that girls are for years confined to the bed or sofa, and tormented by issues, setons, and moxas, while exercise, amusements, and change of air, might cure them in a few months. Limbs have even been amputated for these pains, which are of so frequent an occurrence, that, without exaggeration, Sir B. Brodie has affirmed "that in the upper ranks of society *four-fifths* of the women supposed to be affected with diseases of the joints, are only the victims of hysteria."

Before concluding this subject, we must observe that nervous affections are catching; that as the vibration of one chord causes similar chords, attuned to the same note, and within a given sphere, to vibrate to the same tone; so the mysterious vibrations of the nervous system of one girl may cause that of another to vibrate in the same hysterical way. Sisters, therefore, particularly if younger, should not be allowed to witness such attacks; and in a school the sufferer should be placed in a room without any youthful companions.

RATE OF MORTALITY.—The rate of mortality during this epoch may be deduced from the following table:—

(OF 1000 CHILDREN BORN ALIVE.)

Age (or birth-days.)	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
15	6	3	3
16	5	2	3
17	5	3	2
18	5	2	3
19	6	3	3
20	6	3	3
21	6	3	3

The mean duration of life may be gathered from the following table :—

Age (or Birth-days.)	Mean future Lifetime, in Years.		
	Persons.	Males.	Females.
15	44	43	44
16	43	43	43
17	42	42	43
18	42	41	42
19	41	41	41
20	40	40	41
21	40	39	40

The value of life is estimated as follows in the English life table to which we have constantly referred, but life-insurance offices demand somewhat higher premiums :—

Age next Birth-day.	Life Insurance £100.								Present value of a Life Annuity of £1.				Life Annuity which £100 will purchase.			
	Uniform Annual Premium.						Premium for a Single Year.									
	Males.			Females			Males.		Females		Males.			Females		
	£	s.	d.	£	s.	d.	s.	d.	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
15	1	8	4	1	7	11	13	6	14	8	22	1	10	22	4	2	4	10	6	4	10	1
16	1	9	0	1	8	6	13	10	14	11	21	18	3	22	1	0	4	11	3	4	10	8
17	1	9	9	1	9	2	14	3	15	3	21	14	8	21	17	9	4	12	0	4	11	5
18	1	10	5	1	9	9	14	8	15	7	21	11	0	21	14	5	4	12	10	4	12	1
19	1	11	2	1	10	5	15	0	15	11	21	7	3	21	11	1	4	13	7	4	12	9
20	1	11	11	1	11	1	15	5	16	2	21	3	6	21	7	8	4	14	5	4	13	6
21	1	12	9	1	11	10	15	9	16	7	20	19	9	21	4	3	4	15	4	4	14	3

CHAPTER VI.

TWENTY-ONE TO TWENTY-EIGHT YEARS.

The numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Fem.
940	938	60	62	5·986	6·170	·855	·881

Thus, out of 1000 *men who were alive at twenty-one years of age,* 940 *completed their twenty-eighth year, and the remaining* 60 *died during the period* 21—28. *The mortality was* 5.986 *per cent., and the annual mortality* ·855 *per cent.*

The life of man is like unto a day. He has now reached that period when the sun has nearly attained to his meridian height, giving the promise of a still more glorious future. He has reached the early summer of his life, its harvests are gilding fast, and on the realization of his early hopes is founded the conviction of the possibility of fresh achievements and of happiness still to be attained.

Man had long laid claim to independence, and in thoughts and affections he indeed was free; but now the law recognises his independence, and renders him responsible for his actions. But although his heart may beat high with hope, the increased rate of mortality shows the danger of this epoch, and warns him not to misuse his newly acquired power; for "the excesses of youth are drafts upon old age, payable with interest many years after date." During this period the body spreads to its full growth, the powers of mind

acquire stability, become more harmoniously equipoised, and all the affections of the heart expand to their full plenitude, constituting the many subtile links of those chains which are strong enough to bind the family and society into one harmonious whole. Now is all-apparent the difference between the occupation of the two sexes. Man seeks to turn to some account his long tedious years of scholastic education, and to acquire some special knowledge which may qualify him to be a useful member of society, either as a diplomatist, a clergyman, a physician, a lawyer, or a merchant. Therefore this period is for man still one of probation, and one in which he rather seeks for friendship than love. With regard to the choice of friends, we may suggest as a rule of guidance to those who are beginning life, never to become intimate with those for whom they have at first sight felt a strong repulsive feeling. We are all instinctively informed by what the Italians call "*sympathetica*," or "*antipatheca*," of what may be useful or prejudicial to us long before we can be aware of the reason of its being so, and we feel convinced that many would have been preserved from misery and destruction if they had listened to this instinctive warning, instead of waiting for time to show them on what ground was built the feeling they despised.

Though man at this period of life often thinks of love, it is merely as a distraction from heavy toil, and but rarely with the idea of settling; while woman, on the contrary, ripening earlier into perfection, with the domestic hearth for her chief field of action, the affections of the heart for ever engrossing the chief portion of her energies, generally settles in marriage between 21 and 28 years of age. As, then, most women marry towards the early portion of this epoch, and most men soon after its completion, it behooves us now to consider this important event in its relation to

the health of those who are to be united, and in regard to the improvement of the human race.

As marriage is a most important act of woman's life, it would be common place to enter into a lengthened discussion to prove how much her happiness depends on the cast of the matrimonial die; but so long as the satisfied affections of the heart have power to stimulate the whole frame to healthy action, or so long as the disordered action of the whole system is daily brought about by some canker preying on the inmost heart of woman, medicine suggests that there should be no abatement of the prudence generally used by parents before giving their sanction to so important a step.

Marriage should be emblematic of the union of mind to mind, and heart to heart. It is well to build matrimonial happiness on physical sympathy, better still on the sympathy of heart responding to heart; but the mental adaptation, and a similarity of views relative to the grand principles of action and the events of society, should also be taken into consideration; for the bodily perfections must fade, the ardour of affection may cool or be diverted into another channel, but the mind's fixity of purpose is more to be depended upon, its energies diminishing but slowly with increasing years. A marriage founded upon this mutual understanding has little chance of being wretched; both parties ever finding the self-same mental beauty they once admired, and constantly deriving from each other the benefit of mutual interchange of thought, live together as monitors, their two beings become indissolubly chained by habit, and they really form but one personality, though having, it is true, a masculine and a feminine side.

But although tied by the bands of love and mutual confidence, how different is the relative position of each sex in marriage. The one gives obedience to the dominion

assumed by the other, as the only principle of government capable of ensuring the peace of the family; and though the word "obey" sounds harshly in the ears of those who often marry to be their own mistresses, the actions, and even the conversation of women, when that little word escapes their memory, show how readily they admit their state of subjection. When married, a woman cares not how much she obeys, provided she really *does* obey her husband acting for himself, and not when he is made the tool of others. A man, therefore, should not marry unless he can keep a wife in comfort, be able to give her the first place in his affections, and direct her by his own judgment and knowledge of the world; for if, while affectionately wedded to a woman, his mind remains too strongly influenced by some relation or friend, conjugal happiness is compromised, even though the wife may have nothing to object to in the principles or position of her husband's leader.

The duties of the married state spring from a complete identification of heart and soul, from a love which, prompting self-sacrifice, suggests the necessity of mutual confidence. The wife, it is true, has nothing to do with the affairs of her husband before marriage, but when once she has accepted him it is his duty to confide so much of them to her as may enable both to trace out their future plans. Secrecy would otherwise place both in a false position; and if persisted in after marriage, the wife would soon perceive that there is something hidden, which she would brood over until doubt, suspicion, and fear would take away her peace of mind. Her open disposition would soon become tinged with her husband's secrecy, and fuel would be added to the flame if she perceived that instead of consulting her upon family matters, he relied fully on the advice of a friend, and implicitly followed it out, without asking her opinion, though she may be sufficiently clear-sighted to see that the friend,

though well-intentioned, is ill measuring another by his own metre. Until conjugal confidence be established, there must be an end to happiness.

The bearing of each other's infirmities of mind and body scarcely needs, in a Christian country, to be enforced in a work of this description: still it is well to remind men that at particular times of each month during child-bearing and lactation, women are constitutionally more irritable, and therefore require to be spared, as much as possible, what might give rise to manifestations of temper. The general aim of English wives is practically to convince their husbands how much happier they are married than when living in bachelor solitude, or when vainly roaming after happiness; for except domestic happiness, what does man gain by marriage? A great increase of expenses, of duties, and of cares, it is true; but his experience is not augmented, nor his importance in society. Woman, on the contrary, acquires a social importance she could not otherwise attain,—it gives to youth precedence of age, a premature experience,—and an *aplomb* which often creates in our minds a surprise equal to the respect it commands. But while assuming the privilege of power, women should never forget the important duties they are called upon to fulfil. In civilized nations matrons give the tone to society; for the rules of morality are placed under their safeguard. They can try delinquents at their tribunal, expel the condemned from their circle, and thus maintain the virtue and the country of which it is the foundation; or they can, as in France in the eighteenth century, laugh down morality, throw incense to those who are most deserving of infamy, and, by the total subversion of all public virtue, lead to sixty years of revolution. Matrons have likewise a peculiar duty; they alone can effectually protect young unmarried women, can guide them through the intricate mazes of society,—can teach them when to

fear and when to be confident,—and, above all, can impress upon them that even the weakest are not left unprotected, for they can use

> "That noble grace which dashes
> Brute violence with sudden adoration
> And blank awe."

They alone can teach them how to preserve their health, and can enforce the advice of doctors from their own conviction of its importance. Thus the chaperoning of a girl to a party is but an emblem of the vigilant protection which society imperatively calls upon matrons to give unceasingly to the young.

Such are the duties and the advantages of the married state; but for the happiness of many it should in some cases be delayed, in others forbidden altogether. Youth and sickness are the principal hygienic reasons for delaying marriage.

Our objections to early marriages would, it is true, often involve longer courtships; but if the health does not suffer, what harm is there in this? What harm to prolong the happiest time of life? With the heart settled on one pure object of affection, women would have less temptation to flirt, and men would feel bound in honour to be chaste. "He who weddeth before he is wise shall die ere he thrives." The truth of this Spanish proverb will be obvious from what has been previously stated; for a girl, though marriageable long before 21 years of age, should, as Plato recommended, wait until that period before entering that state; for if married at 16 or 17, she brings forth children before her own constitution has acquired its full strength, and thereby imperils her own and her offspring's health.

This precept seems to admit of little limitation from climate, for although it is now customary in India to let girls marry long before they have reached their full growth, still Sushruta, an ancient writer of great authority, says: "If a man under 25 marries a woman under 16, and have

a child born alive, it will either soon die, or be imbecile and weakly so long as he lives;" and turning from India to North America we find that the extinction of the Indian tribes is principally to be ascribed to the frequency of early marriages.

But besides this degeneration of the race, the cares and duties of a family leave a young mother neither time for the proper cultivation of the intellectual faculties on which so much of her happiness depends, nor allow of her learning the domestic knowledge to be taught by a mother after the school-education is finished.

Let those who object to long courtships refuse to plight their daughter's faith before twenty-one, so that she may see a little of the world, and judge for herself whether her first admirer be really worthy of a wife's devotion. This plan will try the constancy of both parties; but how much better than for a girl to wed herself to unhappiness!

Marriage should be delayed in sickness. It would seem scarcely necessary to emit so simple a precept, if we had not to contend with the popular opinion, that marriage is a remedy for many complaints. Centuries ago it was asked by Lycurgus, "How is it possible that a weak, delicate woman can give birth to a strong child?" It is always prudent to suppose that conception will immediately follow marriage, and it stands to reason that as are the parents so will be the child.

If the parents be sickly, the vivified germ will be likewise so; for as it was conceived in ill health so it will grow up and pass through life; and although it may be advantageously modified by a judicious adaptation of the elements of hygiene, it is hard to repair a fault in the first formation of man. The chronicle of the parents' health may be often traced in the different appearance of their children, some being of large size and good health like their parents,

others so puny and sickly that they do not seem to belong to the same family; and it may be then ascertained that the latter were born at a time when the habitually healthy parents were one or both in a state of sickness. This shows sufficiently how necessary it is to delay marriage until the restoration of the general health. Marriage should likewise be postponed until all tendency to inflammatory action in the ovarian or uterine organs has ceased, and in all cases of imperfect constitutional development, in chlorosis, or green-sickness, as it is generally called, that state should be cured before marriage is permitted. Chlorosis should be cured before marriage, because it is easier to cure then than afterwards; and because, should pregnancy occur, miscarriages frequently take place, and the offspring are generally scrofulous or delicate.

With regard to hysteria, it is more difficult to know what course to advise. If highly developed, the fact should be made known to the intended husband, for Dr. Boucher has ascertained that out of 170 epileptics, 23 were born of very hysterical mothers; and Dr. Ferrus, now Inspector-General of lunatic asylums in France, states that when at the head of the large lunatic asylum at Bicêtre, he always observed a very exaggerated development of the nervous system in the relatives of his patients.

But every rule presupposes exceptions; and as nervous disorders become more difficult to cure in proportion to the time they have been permitted to last, it is a question whether it be not wise to permit the marriage of many hysterical girls under age. The medical adviser can alone answer so grave a question.

Marriage may be objectionable under three points of view:

I. Intermarrying in the same family.

II. When two persons of an equally delicate constitution intermarry.

III. Intermarriage with a family in which either con-

sumption, scrofula, cancer, epilepsy, or insanity has been known to exist.

I. Intermarriage leads to the degeneration of races.

Sir John Sebright has well expressed the value of close breeding in and in, when he says that "a tendency at least to some imperfection generally prevails in different degrees in the same family: by breeding in and in, this defect, however small it may be at first, will increase in every successive generation, and will at last predominate to such a degree as to render the breed of little value."

We leave the reader to seek exemplifications of this law in most of the royal families and aristocracies of Europe, unless, like our own, they make a habit of grafting on their deteriorated trees the vigorous saplings of a less sophisticated nature, crossing noble blood with plebeian wealth of purse or of mind. Therefore it is evident that the marriage of first cousins should never be sanctioned, unless every other circumstance about to be noticed promises favourably.

II. Experience shows that marriage between parties of similar temperament and similar weak constitutions, produces sickly children who are seldom reared. Therefore if it be a question how to marry a delicate girl, the last, perhaps, of her race, so as to have the greatest possible chance of preserving a name, she should be wedded to a man differing as much as possible from herself by his excellent health, and by his temperament and appearance. The more delicate the lady, the more contaminated the race, the greater is the urgency of parents being guided by this plan, which is not of our own invention, but is sanctioned by the experience of ages.

III. When one or several of the following constitutional disorders, scrofula, consumption, cancer, epilepsy, or insanity, are deeply rooted by hereditary taint in a family, it is the duty of the intended husband to intimate the fact to the parents of the lady; or if they are hereditary on her side,

the proposer should not be allowed to marry in ignorance, for under such circumstances these constitutional complaints would in all probability be transmitted to the offspring. If, however, only one family be affected, there is a chance of the healthier stock improving the constitution of the common progeny; and if both parties marry with the full knowledge of what may occur, and make up their minds to risk the chance, they are able at least to take every precaution so as to counteract the known constitutional deficiency; and should their children in after life present the living portraiture of ancestral complaints, they will only have themselves to blame. If marriage, then, must take place under these unfavourable circumstances, let it be established as a general rule, that the one whose family is tainted should, as we have previously stated, seek a partner as opposite as possible to him or herself: to do the contrary is to bring on the inevitable failure of the race by the perpetuation of the common disorder.

When both parties, however, are afflicted with consumption, cancer, epilepsy, insanity, or when pelvic deformities exist in the lady, marriage should be strictly forbidden. Common sense points out how wrong it is to let family policy or irrational passion impel to a step which must increase the sufferings of both parties, and inevitably doom the offspring to death, or, what is much worse, to endless misery.

Boëthius tells us of a summary process by which the old inhabitants of Scotland effectually prevented the spreading of dangerous diseases, leprosy, epilepsy, madness; but as it would certainly not suit the refinement of the present age, we shall leave the curious to search for it in his work De Veterum Scotorum Moribus, Lib. I.

Pelvic Deformities.—The frightful consequences entailed by pregnancy when there is no space for the child to pass into the world, are present to the minds of all. A premature delivery of what cannot live is the most favourable

circumstance; but other terrible operations are sometimes necessary, and too often sacrifice the mother's life.

Consumption. — Investigations made at the Brompton Consumption Hospital, on 1010 cases of consumptive patients, show that in 1 out of 4 cases the disease was hereditary; and this proportion would be larger, if the inquiry were extended to the grandparents and collateral relatives, for it is well known that the hereditary influence may miss one generation. In those who are predisposed to consumption, pregnancy becomes a determining cause of the spread of diseases in the lungs; so it is in nowise prudent to rest on the belief that the work of consumption is by nature kindly suspended during pregnancy. If consumption be on the husband's side, the evil is as great; his children are as likely to be affected, and by his early death may be left unprovided for. Marriage, therefore, under such circumstances, should be prevented.

Cancer. — What has been said of consumption applies with equal force to cancer, should it, contrary to what is usual, show itself at an early period of life. Feelings of humanity revolt at the idea of transmitting such an inheritance; therefore marriage, under such circumstances, should be prevented.

Epilepsy.—This is a disease of very frequent occurrence at this period of life; and as in some cases women have not had fits during pregnancy, some medical men have even gone so far as to suggest marriage as a cure for epileptic women. But pregnancy does not always ward off epileptic fits; and its convulsions may complicate confinement. Supposing, however, that the mother's complaint should not be made worse by the consequences of marriage, should not the offspring be thought of, even to a second generation? for it has been known to pass over the child, and re-appear in the grandchild. Marriage, under such circumstances, should therefore be prevented; nay, it is almost sinful.

Insanity.—To throw a delicately-brought-up girl into a den of wild beasts, was a species of martyrdom which now revolts us by the enormity of the suffering inflicted without offence; but parents do something worse when they give their daughter in marriage to a man who has been once insane, or who may probably become so; for there can be no surety against the return of the malady, or its appearance, when hereditary. Fortune, rank, title, are mere baubles, when weighed with the agony of knowing one's-self in the power of a madman. What misery can be compared to that of a young mother, who, while watching in her children the dawn of intellect, expects at every turn of thought to see the parental scourge start up and stare her full in the face? What agony, to be obliged to people the future with desolating pictures of the human mind fallen into an idiotic blank, or of passions running riot in precipitous fury! while all along the day's monotonous occupations, and during dreamful nights, a tormenting spirit ever pours into her ear the line which Dante saw written on the gates of hell:—

"Lasciate ogni speranza,
Voi che entrate."

Yet marriage is often permitted under such circumstances!

At Athens the house in which dwelt a pregnant woman was an asylum so sacred as even to protect a murderer, and at Rome married women were not, like other persons, obliged to retire before the first magistrates of the Republic. Without imitating these observances, we might do well to follow another Roman example,—always to consider every married woman as pregnant.

That pregnancy may be expected immediately after marriage, should be impressed by mothers upon their daughters. We have, in some instances, seen young ladies, in other respects rational, taken so much by surprise at the event, that it quite unnerved them. In one case, the fear of

what her young friends would say so preyed upon the mind of an accomplished newly-married lady, that we believe she would have gone deranged if a miscarriage had not taken place.

"Homo est qui futurus sit," says Tertullian; that is to say, the vital principle does not make us by shreds and patches, but casts us at once; and the moment the human germ is vivified, many physiologists believe it to be stamped male or female, as effectually as the coin is marked by the die that gives it its value. It is not only made man or woman, but it is impressed with some of those multitudinous peculiarities which will ever after distinguish it from millions of similar beings; so that while the vulgar make so little of life, the philosopher cannot contemplate, without feelings of awe, the possible future of this mere germ. Will it one day grasp an empire in its clutches, and scatter desolation over the world? Will it reveal the still hidden mysteries of the creation, setting with fresh gems the fair coronet of science? Will it, although lowly born, and very poor, find in the inexhaustible treasury of its charity wherewith to minister to the wants of thousands of miserable beings? In each living germ the philosopher sees,—*in potentia*,—a Vincent de Paul, a Newton, a Napoleon.

We talk about the moral darkness of distant nations; we describe, in glowing terms, the horrors of infanticide, as practised in China; we boast of the light of Christianity shining upon us, and too often even among ourselves, is the moral principle blind to a clear perception of the respect due to the living creature. There are many young married ladies, who, not knowing how, childlike, to repose on the wisdom of Providence, dread having children. They are fearful of being subjected to pain, incumbrance, and expense; and whenever the monthly flow does not appear at its appointed time, they take violent purgatives, and fatigue themselves by excessive

exercise, in the endeavour to bring it on. Far is it from our intention to assert that those who follow so wrong a course have not been virtuously educated; they are merely unconscious of doing wrong, and would be horror-struck at being told that their act is one which admits of no other term than that of murder. It is, then, their mother's fault for not explaining to them that it is just as sinful deliberately to destroy that which has received life as to murder one of their grown-up fellow-creatures. How justly has it been written by a pen more eloquent than mine, that "to extinguish the first spark of life is a crime of the same nature, both against our Maker and society, as to destroy an infant, a child, or a man; these regular and successive stages of existence being the ordinances of God, subject alone to his Divine will, and appointed by sovereign wisdom and goodness as the exclusive means of preserving the race."

Although a sense of the dereliction of moral duty involved in the practice we deprecate, should be quite sufficient to cause it to be abandoned, still it is well that young women should know that such a line of conduct often exerts a very baneful influence on their own health. An important act cannot be thus abruptly stopped without reacting on the apparatus which has been its principal means of action; and we are inclined to think that the frequency of uterine disease in the middle and higher classes of society, is to be ascribed partly to this cause. To our conviction, in several instances where this was practised, it gave rise to the interminable persistence of uterine morbid states which we were long at a loss to explain.

"But righteous vengeance oft their crimes pursues,
And they are lost themselves, who would their children lose;
The pois'nous drugs with mortal juices fill
Their veins, and undesign'd themselves they kill.
Themselves upon the bier are breathless borne,
With hair tied up, which was in ringlets worn."

These well-known lines of Ovid, aptly translated by Dryden, are always quoted in reference to the dangers which a mother brings on herself by inducing a miscarriage during the latter months of pregnancy; but we believe them to apply with equal force to the ill effects of those very early miscarriages on a woman's constitution, which are often looked upon as merely the return of the monthly flow.

What we shall proceed to state relative to the physical, the mental, and the moral development of this epoch, will now principally refer to woman during pregnancy and lactation. For those who are not yet married, we have little to add to what has been already stated in reference to them in the preceding epoch, with slight exceptions which we shall note as we proceed: this assertion also applies to men, who, if they marry, have rather an additional chance of health to be thankful for, than increased infirmities to contend with.

PHYSICAL DEVELOPMENT.

Food.—During pregnancy the food should be abundant, and in conformity with a lady's taste, unless she should wish for something really noxious; for supposing very indigestible food be earnestly requested, it perhaps would do more harm to irritate her by refusing it than by acceding to the request. In that case one of two things would occur: either the food would be digested, contrary to what might be expected, in which case little or no harm could be done; or it might, perhaps, produce sickness; but this is a common accident of pregnancy, and less dangerous than the vexation produced by the refusal of that from which pleasure was anticipated. Longings for improper food are, however, seldom met with in rationally brought-up women.

During pregnancy there is no reason for increasing the usual quantity of wine or beer. It gives but a fictitious

strength, and may very likely be prejudicial to the child. During lactation, however, as much food should be taken as possible, and beer or porter, if it does not disagree; but it would be well if it were clearly understood by young mothers, as well as by their relatives and friends, that port wine and porter are not essential to make a plentiful supply of milk. A young lady has, perhaps, never been accustomed to take either of these, but soon after her confinement she is drenched with one or the other until her head is affected, and her stomach so much disordered as to interfere with digestion, and consequently with the secretion of the milk. If she complain, she is told that she has not taken enough, and the nurse deeply deplores the weakness of a constitution unable to bear indispensable stimulants. In such a case, however, the young mother must make up her mind to resist the persuasions of her friends, telling the most reasonable of them, that in other equally civilized countries nurses take neither wine nor porter: to those who are proof against all argument, it is better to oppose passive resistance, — silence, or a quiet but impressive "No."

Clothing.—In pregnancy the form of the stays should be moulded to the changes of the figure, and they should be sufficiently excavated at the breasts not to depress the nipple. Many young married women, from those most condemnatory feelings of false delicacy to which we have already alluded, try, by tight-lacing and the application of a stronger busk, to conceal pregnancy as long as possible; and by so doing they not only increase their own sufferings but may do harm to the child.

It is well known that much of the suffering experienced by women in the last months of pregnancy, particularly if it be with the first child, depends upon the pressure of the womb on the walls of the abdomen, which should be uni-

formly supported by a well made gestation-stay. Many of those now sold, in which the support is given by means of elastic tissue, are well worthy of commendation. It is obvious that when ordinary stays are worn, the busk should be removed.

Drawers are even more necessary during advanced pregnancy than at other times, for the dress being less closely adapted, facilitates the action of cold air on the unprotected part of the body, sometimes causing a complaint described as rheumatism of the womb, which is only to be met with in the latter months of pregnancy.

Tight garters, objectionable at all times, are still more so during pregnancy, as by impeding the free return of the blood to the central portions of the body, they help to produce varicose veins, and ulcers of the legs, by which many women are crippled through life.

With regard to clothing in general, it must be borne in mind, that during pregnancy the whole nervous system is in a state of increased irritability, and the constitution more susceptible of suffering from the causes of disease; therefore clothing at this period should be rather increased than diminished, unless, however, the natural heat is greatly augmented. The exigencies of society or the decrees of fashion should never be allowed to interfere with personal comfort; and the same remark applies to those who nurse, and are particularly liable to rheumatic affections.

Exercise and Amusements.—When a young married woman has reason to believe herself in the family-way, extraordinarily long walks, dancing, or any great exertion, should be avoided, particularly during the first months of pregnancy, for fear of their producing a miscarriage. Their danger is shown by what occurs in the humbler classes of society, where miscarriage is generally caused by over-exertion, or over-lifting heavy weights; but while, amongst the

educated classes, few miscarry from this cause, many do so on account of the increased susceptibility of the nervous system.

Let it not be understood, however, that we discountenance exercise, but merely its abuse; as taken judiciously it is most advantageous to correct the exaggerated nervous susceptibility to which we have alluded, and to promote the healthy circulation of the fluids of the body, which become mechanically obstructed in their course, and give rise to swollen legs, hemorrhoids, and varicose veins.

We have observed that railway travelling is decidedly objectionable for ladies in the family-way. We have seen many miscarriages and premature labours attributable only to this cause; and when we bear in mind the very painful vibratory sensation experienced in the stomach when travelling on a bad line, we can easily understand how it may produce headache, faintness, nausea, and sickness in women, always susceptible, and rendered more so by pregnancy. These effects must, of course, be augmented when travelling by an express train.

Baths.—These must be used with more precaution during the latter months of pregnancy than the earlier; and those not accustomed to them should beware of choosing that time to begin the practice.

Perfumes.—The increased nervous sensibility of which we have so frequently spoken, renders pregnant women liable to be injuriously affected by scents and flowers which previously produced no such effects. An uneasiness, feelings of faintness, and even fainting, may be thus caused. It would, therefore, be prudent for them to abstain from all strong scents, and even to deny themselves large nosegays in their rooms.

Repulsive Objects.—The increased excitability of the nervous system of educated women when under the influence of pregnancy, is a sufficient reason for us to guard against

the liability of their being subjected to the possible ill effects of repulsive objects; such as the wounds or frightful deformities which beggars, notwithstanding the vigilance of public authority, are even now sometimes able to display, in order to excite sympathy. The sight of any frightful accident is also injurious, and our object in giving this advice is not in any way to foster the absurd popular belief that the deformity viewed by the mother will be represented in the child,—for this is as untrue as that the child will be marked by some figure or stain similar to any object the mother may have ineffectually longed for during pregnancy. Some eminent accoucheur, whose name has escaped our memory, took the trouble of asking many hundred women whom he attended, what they had most longed for and could not obtain during their pregnancy, and consequently what mark they expected to find on the child, but not in one single instance did a woman guess right. Our advice to remove all offensive and alarming objects from the view of a pregnant woman is founded upon better reasons.

I. On the fear of its producing fits or hysterical seizures; for a tendency to hysteria not unfrequently exists during the first months of pregnancy, and disappears in the last months.

II. On the liability of any fright or sudden emotion to cause a miscarriage.

III. On the effects such causes may have on the child.

The belief in the influence of the mother's imagination on the body of the fœtus is at least as old as that part of scripture where Jacob is represented as peeling rods of wood, and placing them in the troughs of the pregnant cattle, so that their offspring might be spotted, and therefore belong to him. When in the East, we were not able to go so far as Mesopotamia, so we know not whether this popular superstition still holds good; but it certainly does not succeed in England. A nervous shock experienced by

the mother may kill the child at any period of its existence in the womb; and although the shock may have no power to cause, in the child, a representation of what may have frightened the mother, yet it may in some way unknown to us be the cause of some of the numerous diseases to which man is liable in after-life. When we indeed consider that the frequency of disease in the early embryo is so great that Velpeau states that out of 200 embryos under three months of age, 100 presented evident signs of disease, it behooves us, in the circumscribed state of our knowledge, to withdraw from pregnant women every thing that can possibly produce such injurious effects.

If the nervous emotions of the mother can thus disorganize the system of the fœtus, it will be a matter of no surprise that they can so warp the nervous organs as to cause idiocy or epilepsy; and it is admitted by Georget, Fouilhe, and many others, that when epilepsy is derived from the mother, it is generally owing to some fright experienced by her during pregnancy.

Hobbes and James the First are examples of the vivid mental anxiety of the mother affecting the child. Baron Percy relates the effects of the same cause on a more extended scale at the siege of Landau, in 1793. Plutarch, in his life of Publicola, mentions that "at a time when a superstitious fear overran the city of Rome, all the women then pregnant brought forth imperfect children, and were prematurely delivered." To come down to our own time, it was noticed that in the year following the death of the Princess Charlotte, convulsions were unusually prevalent after confinement, particularly amongst those of the higher classes, whose minds were more powerfully impressed with the nation's loss.

Sleep.—This is so powerful a sedative of nervous irritability, that it should not be interfered with in the pursuit

of pleasure, nor by the too scrupulous observance of that excellent habit, early rising. Besides, it is often one of the instructive dictates of pregnancy, and is, even on that ground, deserving of the satisfaction accorded to the other instinctive promptings of the same period.

MENTAL DEVELOPMENT.—While men continue their mental labours with the same, if not with increased intensity, the mental development of women in married life is generally subject to great interruptions. In married life many duties, both social and domestic, engross their time; but if habits of order have been duly inculcated, one or two hours a day may be devoted to such reading as a judicious husband or friend may think best suited to a wife's actual position. But while they cannot pursue their studies as uninterruptedly as their unmarried sisters, their minds expand by their being placed in a responsible situation, which obliges them to cope with the difficulties of society. It is this, we have already said, which ripens so fast the powers of women, that we are surprised at seeing with what graceful ease an inexperienced school-girl soon performs all the complicated duties of married life.

It would be well if, while watching carefully his wife's health, a husband remembered that the mind of a woman is by nature pliable; he would be amply repaid any trouble he might take in improving and enlarging its scope, and in correcting educational imperfections and prejudices; in fact, to mould it as far as possible in harmony with his own; for Shakspeare says, with some truth:—

"Men have marble, women waxen minds,
And therefore they are formed as marble will,
The weak oppressed, the impression of strange kind
Is formed in them by force, by fraud, or skill.
Then call them not the authors of their ill,
No more than wax can be accounted evil,
Wherein is stamped the impression of the devil."

At this period of life time should be found for a most important part of the mental development of both sexes—Travelling. It is often difficult to fix upon what time could be best devoted to this pursuit; but, for man, it is admitted to be that which precedes his settling down to the real business of life.

The custom of educational travelling is thoroughly English. If necessary formerly, it is now even more so, steam having placed the knowledge of other countries in the power of so large a class. Every one should rub off a little of that feeling natural to the untravelled man—that his own little spot is the most important part of the globe. There is also much to be learned in every civilized country that may be brought to bear on one's own particular object of practice or of study.

Those who travel for intellectual culture should start alone, for it is extremely difficult to find a friend with whom one can travel long; and if he be found, the mutual bending to each other's wishes cramps the action and the freedom of feeling. On all the beaten highways of Europe a man is always sure to meet with companionable people of his own or of other countries; and the farther from home, the better in quality. Sometimes, also, one meets with experienced travellers going over twice-trodden ground for health or for scientific purposes, with whom it is not difficult to join company, and with whom one parts with pleasant recollections when the temporary purpose of mutual accommodation is over.

Education is so much cheaper on the Continent than in England, that parents are apt to be tempted to take their daughters to Paris or elsewhere to give them the advantage of the best masters. This sounds plausibly enough, but it has often interfered with the future prospects of our countrywomen, unless parents wish their children to settle on the

Continent; but they must bear in mind that English women rarely marry well abroad. When fortune permits, there is no better time for a lady's travelling than immediately after marriage. It affords to both parties an admirable opportunity for improving the mind, and for treasuring up recollections to fall back upon in after-life. If that period be not taken advantage of, repeated pregnancies may prevent it altogether.

Moral Development.—Society is fortunately more consistent in the view it takes of the duties of both sexes after marriage; and it blames in both, with almost equal force, all infringements on the rules of morality.

The conduct of a husband towards a newly married wife may be beset with many difficulties; but there is only one to which we shall draw attention—How far he shall enlighten her relative to the moral degradation of human nature? On the one side, as woman is placed in a more extended sphere of action, being now called upon to protect the unmarried as well as her husband and children, in case her husband should die, she should be armed with a better knowledge of human nature than she could obtain as a girl. On the other hand, it is a pity to destroy many of the illusions which give society its chief charm. It is sufficient for us to state the problem,—the husband can alone judge his wife's character; he alone can know the difficulties she may have to encounter in her position; and must therefore solve the problem for himself, taking care, however, that apathy does not prevent his coming to a well weighed decision.

As a consequence of marriage, this epoch is marked by the manifestation of another sentiment hitherto obscurely felt, or totally unknown—parental love. The human organism is like a lyre, whose chords only resound as they are successively touched. The infant learnt self-knowledge

by comparing himself with the multitudinous objects by which he showed *self-love*. The boy exercised his young wits in laughing at some one older than himself, whom he may have surprised practising the art of Cupid. At puberty the youth, influenced by a deeper revelation of himself, owned the power of love, but wondered how people could be tempted to marry. A little later, marriage became, in his estimation, a desirable achievement, if it were not for its accompaniment of squalling children. But now the child's first cry has caused another chord to vibrate; and it awakens even in those who thought themselves most wanting in parental love, a sense, a feeling, an instinct, and, even more, a passion, irresistible in its strength, tenacious as life—that love of offspring on which rests society.

COMPLAINTS INCIDENTAL TO THIS EPOCH.

I. Some are common to both sexes. II. Some are peculiar to women.

I. *Complaints common to both sexes.*—The vital activity with which this period abounds, is shown by the intensity of the symptoms by which the inflammation of the different organs is characterized, and also by its frequency. The chest is the part of the body most frequently attacked by disease. Inflammation of the lungs is frequent at this age; and still more so is consumption—a popular belief which is fully borne out by statistics.

Consumption.—Tubercles are deposited in consumptive subjects in those organs which are gifted with the greatest intensity of vital action. Thus have we seen them frequently appear in the coverings of the brain of little children, the offspring of consumptive parents. A little later they are deposited in the mesenteric glands; later still in the sub-

cutaneous glands, and constitute scrofula; and now that the vital current sets full towards the lungs, tubercles are there deposited, in those so predisposed. In other words, this is the age for consumption. It is a matter of surprise that, notwithstanding the numerous causes of disease by which a generation has been repeatedly decimated, so many fatal seeds of disease remain in the system. Nothing but the conviction that the transmission of such seeds is a calamity scarcely to be avoided, will ever persuade mankind to a more natural mode of intermarriage, to a more rational education of children, and to a more scrupulous observance of the rules of health. As to the emergencies likely to occur in the course of disease, we have nothing to say; but as its approach is frequently most insidious, the prevention of consumption deserves a more extended consideration.

When a family is known to be consumptive, it would be well, as we have previously stated, not to wean the children till they are two or three years old, to bring them up in the country, and, as soon after puberty as possible, to send them to the East or West Indies, there to remain until that time of life is passed wherein consumption is most likely to appear. This, no doubt, is exile; but is it not better than death, which they would probably incur if they remained at home?

Our advice is founded on the testimony of some of those who have recorded the result of their experience in hot countries—Johnson and Annesley, in our tropical possessions; Twining, in Bengal; Segond, in Cayenne; Levacher, in the French Antilles; Cruz Jobins, in Rio Janeiro; Thevenot, in Senegal; and many of the French military surgeons in Algeria—all agree that the hot climate in which they practised prevented the development of phthisis in those who were only slightly affected when they arrived, or were merely predisposed to phthisis; the choice of locality

and regimen being of course as necessary in a hot as in a temperate climate. When, however, the knowledge of consumption being in the family, and the likeness of the child to the consumptive parent is further evidenced by the use of the stethoscope, it would be folly to send the patient to India, as such a step would only increase the rapidity of its growth. Instead of this, some warm climate, but as equable as possible, should be chosen. This equability of temperature is even more important than the warmth of climate, for phthisis is less frequent in India, and in the Polar regions, in Stockholm and St. Petersburg, where the temperature is uniform, than in London, Paris, Holland, Rome, or Florence, where it is proverbially changeable. The absence of humidity in both glacial and torrid regions, well accounts for the absence of catarrhal affections in such opposite climates.

In the middle of the last century, the faculty in England used to send consumptive patients to Montpellier and the South of France, thus sending a delicate girl to be drenched one day by a wind loaded with moisture, and on another to be literally cut to pieces by the *mistral*. Now it is the fashion to send patients to winter at Nice, Naples, or Rome, which are almost as bad as Montpellier. All are objectionable on account of their sudden atmospheric changes, and Rome must also be deprecated upon other grounds. When a consumptive patient is sent on the Continent, it is in order that he may derive benefit from taking more exercise in the open air than our fickle climate will allow. He does not, therefore, go to Rome to be placed in confinement, but to mix in society, and to enter into its pursuits. Now, the conversation at Rome not being, as in England, kept alive by discussions on corn-laws, but entirely artistic, about collections, studios, ruins, churches, &c., the patient is compelled to do as others do. The col-

lections, statues, monuments, and churches must be seen; and as no means are adopted to warm either public or private museums, the invalid who has left home with the expectation of finding himself in an Italian climate as depicted by poets, is led into twenty different atmospheres in the course of the day.

We spent two successive seasons in Rome, and therefore speak from experience.

If consumptive patients are to be sent abroad, there are three places to which they can rationally be sent: the one is Palermo, the second, Madeira, and the third, Egypt. Each place is remarkable for the equability of its temperature, and for the absence of sudden transitions from heat to cold. Steam has placed Palermo at an easy distance from our shores, and it is surprising that so few of our countrymen have taken advantage of its beautiful climate. Without having those temptations which render a sojourn at Rome so dangerous to an invalid, the town presents an interesting combination of Saracen and Norman remains with Italian structures. The neighbouring country is splendid, and excursions are rendered easy to invalids by a regular line of steamers, which make the circle of the island, stopping at all points of interest. The inland excursions are also very picturesque. Living is cheap, and those who prefer an hotel, will find in the "Trinacria" one of the best in Europe. The Romans of old used to send their consumptive patients to Egypt, and the example is worthy of imitation, for the climate of Cairo is very temperate during the winter, and the town has excellent hotels, and a variety of sights, sufficient to give it interest as a place of residence; while the excursions up and down the Nile, to Jerusalem, and the Holy Land, are as interesting as they are conducive to health.

Invalids who cannot leave England will find in Hastings, and on the south coast of England, warm places of winter residence, where they may enjoy the comforts of home, and the society of friends, with which those able to go abroad must dispense.

Those who cannot leave London must conform to the advice given by those who have particularly studied this terrible complaint; and while protecting their lungs by means of the respirator, they should remember that it will do them more harm than good if, relying on such protection, they over-exert themselves and go out at night.

With regard to chest-protectors, those which are covered with a coating of impermeable tissue are extremely prejudicial, by the quantity of perspiration retained between them and the patient's chest.

It may perhaps not be inadvertent to remark here, that we have more than once heard Dr. Rostan, of Paris, relate that in six instances he had been able to cure consumptive patients, in whose lungs the absorption of tubercular matter had produced excavations, and this by adding to the usual constitutional means most energetic local measures, such as issues and moxas, to that part of the chest beneath which the cavern was detected.

TYPHOID FEVER.—While measles and scarlatina attack childhood, in this period of life man is most liable to typhoid fevers. Their invasion is slow and alarming; there is, therefore, time to seek medical advice.

INFLAMMATION OF AND ACCIDENTS TO THE EYES.—Judging again of what is most liable to impair vision, or to destroy the eye, and availing ourselves of M. Boissonneau's personal statistics, we find, that out of 4984, to whom he has applied glass eyes during the last nine years, the ages of 2416 persons varied from 16 to 25.

The eye was lost from the following causes:—

Acute ophthalmia	917
Constitutional disease	221
Gunshot wounds while shooting	127
Explosions in mines and chemical laboratories .	50
Various mechanical causes in manufacture, &c. .	1101
	2416

Hence it will appear that the working-classes are the most liable to accidental disorganization of the eyes, although a certain number of gentlemen pay severely for the pleasure which begins on the first of September; while rich and poor are equally subject to inflammation of the eyes from ordinary or specific causes.

II.—COMPLAINTS INCIDENTAL TO WOMEN.

It seems strange that marriage, being in the natural order of things, and parturition a physiological act, should subject women to so many ailments. Whether this depends upon the degeneration of the human species, upon our inattention to the laws of health, upon the vitiated civilization of the present day,—upon one, or rather all three of these causes, it behooves us to seek to diminish as far as possible the penalties thus incurred by the weaker sex.

We shall divide the subject under four heads:

I. On the right management of Pregnancy.

II. On the right management of the Lying-in Room.

III. On the right management of the Nursery.

IV. On Complaints incidental to Child-bearing.

I.—MANAGEMENT OF PREGNANCY.

We must first allude to what was formerly considered the sign of a miscarriage, either accomplished or impending, but which is now generally admitted to be a continuation of what is usual to women every month. The ignorance of

the possibility of this occurrence has sometimes caused a child to die, when its mother alone deserved to bear the full penalty of the law, as in a case related by Mauriceau of a woman who, in 1666, was hung at Paris. On her being opened, she was found four months pregnant, notwithstanding the report of those who had examined her, and were deceived by the fact of her having been regular up to the period of her death. Although pregnancy generally checks the periodical flow, the exceptions to this rule are more numerous than is generally supposed. Denman, and some other writers, deny the possibility of its taking place at this time; but Dewees, Daventer and Baudelocque, bear witness to the fact. Velpeau has seen eight well-authenticated cases; and on consulting our own notes, we find that the flow continued in 8 per cent. In 2 per cent. it continued up to the second month; in 5 per cent. up to the period of quickening, and in 1 per cent. it continued regularly up to the period of parturition—the latter being a circumstance which we have met with in 8 out of the 800 histories of this function which we have carefully taken down. It is also generally believed that if the monthly flow continue to the end of pregnancy, the child is weak and delicate—an assertion which, although confirmed by the authority of Hippocrates, is not supported by sufficient facts to deserve general admission.

A young matron should be warned of the possibility of this occurrence, to prevent alarm and attempts to suppress it, to make her aware of the necessity of seeking the advice of the man of science (who can alone distinguish between the flooding which it is necessary to check, and a natural discharge which is to be respected;) and in order that the nervous symptoms which may ensue, as well as vomiting and biliary derangement, may be mildly treated, and not by such energetic measures as might bring on abortion.

MISCARRIAGE.—We have frequently alluded to the numerous means by which this accident, or a tendency to it, may be averted. They are all based on the principle of either preventing over-exertion of the muscles, or of strengthening the nervous system by previous cultivation of the mind, and by moderate exercise of the body.

When miscarriage seems to be impending, the medical adviser should be sent for without loss of time; and the sufferer, instead of being led to suppose that all aid is unavailing, should be made aware that opium, judiciously employed, will generally prevent the impending misfortune. The patient should immediately be undressed, laid flat on the bed in a cool room, with as little covering over her as possible. But should the misfortune baffle the skill of the medical man, greater precautions must be taken during another pregnancy; and if these disappointments repeatedly occur, we may be led to the supposition that the womb must be affected, and if so, an examination may become necessary; because so long as uterine disease exists, there can be little hope of progeny.

SICKNESS.—This is sometimes a very painful symptom of pregnancy, baffling occasionally all attempts for its relief. It is merely nervous, and is best combated by eating, though there is no harm in trying whatever may have alleviated the sufferings of others in similar circumstances.

DIARRHŒA.—Some women suffer much from bilious diarrhœa during the first months of pregnancy. This, if not soon stopped, may bring on a miscarriage.

TOOTHACHE.—This painful complaint often takes the place of sickness in pregnancy. It is in general entirely nervous; and as a miscarriage is not unfrequently the result of drawing, or even stopping, teeth during pregnancy, all operations, however trifling, should be put off to another period. Pregnancy also sometimes induces disease of the

gums, which may be followed by a loosening and falling out of the teeth in some rare instances.

SALIVATION.—In a few cases women are at this time troubled by a most distressing salivation. The case of a lady occurs to us, who for 4 months lost about 2 pounds of saliva every day. Astringents were recommended, but as salivation diminished, oppression and suffocation became more and more painful, and miscarriage nearly took place. On leaving off the astringents the salivation returned, and the patient was restored to health. This was supposed to be a mere coincidence, but so often as the astringents suppressed the salivation, did the same suffocation recur.

ABDOMINAL PAINS.—These are sometimes so acute as to mislead the medical attendant, causing him to fear inflammation, when the pains are purely nervous. Hot fomentations to the seat of pain, or gentle friction with the hand, will generally relieve the patient. If these fail, the equable pressure of a well-constructed bandage, partly made of vulcanized India-rubber, will be serviceable.

VARICOSE VEINS.—These should be prevented or diminished by exercise, friction, gentle purgatives, diuretics, the absence of garters, and by maintaining, as far as possible, the lower limbs in the horizontal position.

HÆMORRHOIDS.—This is a variety of varicose veins, and may be relieved by the same means. The purgative most suitable is milk of sulphur. Cold water or Goulard lotions should also be used outwardly. This infirmity is more fully treated in the next period.

INSTINCTIVE TERRORS.—How natural it is for a young woman to anticipate with dread the perils she must encounter in bringing forth her first child, is obvious. This fear is heightened in women who have been delicately brought up, who have been injudiciously educated, and who have inherited a nervous constitution. Thrice happy, then, are those

blessed with a mother in whose experience they can confide, and who will listen to her instead of to those who torture the mind with exaggerated accounts of what is to be undergone, and even of the probability of death. The dangers of child-bearing are frequently of woman's own creation, and may generally be avoided by maintaining the bodily functions in a state of healthy activity, by giving the mind its accustomed exercise, and by a firm reliance on Providence. Let all, especially those who have no mother to pour into their minds common sense as well as sympathy, take courage, as they approach the perilous moment, from the recollection that should the pain they dread be above their strength, science has now taught us how to diminish or entirely to remove it, by chloroform. Let them bear in mind that operations in confinements are very seldom necessary, and are discountenanced at the present time by the profession.

The danger of death during confinement is very small; for even when women have long wanted the common necessaries of life, and are thus forced by poverty to leave loved, familiar faces, and enter a lying-in institution, the mortality amongst them is not much more than 1 per cent., and it is certainly less amongst those attended at their own homes, and in easy circumstances. Let all, then, be comforted at the prospect of the joyful conclusion of their trouble: for "a woman, when she is in travail, hath sorrow because her hour is come; but as soon as she is delivered of the child she remembereth no more the anguish, for joy that a man is born into the world."

"Mysterious to all thought,
A mother's prime of bliss,
When to her eager lip is brought
Her infant's thrilling kiss.
Oh, never shall it set, the sacred light,
Which dawns that moment on her tender gaze;
In the eternal distance blending bright,
The darling's hope and her's, for love and joy and praise."

II. MANAGEMENT OF THE LYING-IN ROOM.

This subject is deserving of a longer chapter than our brief limits will allow.

The room should be cleared of friends, particularly those that are unmarried, as their natural alarm would be liable to communicate itself to the patient. Generally speaking, the husband also had better be down stairs; for at that time all that a woman requires is the accoucheur, the nurse, and a friend.

The choice of the medical man is a momentous affair. Hippocrates says, "He performs the greatest number of cures in whom most trust." The best physician needs the concurrence of the patient's soul by hope and confidence, which he should have insured from having before rendered her a similar service, or from having done so to some of her relations or intimate friends.

The choice also of the friend is very important, as health-inducing spirits are best fostered and kept alive by a cheerful face, an affectionate tone, and a calm accent. She should be intimate, discreet, experienced in such matters, and not nervously inclined. Much depends upon her judgment, for the doctor may be absent when most wanted; and when nervous symptoms, or other dangers may occur, he may wish to advise with her before alarming the husband.

Like the medical man, the nurse should have enjoyed a good report in the lady's family, or in the circle of her friends. It is well to take a nurse of the doctor's recommendation, as they are more likely then to pull well together; and the nurse will feel that his future recommendation depends upon her present intelligence, sobriety, and discretion. It is useless to seek for perfection in a nurse; therefore, if she understands her business, is strictly sober, and attentive to

directions, with health and temper both good, we must excuse a little gossiping, which some ladies might even consider an acquisition.

That *a nurse should understand her business*, is self-evident; but it should be remembered that her business is twofold,—it relates to the child, and also to the mother. She should therefore have a doubly good character; for it frequently occurs that, while a nurse is all that is desirable for the mother, she does not sufficiently understand the management of the infant.

Although we have stated that no one besides the doctor, the nurse, and a friend, should be in the room where a lady is confined, it stands to reason that there should be within sound of the bell those who, while their faces, tones, and footsteps are familiar to the sufferer, will not trouble her with their continual gaze, should they be wanted suddenly. It is generally thought that the principal part of the danger is over after parturition; it is so in barbarous tribes, and to a certain degree amongst us, with women who are inured to labour and hardships of every description; but it is not so where the nervous system has been morbidly excited by injudicious training.

The management of the lying-in chamber after parturition is often the most difficult part of medical practice. While the patient was in labour the doctor was dictator; all his injunctions were implicitly obeyed; but so soon as the child is born he becomes the most crippled of constitutional monarchs. All think that they can best manage the patient. The relatives pull one way, the nurse another—all having some precedent to fall back upon, for advising castor-oil, or for doing this or that of their own accord; and the prescriptions of the only responsible party, the man who will receive blame from all sides if things should go wrong, are often neg-

lected or only half performed. It would be well if we could impress upon relatives and nurses:

1. That they are not to give any physic, except it has been prescribed; for even castor oil will sometimes give rise to serious mischief.

2. That they are not to allow the patient to leave her bed, or to see her friends and relatives, until the medical man permits it.

3. That they are not to let the patient leave her room without the permission of the doctor.

4. That they are to send for the medical man on the appearance of any new symptoms. Of this last injunction it is very difficult to make relatives and nurses understand the importance. The nurse thinks it derogatory to her own knowledge not to know what to do, and the relatives dislike giving trouble, little considering that by their delay they give their medical friend far more wear of body and anxiety of mind, while the patient herself is made to bear the brunt of meddling practice or neglect. If the doctor be sent for at once, his task is comparatively easy; but delay may produce inflammation in those parts of the body which have borne the labour of parturition; and when that has set in, he cannot always prevent its spreading like wildfire to the extensive internal surface of the abdomen.

During the first days after a confinement, the house should be kept as quiet as possible. Juvenal has recorded the respect paid in Rome to the newly-made mother, and the sign by which her house was protected from rude intruders—

> "Foribus suspende coronas
> Jam pater es . . , ."
>
> "Let the wreaths be suspended over the door,
> For now you are a father."

With us, on the contrary, the "Times" and the "Morning Post" often give the signal for the continued disturbance of indiscreet visiters. However well a lady may have passed over her confinement, however well she may feel, she must not forget that for a few weeks she must behave as in a state of convalescence after serious illness. Greater precautions should be taken to protect herself from cold, so as to avoid the rheumatic affections to which women at this time are very subject. Exercise also should be resumed very gradually; otherwise the womb, still overweighed by the results of the function it has performed, may, by overstanding or walking, take some erroneous position, and become diseased.

III. MANAGEMENT OF LACTATION.

We have already considered lactation in its relation to children; we must now consider its effects on the health of women, and point out, when it becomes a cause of ill health, the means to be used that it may be still continued, or left off altogether.

DEFORMED NIPPLES.—Many mothers, in perfect health, and with an abundant supply of milk, are obliged from this cause to leave off nursing. Sometimes the nipples themselves are originally flattened, but generally their depression is the result of badly-made stays; in either case, during pregnancy, it should be attempted to give them their natural configuration, so as to enable the child to suck without difficulty, and without any of those sudden and passionate efforts which frequently bruise imperfectly formed nipples. Nothing can better show the necessity of the previous education of the nipple, than the fact, that should one nipple be depressed, and the mother continue to suckle with the sound breast, the milk of the depressed nipple, finding no exit, is a frequent cause of irritation and of milk-abscess.

Gentle and intelligent suction applied to the nipple is the best means of drawing it out, and, in some countries, the services of a sister or of a husband are often enlisted to effect this purpose. In England, however, if a woman skilful in the art of drawing the breast cannot be obtained, mechanical means are resorted to. The following is a very simple one:— Take a bottle, into the neck of which the nipple can just enter; fill it with hot water; pour the water out, and apply the neck of the bottle to the nipple. As it cools, the hot air contained in the bottle will occupy less space, and in its place the nipple will be gently drawn up into the bottle. It should be left there for a few minutes, and then, by gentle pressure, the air should be allowed to enter the bottle, so that the nipple may be withdrawn without its being wounded. A thick defensive plaster, three inches in diameter, half an inch thick, and having an aperture in the centre, adapted to the size of the nipple, has been lately recommended by Dr. H. Davies for depressed nipples. We have found it of benefit; but instead of the plaster we have made use of that form of India-rubber which has been placed round wheels to make them noiseless, and have obtained it from Mr. Coxeter, of Grafton-street.

Irritated Nipples.—This irritability, though frequently the consequence of a bad conformation of the nipple, is not necessarily so, for it may be met with in the best formed breast; and the soreness is generally caused by its being bruised by the child's gums. It should be prevented or removed by treating this small part of the body in the manner previously recommended to invigorate the general frame, namely, by the successive application of hot and cold water, or, if this should be too disagreeable to the patient, she might substitute salt and water, with which the nipple should be bathed at least twice a day. It would be well to begin this plan during the last few months of pregnancy,

so as to harden the nipple, and, if necessary, it might be continued during nursing. When salt and water is used, it may be necessary to wash the nipple before putting the child to the breast; and the same hint will apply to brandy and water, or weak green tea, which are also made use of for the same purpose. Extreme cleanliness, or the habit of always bathing the nipple after the child has been put to the breast, is another means of preventing these sores.

These precautions will have an important effect in rendering much less frequent inflammation and abscess of the breast, those most alarming of all the accidents to which the beauty and health of nursing mothers are liable. They may for the most part be prevented by the careful treatment of the nipple; by not permitting the breast, while nursing, to be influenced by sudden transitions from heat to cold; and by the observance of the rules of health already laid down. Should inflammation of the breasts occur from neglect of these precautions, or from some constitutional liability to disordered action, then let no time be lost; for by medical aid the hardness of inflammation may be dispelled. But if women will doctor themselves, let them not murmur if, when a milk-abscess be formed, it is necessary to open it; or if inflammation, burrowing right or left, prevents the wound healing, and if its final cure can only be obtained by the loss of part of the breast, perhaps of the nipple, thus rendering impossible the nursing of another child—with that breast at least.

Return of the Periodical Flow during Lactation.—As we have shown, at page 58, that this is not to be dreaded, we need not again enter upon the subject.

Pregnancy during Lactation.—It has been wisely ordained that married women should not be liable to conceive during lactation, at least until the child has gained

sufficient strength to be able to do without the mother's milk; otherwise there would be no repose left for a woman's constitution, which would be ruined by too rapid births. By protracting lactation, some women are able to ward off conception for 18 or 24 months, but these are rare cases; for, generally speaking, women conceive about the 11th or 12th month of nursing. They are liable to conception even when there has been no return of the monthly flow, and still more so if this has taken place; though if the mother has been regular from the first month of nursing, conception in most cases is still delayed until the 9th or 10th month. Such are the general results of our own unpublished statistics derived from London practice. We have seen a mother suckling at the same time the children of two different confinements, without the health of either party being affected. But these are rare exceptions to the general rule, and whenever there is reason to believe that pregnancy has again taken place, it is better to wean the nursling, and to let the mother's strength be given to the infant most in want of her support.

Over-Lactation.—Some women never feel so well as when nursing. The greater activity of the functions of the body, and the possibility of taking a more than usual quantity of food and stimulus, give an additional activity to all the functions. Others again feel from it a sensation of failure of strength and a sense of sinking referred to the pit of the stomach, with flushes of heat bursting over the whole body, often accompanied or followed by perspirations. Nursing, to some constitutions, is fatal from the first period of its being tried, so that over-lactation must be considered, not only with reference to the *protracted epoch* to which it may have been prolonged, but also to the *undue* effect it may have on the nervous system.

The symptoms of over-lactation vary. In those of a

sanguine temperament, with a weak constitution, they are an exaggeration of the ordinary symptoms of nursing—faintness, flushes, and perspirations. The "fainty feelings" are at times so great, that the patient feels as if ready to drop down. The flushes are turned into bursts of heat incessantly recurring, particularly under the influence of muscular exertion or nervous emotion, and the gentle perspirations are replaced by drenching sweats, insomuch that the drops stand upon the face of the nurse a few minutes after it has been wiped off, and the under garments might literally be wrung. In some cases we have seen this state subside after a time in women of the humbler classes of life who were very desirous of continuing to nurse; but, as a rule, weaning is the safest plan. Such persons should live well, but take very little stimulant: they require cooling medicines, and flannel should be worn immediately over the first linen garment.

Nursing, however, most frequently disagrees with women by acting too strongly on the nervous system. Besides the sense of internal sinking, the flushes and perspirations, there is in general great lowness of spirits, hysteria, and the head, without being liable to violent pains, is heavy, stupid, and giddy. There is a tendency to sleep, or to be wakeful, sometimes to both states alternately; there is loss of memory, misconceptions of things and of people, and eccentricities of all kinds. Some rare cases of this description end in insanity; and wherever we have met with strongly marked symptoms of over-lactation, the patients were of a very nervous temperament, or insanity was in the family: an ever-recurring lesson, in this volume, of the necessity of framing our system of education, in order that the morbid eccentricities of this sovereign system should be kept within bounds: another warning for those who recklessly ally them-

selves with families in whom mental derangement has been hereditary.

When such symptoms become alarming, there is but one remedy,—to wean the child as soon as possible. Half weaning will not do; for although the mother may less frequently give the breast to her infant, the milk by often flowing out still continues to impair her strength. More we need not say upon this subject, as the case is far too important for the patient to neglect calling in professional advice.

IV. COMPLAINTS INCIDENTAL TO CHILD-BEARING.

When married women are neither pregnant nor nurses, the critical flow should take place in the way detailed in the last chapter, and it may be subject to all the anomalies previously noticed. It will, however, be necessary to state that, partly owing to the phenomena of parturition, and principally to the bad management of the lying-in chamber, as already detailed in this chapter, this is the period of life when uterine complaints are most frequent. After a confinement, if due care be not taken, the womb may be displaced, and the pain thus caused sometimes leads to congestion and inflammation, which often originate uterine disease. It has, however, another origin. When the womb itself is inflamed, and becomes swollen to such an extent as to be dragged down by its weight, it gives rise to the back-pains, the mucous discharge, the inability to walk, and the breaking-up of the health, by which symptoms women may know that there is something locally as well as constitutionally wrong in themselves. When these symptoms are first felt after a miscarriage or a confinement, no time should be lost in adopting such local measures as will permit a speedy cure of the internal inflammation, against which constitutional measures alone are useless. If allowed

to continue, besides constant ill health, conception is generally prevented; and, should it occur, the pregnancy will be more painful, and the confinement may be complicated.

With respect to the hygiene of women during married life, we could only repeat an already twice-told tale; and common sense will sufficiently indicate the necessity for putting the husband in strict quarantine whenever the functions peculiar to women are, however slightly, deranged.

STERILITY.—We have just alluded to a very frequent cause of sterility, so we seize this opportunity of saying what is necessary on so important a subject. Civilization cannot so far change man as to destroy his natural instincts. The burden of society may press heavily upon him; he may writhe under the stings of poverty; still, after being married some time, he generally feels an anxiety for children, and still more so does woman. If such be the feelings of the poor, how much more acutely are they felt by those who are in plenty, and who long to be able to spend their riches upon their children: how much more if interest points to fortune fast vanishing from a family if its present possessors are childless, or if ambition shows the perhaps not very distant picture of a coronet passing from the forehead of its present childless possessor to gild that of some remotely allied connexion. The full knowledge of the power of this love of children makes us understand how women are often ready to submit to any thing if the hope of progeny be held out to them, and makes us bid them beware of the deceptions to which they are liable on this account.

Civilization, by providing more ample means of existence, and by diminishing the liability of the most numerous classes of society to many fatal diseases, tends, doubtless, greatly to the increase of population; but it seems equally true that that procreative power diminishes in the highly civilized members of the upper classes.

It is a well-known fact that a plant will produce leaves instead of flowers if abundantly supplied with food, and flowers instead of leaves, if the allowance of nutriment be restricted. It seems, also, that women in mean circumstances are the most fertile; for the frequent coincidence between sterility and embonpoint shows that, in some, ovarian action is diminished in proportion as the production of fat is increased. Though the large families of the poor are proverbial, they do not have so many children because they are poor, but because, living less a life of the mind, their bodies are healthy and inured to exercise and hardship. This is shown by a fact hitherto unnoticed, that triplets are always to be met with in the lower classes of society. Looking over the reports of the Registrar-General, we find, out of 40 or 50 instances of triplets, that the highest social position of the father was that of a gunner. This reminds us of the high notions of human dignity entertained by some negro tribes along the Bight of Biafra, which unmercifully put to death both the mother and children when a woman has had twins, on the plea that she has placed herself on a disgraceful equality with the brute creation.

Those, therefore, who wish for a family, instead of taking physic, and worrying themselves about the matter, should invigorate the constitution as much as possible by withdrawing from the too active pursuits of political life, by living in the country, by entering into country occupations, and by encountering hardships which, when self-imposed, are so thoroughly enjoyed.

Sterility, however, in some cases, depends upon removable causes, such as inflammation of the womb or of the ovaries; while in others the most experienced can find no cause to explain it. Should, therefore, a considerable time elapse after marriage, without conception having taken place, a woman's line of conduct is very simple. Let her mention

the fact to her medical attendant, so that by an accurate investigation he may ascertain, as far as possible, whether sterility depends upon any undiscovered physical cause. But if he be unable to solve the matter, then let some other member of the profession be consulted; for in all difficult cases a patient should never rely entirely on one opinion. Still less should she be so irrational as to run right and left in pursuit of every will-o'-the-wisp offered to her over-anxious mind. After having consulted upon the matter, a reasonable woman should, as much as possible, dismiss the subject from her mind, remembering that she is only one-half of the matrimonial problem, and that, as in time the constitution of both may change, she may yet have children.

RATE OF MORTALITY.—This may be gathered from the following table:—

(OF 1000 CHILDREN BORN ALIVE.)

Age or Birthdays.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
22	6	3	3
23	6	3	3
24	5	2	3
25	6	3	3
26	6	3	3
27	5	3	3
28	6	3	3

Thus, notwithstanding the dangers to which women are more particularly exposed by child-bearing, they are less liable to mortality than men, whose outward occupations, dangerous avocations, and constant temptations to overstrain their strength and to abuse stimuli, so as to get more easily through presumed or real dangers, render them most liable to death.

The average duration of life during this period may be inferred from the following table:—

Age (or Birth-days.)	Mean Future Lifetime, in Years.		
	Persons.	Males.	Females.
22	39	39	39
23	38	38	39
24	38	37	38
25	37	36	38
26	36	36	37
27	36	35	36
28	35	34	36

The value of life, for insurance, has been established as follows:

Age next Birth-day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.		Females				Males.			Females		
	£	s.	d	£	s.	d.	s.	d.	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
22	1	13	6	1	12	6	16	3	16	10	20	15	10	21	0	9	4	16	2	4	15	1
23	1	14	4	1	13	3	16	6	17	3	20	11	11	20	17	2	4	17	1	4	15	11
24	1	15	3	1	14	0	17	1	17	8	20	7	11	20	13	6	4	18	1	4	16	9
25	1	16	1	1	14	10	17	6	17	11	20	3	11	20	9	9	4	19	0	4	17	7
26	1	17	0	1	15	8	17	11	18	3	19	19	9	20	6	0	5	0	1	4	18	6
27	1	18	0	1	16	6	18	5	18	8	19	15	7	20	2	2	5	1	1	4	19	6
28	1	19	0	1	17	5	18	10	19	1	19	11	5	19	18	3	5	2	2	1	0	5

CHAPTER VII.

TWENTY-EIGHT TO THIRTY-FIVE AND FORTY-TWO.

The Numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality per cent. for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Fem.	Males.	Fem.
929	929	71	71	7·120	7·078	1·017	1·011
915	919	85	81	8·466	8·108	1·209	1·158

Thus, for instance, out of 1000 *men who were alive at* 28 *years of age,* 929 *completed their thirty-fifth year; the remaining* 71 *died during the period* 28–35. *The mortality for this period was* 7·120 *per cent., and the annual mortality was* 1·017 *per cent.*

There is an hour before and after noon, when the sun to all appearance seems to pause in his course; the blazing orb rests awhile, in the seeming consciousness of his meridian splendour, without betraying his movements to the naked eye.

There is a period in the summer, before and after the solstice, when, by the equality of light and of temperature, the earth seems to have attained to equatorial conditions of climate, and appears destined long to rejoice in the warmer and more intimate companionship of the sun.

So it is in the career of man. There is a time when, having nearly attained to the full development of his powers,

he seems to enjoy their undiminished blessings. The length of this period has been variously estimated by medical philosophers. Dr. Southwood Smith conceived "that the interval between the adult age and that wherein life just begins to decline from its meridian, includes a term of twenty-four years." If this valuation is meant to apply to an estimate of the whole faculties, corporeal, mental, and moral, it cannot be admitted as correct; and it seems to us that Dr. J. Johnson is nearer the truth in estimating the meridian period of man's life at fourteen years.

The astronomer tells us that although the sun seems immovable, he is always ascending or descending—resting but a moment on attaining his zenith. We know that there is but one summer solstice, and that the incessant changes which gradually lead the earth from spring to summer, as surely lead it to autumn's yellow leaves: so it is with man; the unwearied pilgrim never rests, from his first starting from the mysterious land of spirits, until he returns to the same goal. The moralist, as well as the physician, knows this, although neither of them can correctly estimate the zenith of man's day, the solstice of his summer.

During the 14 years during which man seems to possess the fullest enjoyment of most of his faculties, incessant changes are continually taking place in his physical frame and in his mental and moral endowments, leading him to or from that moment of his existence when he must have attained to his greatest perfection. That moment varies according to individuals. It would be more a matter of curiosity than of practical utility, to give a correct average of it; but the great moralist, Dr. Johnson, has made the nearest approach to truth in placing it at 35:—"Life declines at 35." This point, or the 35th year, is the mean point of the fourteen years during which man's lifetime seems to be stationary, and also the mean point of the threescore and

ten years assigned to man by the Psalmist. The seven years, then, preceding and succeeding to 35, are the golden years of man's life; these two septenniads are, as it were, "the double keystone of the arch;" but the curve of the arch in this place is often so imperceptible, that it cannot be distinguished from the right line.

But while admitting that during this epoch the faculties of man are so balanced as to enable him to produce greater possible effects than at any other period, we do not mean to contend that the mental and moral development are in exact proportion with that of the body, increasing with its strength, decaying with its decay, and destined to be one day wrecked in the midst of its ruins.

The parallel march of mind with the height, breadth, and strength of the body, is in many cases so slight, that the man, when yet a youth, becomes immortal. "Queen Mab" was composed at 14; and at 12 Pascal had re-invented mathematics. The parabolic curve described by the mental development of man is far wider than that described by his physical development; so that, long after the body is evidently giving signs of decay, the mind is still on the ascendant. Proofs of this fact surround us on all sides: it need scarcely be confirmed by the wonderful strength of mental power retained by many men of genius to the latest periods of life. Milton had passed 63 when he wrote Paradise Lost; Johnson, 50, when he so rapidly penned Rasselas: Bacon, 59, when he wrote the Novum Organon; Newton, in his 73d year, solved in one evening, as an amusement, the famous problem of the Trajectories—the most difficult task which the envy of Leibnitz could devise for his immortal mind. In our own day we have seen the works of Goëthe's old age claim the same meed of admiration; and Humboldt now shows us the same wide scope, without any diminution of vital power or vernal grace.

The importance of a being may generally be estimated by the length of time he requires to attain perfection. All the previous epochs of man's existence were but transitory states, leading him to the period under consideration. It has taken 28 years to bring him to perfection; we should therefore rest awhile, in order to form an estimation of his value.

A parallel between man and woman, under their triple aspect, was in the press; but our limits oblige us to give the space it would occupy to matter of practical importance.

PRESERVATION OF THE HEALTH OF THE BODY. — We have no longer to look forward to the further development of man. He has reached his standard of perfection; to preserve it unimpaired is now the object. Man is ever tempted in ten thousand ways to abuse the strength he has acquired at so much risk and at so much cost of time. He will not bear in mind that he can only *purchase a great intensity* of life at the expense of its *length;* that if he will live fast, sickness will soon tread upon his heels and shorten his career. He feels strong, and ever says, "One more great effort, and then repose;" and thus he is led on from one great effort to another, until his constitution snaps, and he is left an invalid.

There are two kinds of intemperance that men are guilty of at this, as at all periods of life—the intemperance of food and the intemperance of mental action.

It has been said, half in jest, half in earnest, that "the great belly makes the great man." This is so far true that, as it was the strength of his body which carried Captain Barclay through his extraordinary match of walking 1000 miles in 1000 hours, so strong powers of digestion give to a great man the free use of his mental powers, and enable him steadily and gradually to increase them. They supply him with more steam; and it will be found that most of those

who have surprised us by the amount of mental labour they have been able to undergo for successive years, whether as men of literature, of science, or of the state, had capital digestions, and were all great eaters. The late Sir Robert Peel, we believe, was a great consumer of viands; and a noble lord, now far advanced in years, but who is ever surprising us by some new display of mental power, is an enormous eater, his stomach, even in old age, more resembling that of an ostrich than of a man. This vigour of digestion is a gift of nature given to few; but knowing the influence the stomach has on the mind, it behooves us to do what we can to maintain it in that amount of strength with which it may have been gifted. This can only be done by temperance.

The great and undisputed art of prolonging life is temperance. It is all very well to feast occasionally; and to fast now and then is conducive to health: but habitual temperance is absolutely necessary for its preservation. Feasting in this country is very well understood, but not so fasting. The horror of dying from hunger is a peculiarity of the English character, pervading all ages, all classes, and all conditions of society. If a man be out of spirits, he must take food; if a child be sick, he must be crammed. Relations are much more anxious about the sick man having taken no food, than about the fever or inflammation which would render food a poison to the system. But such persons do not reflect that when man has acquired his full growth, he requires less food to maintain his bodily structure than he did when obliged to both maintain and increase it; therefore the system requires less, and says so to the stomach by a diminution of appetite, and by the numerous gastric affections of that period. All legislators, particularly in warm climates, where less food is wanted to maintain the usual warmth of the body, have enacted that on

certain days less nutritious food should be taken, and less of it; and, to enforce their rules, suggested by correct notions of hygiene, they invoked religion, placing these wholesome observances under the sanction of the Divine law. This, as well as every other excellent practice, may be abused, but we do not recommend very exaggerated abstinence from food, in advising that the stomach may have a half holiday now and then; bearing in mind that, with the stomach as with the brain, one should never do as much as one can, so as not to run the risk of exceeding one's strength.

Another great principle is, not to let the stomach be the victim of the too sudden passage from inanition to repletion, by habits suggested, but not in the least necessitated, by the business of life in large towns. The President of the Royal College of Physicians, Dr. Paris, in his valuable Treatise on Diet, has deprecated the plan generally adopted by men of business, of taking nothing between the early breakfast before starting for the city and the late dinner on returning home. To complete the mischief done by this abstinence, the merchant generally walks home to get an appetite, and then, with the system exhausted by fatigue and inanition, he sits down to dinner, overloads his stomach, and sleeps away the evening. All this may be remedied by taking a lunch, suiting its quantity and quality to the constitution, and to the occupations of the person.

Well may Dr. Beaumont say: "In the present state of civilized society, with the provocatives of the culinary art, and the incentives of highly-seasoned food, wines, and brandy, the temptations to excess in the indulgence of the table are rather too strong to be resisted by poor human nature." And besides food, man wants stimulating drinks, or, however low may have been his state of barbarity, he would not have invented them. Some contain no spirit,

such as tea and coffee, which are approved of and extensively used by all classes of society. Black tea is but little adulterated, for only four specimens out of thirty examined by Dr. Hassall were not found genuine; but green tea is all more or less adulterated, either in China or after it reaches this country.

Coffee (particularly that sold in canisters) is adulterated to an immense extent with chicory, if with nothing worse. Those only who, in London, were found to sell genuine coffee by the Lancet Sanitary Commission, were Betts, 262 Oxford street; Knight, 83 Gracechurch street; Ridgway, 4 King William street, City; Sharpe, 44 Bishopsgate-street-within; Dean, 5 High street, Shoreditch; Fortnum and Mason, 181 Piccadilly; Branscombe, 88 Pall Mall; Dann and Johnson, 84 New Bond street; Payne, 328 Regent street.

If the advantageous effects on civilized man of wine and spirits taken in moderation can only be contested by those who are so constituted as not to be able to distinguish use from abuse, the fatal effects of drunkenness are admitted by all; and although the tendency to this vice has diminished in the upper ranks of society, it is still extremely prevalent in the lower. If a man works hard, he must have stimulants, beer, wine, or spirits, is a common remark; but let these be taken with moderation, reserving an increased quantity for those times when increased exertion is necessary. Spirits, however, are not always taken for the recruital of strength, but often because the love of ideality is so strongly grafted in human nature, that when a man finds it wanting, he drinks gaiety, smokes forgetfulness, and eats insanity, under the form of wine, tobacco, or *hashish.* How strange that a little coloured liquid, a few puffs of smoke, or a little green paste, should unhinge the immortal soul! Not only does the habitual excess in such stimuli

undermine the powers, and make an early wreck of both body and mind; this is not all,—for the progeny of those addicted to such a miserable propensity cannot expect sound constitutions, are often idiotic, or, on attaining manhood, sometimes become insane.

But custom, which subjects men to these temptations, fortunately withdraws them from women. On attaining the consciousness of womanhood, they in general shrink instinctively from indulgences which they feel to be incompatible with the influence they wish to exercise over men.

DRESS.—We refer our readers to what we have said upon the subject at page 191.

BATHS.—These are as useful now as at any other period of life, particularly when the nervous system is unstrung by the causes to be shortly alluded to.

SLEEP.—At this period man requires less sleep; he has, therefore, more time on hand to work out his various purposes. If, however, he permit his occupations to infringe upon the night, when he should take the rest he does require, he need not be surprised at suffering from it in either appetite, spirits, or health.

EXERCISE AND AMUSEMENT.—It is the judicious intermingling of exercise with amusement that enables man to bear the wear and tear of life at this period of his career. His frame is invigorated by exercise, and his nervous system is relieved from the pressure which overloads it by the stimulus of amusement. In proportion as the mental energies are taxed, most people give up walking: time has become so valuable to them that they literally cannot afford to walk. This tells against health; for although other exercises, such as riding and driving, are good, none is so healthful as walking.

This is the period of life when the pleasures of society, and even theatrical representations, may really be made con-

ducive to health, by so removing the strain from the other faculties of the mind, that the fatal snap may be prevented. Town, with its myriad of cares, must at times be left behind, and peace of mind sought for in the repose of country life. All professional men cannot take the luxury of a long vacation; many even cannot afford the one month, which is the short space of a physician's holiday; but most can now and then allow themselves a few days of rustication, and all can avail themselves of boat and rail to sniff for a day the bracing breeze.

"As is the air, so is the blood," says Ramazzini; and when we remember how often one compensates for the deficiency of the other, we must own that this is not an exaggeration.

Sea-bathing at any of our sea-coast watering places, highland excursions in Scotland or in Wales, and home travelling in England and Ireland, form the principal elements of health for those who at this period of life are tied to home by the complicated machinery of social life.

Preservation of the Mental Health.—Ambition often causes intemperance of mental action, which is as pernicious to the mind as is intoxication to the body. The effects of this ruling passion have been so admirably shown by the late Dr. J. Johnson, that we refer the reader to his deservedly popular work "On the Economy of Human Health." Many of those who leave the *Ecole Polytechnique* suffer from various nervous affections of the brain, in consequence, it is believed, of the arduous mental labour they are forced to undergo; though in analyzing the histories of many victims to intellectual labour, we cannot but be struck with the general fact, that a total disregard of their bodily health was as much a moving cause of their disorders as their prolonged mental efforts.

With regard to the cares, anxieties, and misfortunes, which

must fall to the lot of those impelled by ambition, they should be met with temperance and activity. In all mental affections, vigorous exertion of the corporeal powers is the best antidote to the baneful effects of depressing passions. This was exemplified at Walcheren, at Batavia, and during the retreat of Napoleon's army from Moscow.

PRESERVATION OF THE MORAL FACULTIES.—What we have previously said relative to the duties of marriage and the preservation of the mental faculties, leaves us but little to add upon this head. For both sexes, the right road to health and happiness, and the best policy for success in life, is in the observation of the Ten Commandments. Failings and faults cannot always be prevented, for they are in human nature; but all should be aware, that by the infringement of any great principle of conduct, they almost certainly destroy both happiness, success, and therefore health. An inevitable logic governs the course of man. Let him but take one step from principle, and although he may then sincerely promise himself that it shall never be repeated, he will find that the first wrong step will oblige him to take another, and so on until conscience stops him, to compare what he is now with what he was; then he shudders at the difference, and almost doubts his own identity.

> "We know not where we go, or what sad dream
> May pilot us through caverns strange and fair,
> Of far and pathless passion, while the stream
> Of life our bark doth on its whirlpools bear,
> Spreading swift wings as sails to the dim air."

This should teach us to judge less harshly of those whose faults stand plainly before us, without being in any way extenuated by a knowledge of the clue which would show what had insensibly led to their commission.

DISEASES INCIDENTAL TO THIS EPOCH.—We need add nothing to what has already been said relative to the pre-

vention of the complaints to which women are specially liable; for what has been said upon the subject in relation to the previous epochs, in every way applies to this. As regards man, how many fall victims on the battle-field, or wherever, by land or by water, their laborious enterprise exposes them to accidents. Climate, also, decimates the ranks of the army and navy; and how many medical men die in India from typhus fever, or from other equally rife diseases in our colonial possessions!

With respect to the complaints to which both sexes are most liable, we must first allude to *stomach affections*. We purposely say allude, for we have almost stated all that is necessary to be known relative to their prevention, and shown what are the causes of the frequency of the most common form of gastric derangement—*dyspepsia*.

While the body was still increasing its proportions, there were few complaints of the stomach, for this organ was gifted with sufficient power to bear many excesses with impunity; but now the necessity of temperance is shown by excess being so often followed by indigestion, dyspepsia, bilious affections, and diarrhœa—demanding the aid of the medical adviser. We shall, however, hint at the necessity of warm clothing to the stomach at this age, not only at home, but in a warmer climate. The long folds of the shawl worn by Eastern nations can both be explained and sanctioned by the rules of hygiene.

Hæmorrhoids.—These and other complaints of the lowest portion of the intestine are frequent at this epoch, and offer another proof of the necessity of temperate habits, the habitual infringement of which not only leads to gastric affections, but to abdominal plethora and to an overloaded state of the blood-vessels.

We have previously seen how the most temperate women, by the mere mechanical effect of pressure on the womb, or

the lower portion of the intestines, frequently suffer from piles, ever recurring at each pregnancy. Whether they bleed or not, they are extremely annoying, and often very painful; but they have this in common with affections of the womb, that, as they are not considered dangerous to life, most people would rather endure them than submit to disagreeable examinations.

Small external lumps may be kept under by extreme cleanliness, cold lotions, Goulard water, and the occasional use of milk of sulphur at night; but when these become large, painful, or bleeding, or when the evacuations are mixed with blood or with cream-like looking matter, a more careful examination is absolutely necessary; for this blood and matter often come from an ulcerated surface, which may go on extending for years, undermining the patient's constitution exactly as do ulcerations of the surface of the womb, and they require the same kind of local examination to give the medical man a precise knowledge of the nature and the extent of the evil, so that he may apply similar treatment, otherwise they can no more be cured than the corresponding womb affections. Those, therefore, who cannot make up their minds to have their complaints at once carefully investigated and radically cured, should be aware that neglect may produce fistula, and they may have to submit to something still more painful and dangerous. The benefits of loss of blood from piles have been very greatly exaggerated.

Laryngeal Affections.—Diseased conditions of an organ so beautifully constructed as that which produces the voice, Dr. Wagstaff informs us, are most frequently to be met with between the ages of 30 and 50. When slight, they are confounded with ordinary colds, and often successfully treated in the same way; but when the improvement remains slight in proportion to the energy of the consti-

tutional measures employed, and the severity of the regimen to which the patient has submitted, it then becomes natural to seek benefit from the improved plan of treatment which Dr. Green of New York has popularized. The sore or ulcerated surface in the neighbourhood of the larynx is brought to view, and touched and treated by the applications of those substances which have been found so useful in curing ulcerations of the womb or of the rectum. The efficacy of this plan of treatment in larynx affections has been lately brought forward in England in a work by one of Dr. Green's pupils, Dr. Wagstaff; and the assertions of both teacher and pupil have been confirmed by Dr. Hastings, and still more recently by Drs. Cotton, Quain, and Theophilus Thompson.

Consumption.—Up to the 40th year, death from consumption is almost as frequent as in the previous epoch. This experience of medical men has lately received confirmation from the statistical inquiries of Dr. Lebert. It must not, however, be supposed that consumption so frequently *arises* now as in the previous epochs; for the lists of those who now die from this fatal disease are swelled by those who had been long suffering from it, and in whom its rapid progress was averted by well combined precautions.

Insanity.—The considerations into which we were obliged to enter when inquiring into the development of the mental faculties, the knowledge of the terrible wear and tear of the mind and body commanded by our present state of civilization, the unprincipled practice of marrying so as to entail insanity as well as an estate, all sufficiently prepare us for the frequency of this disorder in about the same yearly proportion during the whole of this period.

The knowledge of this desolating fact was before us when treating of the first development of the infant mind. The early paroxysm of passion showed the possibility of the

mind being permanently *unhinged;* the repeated fury of the spoiled child exemplified, as if anticipating, the maniac's burst of fearful energy; the wayward, fitful, hysterical girl, too, portrayed a milder form of insanity, capable of being either cured by judicious management, or confirmed by the reverse. This period of trial is that in which those who are agitated by the conflicts of ambition are often called upon to pay ambition's debts. It is, then, very difficult to draw the line between insanity and a mind choked with pride. Doubtless, in many cases it would be right to say, with Shakspeare,

> "Yes, how sick, sick of a proud heart: you call it melancholy,
> If you favour the man; but by my head 'tis pride."

Another cause of insanity worth noticing is that independence of authority which constitutes one great characteristic of our English mind. That unbounded liberty of thought which leads to such vast mercantile speculations, to such strange political notions, and to such extraordinary varieties of religious belief, has doubtless brought our country to its present high position in the vanguard of nations, but the public good has been attained at the expense of individual misfortune.

Civilization, as we now understand it in England, is the Juggernaut car which crushes crowds of willing victims who bow down before it. Private lunatic asylums increase in number, while the public establishments require to be constantly enlarged, to contain the throngs of overthrown spirits who flock to their portals. Why should there be so much insanity in England and in France, and so little in Italy and in the Eastern countries, where the passions are even more inflammable than the temperature is burning? Doubtless, many reasons might be alleged; but the blind fatality which presides over the thoughts of Eastern nations, the principle of authority which rules the

minds of Italians, whether in art, politics, or religion, gives at least peace and tranquillity of mind, preventing its being often wrecked in the furious storms which must ever be encountered in life. Rather than be doomed to so frequent an overthrow of the intellect as in England, it would be better to retain the passive use of it as the Italian or the Moslem; but better still would it be if the dictates of common sense and of medicine were listened to, so as to stop the propagation of insanity by well digested regulations enforced by the imperial legislature, and to avoid its continued fresh growth among our families by the precepts of education which we have traced. If the reader, therefore, wishes to know how to prevent insanity, we must refer him to the previous pages. One preventive, however, has hitherto not been spoken of, and that is the early inculcation of religious principles, and their judicious cultivation: the belief in Providence, not as a mathematical force placed without the sphere of man's attraction, but as a practical belief in the constant government of a God, "ever shaping our ends," however much we may "rough hew" them.

As it is with men when plunged in water, so it is with them when immersed in difficulties; they are often drowned, simply because they are too eager in their struggles to emerge, whereas quiescence would have saved them. This was felt by the Roman satirist, who said, in bitterness, "Carior est Divis homo quam sibi:" and as Christians we may own that, children-like, we—

> "Ignorant of ourselves,
> Beg often our own harms, which the wise Power
> Denies us for our good; so find we profit
> For losing of our prayers."

Calamity must come; but while enduring it, let it not be forgotten that it is far from useless if

> "By wo the soul to daring actions swells."

We may of course *feel* our troubles as men, but religion enables us to *bear* them like men, for "misery often points the way to bliss." Women are doubtless more subject than men to nervous disorders of most kinds; those who begin to despair of matrimony may become hysterical, but it is not clearly made out that they are more liable to become insane. The greater pliability of their nature generally enables them to bend beneath those afflictions which would crush the sterner intellect of men; and as they are wedded to religion by natural instinct, by constant tutoring when under control, or by the fond task of inculcating it to children when at the head of their families—permitted to be religious even by fashion, woman has a preventive against insanity which man often throws away as useless.

Self-devotion, we have stated, is the perfection of the human mind; the reader will therefore not be surprised at learning that selfishness is often the first indication of insanity, and remains throughout a predominant feature of an unsound mind, although it is the contrary in many cases.

Organic Diseases of the Heart.—That an organ, whose action has been continual, and which is deprived of that repose given to so many other muscles of the body, should become structurally deranged, cannot be a matter of surprise; the more particularly if it has often borne the brunt of passions, and been taxed by the struggles of ambition.

It has been observed that times of popular commotion are rife with diseases of the heart, and the number caused by the first French Revolution drew particular attention to their study.

Organic diseases of the heart have an origin which falls within the control of the physician rather than the sufferer, and consequently needs but shorter reference here. They may occur in one form or other from the earliest infancy to

the most advanced old age, although this is the period of life when they are most frequently observed.

The disease of the heart to which infants are liable is due, in almost all cases, to some aberration from the natural formation, which has occurred previously to, or is coincident with birth, and over the prevention of which we have no control. In the period of life extending from the second dentition to full manhood, least frequently at the commencement, most frequently towards the close, of this period, the valves of the heart are liable to become the seat of disease, in connexion with rheumatism. It is this connexion which renders this latter disease so often dangerous in its tendencies, and which, therefore, needs the watchful eye of the physician. Hence, too, the caution which should be used in guarding against it in those who have shown the slightest rheumatic tendency, and of observing those rules which we have laid down on this point. During the adult period of life the structure of the heart is no doubt often brought into a state of permanent disease by the constant state of excitement in which this organ is kept by the over-earnest pursuit of pleasure or of business, as well as by the uncontrolled emotions above referred to. As the muscles of the leg of the opera dancer, or of the arm of the blacksmith, increase in size by constant exercise, so must the muscles of which the heart consists become enlarged if its action is irregularly or incessantly excited. The foundation of some of the most serious and fatal diseases of the heart is laid at this period of life, also by violent or long-continued exertion, as in running, rowing, leaping, &c. Need we say how such diseases can be avoided?

Advancing life, or life which is measured by the effects, rather than the number, of years, is liable to be attended with a peculiar disease of the heart, which has recently

attracted much and well deserved attention. It is of all these diseases the most certainly fatal, if allowed to proceed uncontrolled. This disease is called Fatty Degeneration; it affects especially the muscular structure of the organ, which is rendered inadequate to perform its operation, a mere granulated fatty matter taking the place of its healthy substance. This disease has been admirably investigated by Dr. R. Quain, to whom we are indebted for many of the preceding observations.

He has shown that this disease is, in reality, a form of decay. It occurs in the young, or middle-aged, in whom the function of nutrition is badly performed; and it also occurs in advancing life as a natural process: the period of the commencement of this morbid process bears relation to the hereditary constitution of the individual, but still more to the amount of care taken to avoid it. On principles founded on this view of the origin of the disease, must its prevention be sought, and its remedy be applied.

Diseases of the Eyes.—There is at this period of life a marked diminution in the liability to these complaints; for out of 4,984 persons to whom M. Boissonneau applied glass eyes in the space of the last nine years, only 311 lost their eyes from inflammation, or from various accidents. But if there is less liability to diseases of the eyes, it is now the time for taking precautions for the continuance of their health. Hitherto the sight does not seem to have suffered from over-work; but henceforth those who wish to retain one of the greatest enjoyments of life, must use their eyes with method. Literary men, instead of working at night, should, if possible, do so very early in the morning. The light should not fall full upon the paper, or upon the eyes of the reader or writer, as he sits at work, but to the left side of him;—to the left side, for then, as he writes, the eyes are not troubled with the shadow of the pen and of the

fingers upon the paper, as must necessarily occur when the light comes from the right side.

Writing being much less trying to the eyes than reading, the intellectual labourer should make a judicious blending of the two exercises; and when the eyes feel fatigued, bathing them with cold water will both strengthen and relieve them. But if it be absolutely necessary for the literary man to work at night, to do so without injury to his sight, the constitution should be in a good state of health; work must never be begun until two hours have elapsed after a full meal; and as with the natural, so with the artificial light, it should not fall on the eyes, but be placed on the left side.

With respect to the kind of light which is least injurious to the eyes, it is generally admitted that lamps are not to be adopted, because, without a shade, they fatigue the sight by their brilliancy; and when shaded, they do not sufficiently illuminate the paper. Gas is equally prejudicial, for when suspended over-head, it does not well light the paper; and if shaded with ground glass, it is very trying to the eyes. The best light is that given by wax or good composition candles, one being placed quite to the left, and another in front and to the left of the desk. An even light is thus diffused, which is the least prejudicial to the eyes.

Those who write much will find their eyes much less fatigued by writing with blue ink on bluish paper, than by using black ink and white paper. In reading, also, it is a relief to let the eyes turn from the book to some soft and harmoniously coloured surface. Brilliant colours, therefore, in papers or paint, or any thing that may fatigue the sight by the painful entanglement of the pattern, should not be chosen for a room devoted to study.

From over-study at this time of life, the literary man may be annoyed at seeing a little cloud pass between one or both

of his eyes and the object looked at. The cloud seems to pass slowly along, to disappear, and then, after a few seconds, comes another; and so the slow procession may troop on for hours; and the more he gazes or is alarmed, the more they come;—showing that this peculiarity is functional rather than dependent on any structural change in the eyes. The frequency of the appearance of these *muscæ volitantes* shows an irritable condition of the eyes, and is a warning not to abuse the sight. When, however, a fixed object is seen, it indicates a loss of visual sensibility in one portion of the retina, which is most likely to extend by degrees to the whole, thus causing a form of blindness called amaurosis.

SPECTACLES.—These restorers of vision become generally necessary from 45 to 50; and all over-exertion of sight, which might have been hitherto borne with impunity, should be carefully avoided at that time. As a general rule, it is well not to strain the eyesight from a dislike to spectacles, but to adopt them as soon as they may be wanted; and then, after a very careful trial of different glasses, to use those which give a facility of vision similar to that formerly enjoyed, and not to choose those glasses which give a more than habitual clearness of sight.

Glasses, however, should never be adopted without the approbation of one of those members of the profession who have particularly studied the physiology and complaints of the eyes; for as spectacles are the physic of the organs of sight, it is perfectly absurd to trust their failing powers to the discretion of an optician who, by his previous education and subsequent examination, gives the public no proof that he knows what glasses to prescribe to those who are attracted into his shop. But this is only part of a general system, in a country always boasting of common sense; for while the eyes are doctored by the uneducated optician, the uneducated instrument maker is trusted with the restoration of

deformed spines; and up to the present moment any illiterate youngster may set up as a chemist, sell physic or poison, and prescribe over the counter.

We may be permitted to recommend, as deserving of adoption, our advice on the management of the eyes, because for the most part it is based on the experience of that excellent authority on the subject, Mr. Wharton Jones.

Diseases of the Teeth.—The teeth are generally free from very active attacks of caries, or the affections of the alveoli or gums, except when they become impaired from illness; for when the constitution has been debilitated by fever and the use of mercurials, the gums frequently recede, laying bare the roots of the teeth, which, deprived of their covering, are extremely sensitive. As the health improves, this diminishes, although the firmness of the teeth in the socket is much impaired by the denudation. The pain may be mitigated by the use of camphorated spirit, or the alcohol which we have before recommended.

Although the loss of teeth is now remedied by numerous contrivances which do infinite honour to the ingenuity of dentists, still their preservation ought ever to demand our especial care. Cleanliness and moderate diet will do much towards their preservation. In the north of Europe, where peasants exist in a low degree of civilization, and on simple food, the teeth are of an extraordinary strength; but far different is the case amongst the wealthier classes. Pampered in luxuries—inhabiting rooms heated to excess, with double-casemented windows—eating sweets, and using artificial comforts of all kinds—often forced into transitions from heat to cold, which their system is incapable of bearing—they become a prey to scrofulous and nervous diseases, which are so often accompanied by the loss of teeth.

Rheumatism.—The great exposure to external vicissi-

tudes necessarily endured by men, accounts for the frequency of this affection; and the phenomena of pregnancy and lactation being accompanied by a susceptibility of the skin, renders women at this period very liable to similar complaints, from a much less intense action of the same agencies.

NEURALGIC AFFECTIONS.—These are determined by the same causes as rheumatism, in those of either sex who have been endowed with, or who have acquired an over-irritable nervous system. Injudicious education in youth, and the wear and tear of life during the present period, are the reasons why, from sudden exposure to cold, the nerves become the seat of agonizing pain. We must refer the treatment of these affections to the medical adviser.

The following table shows the rate of mortality during the fourteen golden years of life:—

(OF 1000 CHILDREN BORN ALIVE.)

Age on Birth-days.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
29	6	3	3
30	6	3	3
31	8	4	4
32	6	3	3
33	6	3	3
34	6	3	3
35	7	4	3
36	6	3	3
37	8	4	4
38	6	3	3
39	7	4	3
40	7	3	4
41	7	4	3
42	6	3	3

Annexed is a table showing the average duration of life for both sexes:—

Age on Birth-days.	Mean future Lifetime in Years.		
	Persons.	Males.	Females.
29	34	34	35
30	34	33	34
31	33	32	34
32	32	32	33
33	32	31	32
34	31	30	32
35	30	30	31
36	30	29	30
37	29	29	30
38	28	28	29
39	28	27	28
40	27	27	28
41	26	26	27
42	26	25	26

The rates of life insurance of various descriptions are as follow:—

Age on Birth day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.			Females			Males.			Females		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
29	2	0	0	1	18	4		19	4		19	5	19	7	1	19	14	3
30	2	1	1	1	19	3		19	11		19	10	19	2	8	19	10	2
31	2	2	2	2	0	3	1	0	4	1	0	3	18	18	3	19	6	1
32	2	3	4	2	1	4	1	0	11	1	0	8	18	13	9	19	1	10
33	2	4	7	2	2	5	1	1	5	1	1	1	18	9	1	18	17	6
34	2	5	10	2	3	6	1	1	11	1	1	6	18	4	5	18	13	1
35	2	7	1	2	4	8	1	2	7	1	1	11	17	19	8	18	8	7
36	2	8	6	2	5	11	1	3	2	1	2	5	17	14	10	18	4	0
37	2	9	11	2	7	3	1	3	8	1	2	10	17	9	10	17	19	3
38	2	11	5	2	8	7	1	4	4	1	3	4	17	4	10	17	14	6
39	2	13	0	2	10	0	1	5	0	1	3	10	16	19	8	17	9	6
40	2	14	7	2	11	6	1	5	7	1	4	3	16	14	5	17	4	6
41	2	16	4	2	13	1	1	6	4	1	4	9	16	9	1	16	19	4
42	2	18	2	2	14	9	1	7	0	1	5	3	16	3	7	16	14	0

Age on Birth day.	Life Annuity which £100 will purchase.			
	Males.			Females
	£	s.	d.	£	s.	d.
29	5	3	4	5	1	5
30	5	4	6	5	2	6
31	5	5	9	5	3	7
32	5	7	0	5	4	9
33	5	8	4	5	5	11
34	5	9	9	5	7	3
35	5	11	3	5	8	6
36	5	12	9	5	9	11
37	5	14	4	5	11	4
38	5	16	0	5	12	10
39	5	17	9	5	14	5
40	5	19	7	5	16	1
41	5	1	7	5	17	11
42	5	3	7	5	19	9

CHAPTER VIII.

FORTY-TWO TO FORTY-NINE YEARS.

The numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality per cent. for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Fem.
900	907	100	93	10·040	9·281	1·434	1·326

Thus, out of 1000 *men who were alive at* 42 *years of age,* 900 *completed their* 49*th year; the remaining hundred died during the period* 42–49. *The mortality for the period was* 10·040 *per cent.; the annual mortality,* 1·434 *per cent.*

This is the period of man's greatest effort. Certain signs warn him that time is passing on, that his physical strength cannot long serve his increased mental and moral activity, and that what he wishes to accomplish he must do now, or give it up altogether. But while this epoch may be considered the climax of man's mental activity, it is to woman one of real trouble, anxiety, and danger; for on the manner in which she crosses this broad *Rubicon* will depend whether the 20 or thirty years of after-life will be passed in tranquil happiness, or will be embittered by an endless succession of infirmities.

At about 42 years of age women cease to bear children. From 42 to 49 the function, which in women marks the existence of procreative power, generally ceases. This is

the grand climacteric of woman, and its effects on her constitution only partially resemble the climacteric decay which sometimes occurs in man about the age of 63, and from which women are almost entirely free. Climacteric decay is rather the visible proof of approaching dissolution than of disease; and the view we take of the immunity of women from this active stage of ruin is confirmed by Sir Henry Halford, who has remarked that "though the climacteric disease is sometimes equally as remarkable in women as in men, it has not been noticed so frequently, nor is it so well characterized in females. Perhaps the severe affections of their system, which often attend the bearing of children, or, what is more likely, the change which the female constitution undergoes at the cessation of the catamenia, may render subsequent alterations less perceptible."

That after this period little remains to console woman for the anxieties and troubles of life, is an opinion in which we cannot coincide, though it is often repeated by philosophers and physiologists. In fact it is a *pagan* notion, well suited to the position allotted to woman in the civilization of Greece and of Rome, where she was seldom considered more than as something to amuse man and to bring forth children; but it cannot apply to woman after her great social redemption by Christ. Although this epoch is marked by a great change in the female constitution, a change which must doubtless be considered a physical degradation, yet, as we are not Turks, and allow to woman both mind and soul, it is necessary, before weeping over her as a wreck, to inquire whether her mental faculties and moral energies follow the deteriorated state of the human body. And we shall find that this is far from being the case; that her faculties rather expand than otherwise, and enable her to devote more of that energy to society which was previously engrossed by family affections.

Nothing is uselessly contrived; therefore the importance of the position of woman, after the great change, may be inferred by the length of time allotted to her after its occurrence, and the singular immunity from disease which is often observed at that period. It was on the other side of the Rubicon that Cæsar found Pharsalia and victory; and it is only beyond the Rubicon of her life that woman can find the widest field for her boundless charity and noblest achievements. But of course all depends upon her being well trained in early life; for if she have been brought up with the notion that her utility was bounded by the 41st year—if her mind have scarcely been more cultivated than that of the Negro, and if the scope of her affections be too narrow to embrace more than the little family circle in which she was born, life will doubtless be "dull, flat, stale, and unprofitable," both to herself and to every body else. Thus at every step we are met by the same truth—a truth that mothers ought particularly to take to heart—that they hold in their hands their daughters' fate, the happiness or the misery of every period of their existence depending principally on their right or on their wrong management when young.

Physical Decay.—These words grate harshly on the ear; yet it is impossible to deny the evidence of hair falling off or turning gray; of teeth decaying, of imperfect vision, or of the sense of hearing being less acute; while the frame loses its erect posture, and the various functions of the body are performed with diminished vigour and with less pleasurable sensations.

Such changes are common to both sexes, although they appear to be of more frequent occurrence in men, from the fact of men taking less trouble to disguise them; whereas women strive in every way to do so and to stay the wings of time. There is nothing blameable in this natural

desire to preserve as long as possible the appearance of beauty, provided that no injurious means are used, and that it does not occupy too much time. Let the gray hairs be pulled out, or, if no dangerous dye be used, let them be dyed to whatever tint may suit the fancy. If baldness occur, let some clean oleaginous substance be rubbed into the skin of the head, which, by its softening influence and by the friction rendered necessary to apply it, may increase the vitality of the scalp and promote the growth of the hair; but *premature* baldness depends always upon some peculiar, slow, inflammatory state, or upon a loss of power of the vessels of the skin; and as medical men alone know how to cure or alleviate these morbid conditions, they should be consulted, instead of those who palm expensive and disgusting salves upon the credulity of the public. An ointment containing tincture of cantharides, the proportions varying according to each particular case, was often made use of to cure baldness by Dupuytren, the Sir Astley Cooper of France.

The removal of a considerable quantity of hair is often followed by a cold in the head, by tooth-ache or ear-ache, by a discharge from the ear, or by inflammation in the eyes. Those, therefore, who are subject to these affections, should have their hair cut when the weather is warmer than usual, and avoid draughts of air during the rest of the day. A French military surgeon, Baron Percy, relates how the above-mentioned complaints were produced wholesale, when the old veterans of the Republic were ordered to be shorn of their long pigtails and luxuriant tresses.

Ladies sometimes wish to imitate the rosy hue of health by tinging the cheek with some vegetable red, such as carmine, mixed with talc, which does no harm to the skin and may escape detection; it is not so, however, with the Magister of Bismuth, as it used to be called, for there is a

story told of a lady thus adorned going down to explore a coal-mine, and on emerging from it her friends were painfully surprised at finding her face almost as black as that of the colliers below; the gas generated in the mine having spitefully determined to detect the imposture, by turning the white salt of bismuth into the black hydro-sulphuret of the metal. Should this fashion return, there need be no repetition of this adventure, for powdered talc could be employed to whiten the skin, and the mischievous gas alluded to would in vain try to show the difference between the real white skin and the painted white; but with regard to the more elaborate enamelling of the face, as it used to be practised, it had better be reserved for barbarous tribes.

Cosmetics are quack medicines, supposed to be capable of contributing to beauty; but notwithstanding the mellifluous names under which they are introduced to public notice, and their supposed popularity in Circassia and other Eastern countries, where physical beauty is much prized, they are never heard of there, and their names are as English as the drugs of which they are compounded. Some of them are useless; then why pay dearly for such rubbish? others are harmless, like a noted one analyzed by Mr. Redwood, of the Pharmaceutical Institution, which was found to contain nothing but a little borax in an emulsion of bitter almonds. As this, however, is an excellent application for the skin of the face and neck, whenever it becomes rough, hard, and dry, we give the following proportions, so that it can be made up at any chemist's for one-tenth part of what it would cost were it bought under an imposing name, embellished by a Government stamp. Take of

Emulsion of bitter almonds . . .	4 ounces.
Borax	20 grains.

Apply this mixture gently to the skin with a piece of soft

sponge, and after a few minutes wash it off with warm water.

But by far the most numerous class of these cosmetics are known, like Gowland's Lotion, to contain bichloride of mercury, one of the most poisonous preparations of this metal. Now if the skin require such an application, it must be in a state of disease; therefore, the only rational mode of proceeding would be to consult the medical profession; for the beauty of the skin depends upon its health, its health upon that of the constitution. It is, however, useless to hope that human nature can entirely resist the eloquence of the flattering promises by which these cosmetics are accompanied. But while resorting to such of them as may be sanctioned by those who, like the author of "Healthy Skin," have paid particular attention to the subject, women should be aware of the inutility of competing in beauty with a younger generation. They must remember that, one phase of their existence being about to be accomplished, they must maintain by other qualities the influence they have obtained over their family and over society. They must be aware of the change they are about to pass through, the nature of which is, that those organs which first assumed activity at puberty, which have ever since determined a monthly flow, permitted conception, and exercised so great an influence over the whole system, have lived their time, and are now going to decline into a state of inactivity, similar to that in which they so long lay dormant in childhood. This function ceases abruptly with some women, gradually with others; and when hereafter we speak of *cessation*, we shall mean the fact of the monthly flow having ceased. It is evident that no better idea can be given of the different modes of termination of the function than by analyzing a certain

number, say one hundred instances, wherein we have carefully noted the phenomena of its cessation:—

It terminated gradually in - - -	39	per cent.
" by a succession of floodings in	19	"
" by a terminal flooding in -	14	"
" by alterations of a little and a considerable flow in -	10	"
" by a sudden stoppage in -	18	"

The gradual termination, then, is the most frequent; and, as it is attended by a less disturbance of health, we should favour this mode of termination, as far as lies in our power, by the adoption of the remedies and regimen by and by to be recommended. A terminal flooding has no doubt been sometimes taken for a miscarriage, and *vice versâ;* but in both cases, as the same plan of treatment should be adopted, no danger will ensue. The sudden stoppage of the function claims more attention, for it occurs more frequently than is supposed at an early period of life; it may be then considered to be merely a temporary suppression, and lead to the use of forcing-medicines, and to serious mischief,—of which an example will presently be given. This mode of cessation is not unfrequently mistaken for pregnancy in women married late in life, or in those who have long ceased to bear children—a mistake the more easily made if cessation coincide with some amount of swelling of the abdomen and breasts, with the secretion of milk, and other sympathetic disturbance, of which time only can show the fallacy. The reverse may occur, and pregnancy be mistaken for cessation, and the imprudent employment of purgatives or forcing-medicines may bring on a miscarriage. It should also not be forgotten that pregnancy happening towards the fiftieth year has been too often considered to be an ovarian tumour, and treated as such, to the detriment both of mother and child.

After a long period of cessation, the flow may re-appear and return regularly for months or years, without, however, indicating the return of procreative power. We have met with an instance in which the discharge was protracted to the fifty-sixth year, in a case in which we were lately consulted by our friend and colleague, Mr. Chippendale; and since then we have been consulted by another patient, gifted with a strong constitution; and although the lady is now in her fifty-eighth year, the flow proceeds as regularly as ever. Amongst numerous instances related by authors, one of the most singular is that given by Meissner, of a woman in whom puberty first appeared at 20; her first child was born at 47, and the last of seven other children at 60. The flow ceased and re-appeared at 75, continuing until 98, then stopped for five years, again to return at the advanced age of 104, when (in 1812) she was still alive.

We have already alluded to the mischief entailed upon the constitution by the habitual use of the pill-box, and to the unwarrantable recourse to forcing-medicines. At this period of life there is, under certain circumstances, still a temptation for women to do so. They sometimes hope to stay the inexorable hand of time by protracting the disappearance of the sign of womanhood; and should they succeed in bringing on an appearance, the flow not being natural, as heretofore, must arise from a diseased state of the womb, and can therefore not give the slightest hope of progeny.

The abuse of emmenagogues, or forcing-medicines, at this period of life, is a subject alike interesting and painful to the medical moralist; but it is better to drop the curtain over many of the wounds to which we are asked to administer relief; and we shall close the subject by a case which exemplifies some of the foregoing remarks.

Some years ago we were consulted by Mrs.***, aged 48,

who, when about 25, formed a strong attachment, but family circumstances prevented a union from taking place. This attachment was kept up with a perseverance that would grace a novel, till fortune smiled upon them, and in her forty-fifth year the lady was married. The discharge had proceeded regularly as to time, quantity, and symptoms, up to the period of marriage, but subsequently it never re-appeared. As this sudden cessation coincided with gastric symptoms, with a distention of the abdomen, and, above all, with a great anxiety for children, the patient was considered pregnant, and carefully watched for many months. When the illusion was destroyed, the lady became disconsolate; and, punctilious in her notions respecting honour, she brooded over the possibility of her husband supposing that the courses had already stopped previous to her marriage. We were consulted, and, after a minute investigation of the case, we intimated our conviction that she was in perfect health, and that the monthly flow had ceased. The patient would have given all she possessed to have been able to obtain another interpretation of the fact, and left dissatisfied. About a year afterwards, we were asked to see the same patient again, and learned that, having consulted some one else, she had taken steel, purgatives, and strong medicines, with port wine and meat twice a-day, without effect for the first few months, but then she had a terrific flooding. She had subsequently had continued sanguinoid discharge for several months, which had induced a state of great emaciation and the usual symptoms of uterine disease. The patient improved; but her nervous system never recovered the effect of an ill-advised treatment; and, to use the mildest term, she is at all times in a highly hysterical state.

Since we published this in our work "On the Preservation of the Health of Women," several other very similar cases have come under our observation, and they deserve to be taken

into serious consideration, as they emphatically proclaim the danger of marriage at this transitional period of woman's life. It is a crisis and time of danger in which nature should be allowed to work out quietly the metamorphosis of woman from one state to another, and if interfered with by marriage, the results are frequently fatal.

The period of the lifetime of woman, when the periodical function has begun to be irregular, until the time of its cessation, is often protracted to a great length; and common sense, as well as hygienic considerations, must indicate to all the necessity of careful management until the constitution is settled. This period we shall hereafter speak of as "the dodging time," an expression frequently made use of by women to explain the habitual irregularity of what was formerly so regular.

When the change has been effected, when the constitution has settled down anew, we see no objection to the marriage of those who desire to call friendship by a fonder name, provided both parties are nearly of the same advanced age; but for frosty December to unite with blooming May is generally fatal to happiness, as well as to the health of both, particularly when an old man marries a young wife, in which case his nervous system is frequently seriously affected, and apoplexy is often the result. In other words, late marriages are as fatal to old men as early marriages are to young women.

What with us occurs in rare instances, is done on a large scale by the native tribes of Australia, where all the young girls are betrothed to old men, while an old woman may be seen surrounded by a troop of boyish admirers. The effects of this reversal of the rational order of things is shown in the rapid decrease of the native tribes.

But we shall now proceed to notice what modifications this epoch suggests in the food, clothing, &c.; and our obser-

vations will apply almost exclusively to women, as the hygiene of men at this epoch does not differ from that of the preceding.

Food.—The quantity and quality of food taken should vary according to whether the cessation of the flow be accompanied by a tendency to be fat or thin. These two conditions of the human body cannot always be called complaints, for although they sometimes may be the result of disease or lead to it, they may coincide with excellent health, however tormenting it may be to feel above or below the fancied standard of *embonpoint.*

Obesity.—Those women who are of a sanguine temperament, who have short, fat faces, round eyes, round or stumpy noses, and short hands and feet, are naturally predisposed to become fat at all times of life, but particularly so at this period; and if they follow their natural inclinations, eat new bread, all sorts of farinaceous food, pastry, cakes, and of these more than they require, the natural consequence will be a desire to prolong "great nature's second course," a distaste for exercise, an overloaded state of the organs of the body, congestions, bleedings, inflammations and apoplexy. These accidents are still more likely to occur if this mode of living be indulged in during the "dodging time," when the new balance in the distribution of the blood is not yet struck, and when many of the vital organs are liable to suffer from over-repletion of the blood vessels. Those disposed to be fat should avoid the articles of food just enumerated, and should take, instead, all sorts of vegetables, salads, fish, and white meats, such as fowl or veal, in preference to beef or mutton; more of the crust than the crumb of the bread; jellies and ice in preference to puddings; no beer or porter, but a tumbler of Seltzer water morning and night, with the addition of a little sherry or claret at their meals. Some authors lay great stress on the practice of constantly

wearing an abdominal belt night and day; and though it is difficult to explain its action, as it has been strongly recommended, it may be tried. Such is the most rational mode of keeping down *embonpoint* at all periods of life; and, as we shall show hereafter, it is the means of enabling the majority of women to pass comfortably through the present epoch.

EMACIATION.—Those predisposed to be thin are, generally speaking, of a nervous temperament. They are cast in a long, lanky mould, with pointed features, aquiline noses, angular chins, large mouths, long, thin shanks, thin bony hands and feet. Those built upon this plan are sometimes great eaters, but they do not well digest their food. To be very thin is at all times an inconvenience to women. It is annoying to be obliged to make up, by padding and extraneous clothing, a rotundity of form denied to them by nature; but during the time which precedes cessation, and even after it has taken place, emaciation is a serious evil, because it is, generally speaking, attended by a corresponding amount of nervous irritability, and promotes the continuance of a train of head-symptoms, and other nervous disorders, and floodings, to which we shall hereafter advert, as amongst the most distressing accidents of this epoch.

Provided the lady's constitution be not adverse to nutrition, there is a greater chance of being able to improve embonpoint than to diminish that of the too fat, who are willing enough to take doses of medicine, but who cannot long submit to deny themselves many of the articles of food to which they have been accustomed. To get fat, the great point is to give an abundant supply of those substances which can occupy the stomach without fatiguing it, and which are so chemically constituted as to be easily turned into fat. Plenty of bread at meals, eggs at breakfast, or a large cup of chocolate made with milk. At lun-

cheon, meat, pastry, or light puddings, containing eggs. At dinner, fish and meat, but space must be reserved for pastry, maccaroni, Charlotte au crème, &c.; and at dessert all fruits, and the various kinds of tempting cakes, macaroons, &c., which fatten by the eggs, sugar, butter, and flour that they contain. Beer or porter should be taken if they do not disagree; but if so, a couple of glasses of port wine; no acidulated drinks. A very little exercise, and as much sleep as possible. It would be better for both fat and thin to make the principal meal at the fashionable luncheon hour of two o'clock, in order that the last meal may be very light, which can well be managed, even if the usages of society should require a lady's presence at an eight o'clock dinner table.

While those who have a tendency to become fat require different food, sleep, and exercise to those who continue to remain thin at cessation, our next advice applies with equal force to both parties: it is, to beware of giving way to those sensations of internal sinking and exhaustion to which all are equally subject, and by no means to seek a comfort for languor, for weakness, or for nervousness, in stimulants, in wine, cordials, and spirits, by which a temporary support only can be obtained at the expense of an increase in the faintness, flushes, perspirations, and nervous symptoms. There is no habit fraught with greater ill effects; and although the prescribing of medicated spirits is now gone out of fashion, and carriage-draughts are not in so much request as they used to be, still we feel convinced that it is not unnecessary to enforce this caution.

Dress.—One word respecting dress, although that is one of those subjects of which the poet says—

"Fools rush in where angels fear to tread."

At cessation the vicarious functions of the skin are so

important as to require its being covered as much as possible; and when there is a great tendency to perspiration thin flannel should be worn immediately over the chemise. Tight-lacing, hurtful at all times, is perhaps most so at cessation, as it favours the congestion of the abdominal viscera; though nobody will deny the necessity of giving them proper support by well contrived stays.

Baths.—At this epoch nature very frequently throws on the skin an amount of labour to which it had been hitherto unaccustomed. The frequent perspirations account for the advantage to be derived from bathing in hot water. It removes the saline deposits left upon the skin, it facilitates the removal of the excretions from the body, it has a direct sedative influence on the nervous system, and it seems to absorb morbid irritability. The action of warm baths on the nervous system has been long ago shown by our late friend, M. Recamier, in the advantageous effects he obtained in various nervous affections, by leaving his patients in the bath for several consecutive hours. Dr. Ferrus, Inspector-General of the Lunatic Asylums in France, tells us that, in all the lunatic asylums of his country, this plan is now very generally adopted in the treatment of many forms of acute insanity. The bath should be used at least every week by those who are at the change of life, and more frequently by those who suffer much from profuse perspirations. The water should be sufficiently warm to impart a grateful sensation (from 94° to 98°) the patient remaining in it half an hour or an hour; and if there be any tendency to headache the head should be sponged with cold water. If employed before cessation be fully established, the time of the flow should not be chosen to take the bath, as it might produce flooding.

What we have said respecting the management of the skin reminds us that it may be usefully influenced by

friction, moderately and gently performed by a practised hand. While watching in Eastern countries the long-continued and gentle rubbing of the limbs and soles of the feet of the rich by their attendants, we could not help thinking that the benefit might, perhaps, be less due to the mechanical friction than to some kind of influence of friction on the nervous expansions with which the skin is so abundantly supplied. Rubbing until the skin glows, or the actual grooming of the human body, may be very useful to improve the health of scrofulous children, or chlorotic girls, but it is not adapted for women at this late period of life.

AMUSEMENTS.—EXERCISE.—Is it necessary to mention that the sufferings of this epoch will be increased by the frequenting of balls, routs, operas, &c., when, in addition to the numerous stimuli to be encountered, hot and impure air must be breathed? But if the late-hour exercises of civilized life are dangerous to all, particularly to the sanguine, gentle, regular, and long-continued exercise in the cool of the day is equally beneficial; it prevents the congestion of internal organs by diverting the blood to the muscles and the skin, the secretions of which vast surface are thus greatly increased; and it has an uncontested good effect on the nervous functions, exhausting those redundant energies which, however little understood, when unemployed produce the fidgets, nervousness, temper, hysteria—a sliding scale which so imperceptibly leads to more serious mental disorders, that its successive stages pass unnoticed until the desolating climax demands strict inquiry into its cause.

Our observations relative to exercise apply more particularly to walking; driving in an open carriage is likewise good, but horse-exercise should be left off at cessation; indeed, its utility in favouring the monthly flow sufficiently points to the discontinuance of the practice during the time

which precedes cessation, and for some time after the change of life.

Sleep.—We have, perhaps, said all that is necessary upon this head; still, at the risk of being thought tedious, we will repeat that sleep is indeed "great nature's second course," and therefore should not be too freely indulged in by those who are of a full habit; the nervous, on the contrary, may be encouraged to take as much sleep as nature will give them,—even a siesta after meals may be allowed, as sleep is for them the best restorative, and an anti-spasmodic of heroic force.

Mental Development.—Development, not decay, as with the body, for the faculties of the mind become at this time more powerful, and appear still more so on account of the experience which persons can now bring to bear; for memory, "the warder of the brain," still retains full possession of all that has been intrusted to its guardianship, and willingly gives it up on the slightest intimation. These remarks apply equally to both sexes.

We should have thought that fourteen years of experience would have convinced man of the vanity of things human; but goaded on by the same strong impulse of ambition, he still presses forward with intense ardour, in the hope of deriving at last some substantial gratification to recompense his toil, his anxiety, his sacrifice of health, and peace of mind. Others, no longer under the delusion, are retained within the same vortex by the necessity of supporting themselves and their families, if not by habit, the strongest of all human motives.

When the bodily health was in its prime, the wear and tear of ambition, as it is understood in our present state of civilization, was already sufficient seriously to interfere with health, giving rise to the various forms of dyspepsia. Now that the body has lost a portion of its vigour, it suffers more

from the continual action of the same causes. The brain and the nervous system are more permanently influenced, and their fatal action is shown in the varied forms of hypochondriasis, blue devils, spleen, &c., or under whatever other term we may disguise the slighter shades of mental derangement.

Who cares for science, except as a means to obtain notoriety, fame, money? Money is the great object. The struggle to outdo one's neighbour, the ambition to be the first, is seldom founded upon a nobler motive; and when acquired, it offers but little to counterbalance the prejudicial effects which its attainment exerts on the health, and on the longevity of man. Need we then wonder if the mind and the whole system should sink under the incessant struggles necessary in those spots on the globe where population is most dense, and the power of making a man's way is more and more difficult; fighting on, as he must do, with a knowledge that all depends upon his own exertions, with the feeling of rival toes treading close upon his heels, and with a firm conviction that in his dealings with fellow-labourers in the same field, they will not be restrained, as in other times, by a corporate government, able to call delinquents to their tribunal, but merely by what the world would say if such and such a proceeding were known, or by what to many is unfortunately a slender tie—religious duty?

Thrice happy they who, convinced by experience that there is no substantial pleasure attached to the possession of things most coveted by men, learn to rise from the created to the Creator, to consider and do all with reference to His will, and thus find a key to explain the strange contradictions of the world. They thus acquire a strength against adversity which would have been envied by the stoics of old, and learn to fix the anchor of their hope in that celestial haven ever in view, as the only object still worth struggling

for. This is the *acmé* of all mental development, the last revelation vouchsafed to man. Not to attain to it is to remain stunted in mental growth, to be imperfect in mental development. Like those physically afflicted, who excite our compassion, so we may really pity those whose mental development has not attained to this last revelation of man's destiny; for they are deprived of the greatest source of happiness, and of the best element of longevity.

We have stated that this *is* a period of mental development for woman as well as for man. Perhaps it would have been more correct to have said that it *may* be a period of development, for the transitional epoch previous to cessation is frequently attended by too much bodily disorder and mental reaction to permit any further development. But when that period is over, women are no longer hampered by a bodily infirmity periodically returning: they have more time at their disposal; they are less subject to be led astray by a too ardent imagination, or by wild flights of passion, ever rising to be ever conquered; and the faculties of the mind become endowed with new vigour. If, even before woman's emancipation by Christianity, Plato recommended the sex, at that period of life, to give their time to literature and the cultivation of the mind, how much more should they do so now? How much more should this precept be enforced, so far as is consistent with the various duties of their station in society!

The full conviction that age has stamped them with its irrevocable seal, may indeed cast a momentary gloom over the imagination, but in a well trained mind it must soon be dispelled, if not by the consciousness of a useful career, at least by the knowledge that this epoch proclaims an immunity from the perils of child-bearing, and the tedious annoyances of a monthly restraint; that it may even promise them a length of life and a strength of constitution superior in

general to that of the opposite sex, similarly advanced in years. This period of freedom has been employed by many eminent women in literary pursuits, or in governing with great discretion that circle of society, limited or extensive, in which they have been placed; becoming the guides, the supports, and the main-stays of both sexes in the difficulties of life. It is well that those who have suffered much at every month should know that there is reason to believe that "their constitution will then at last settle" into permanent health.

With regard to religious duties; more fortunate than man, woman turns earlier in life towards heaven for a help and support she cannot find on earth. It is not with her the revelation of something new, but a strong confirmation of a previous belief. As beauty fails, its advantages cease to dazzle its possessor. She sees she is less beloved, without feeling any decrease in her power of loving. After some years of wedded life, she may find her husband too much occupied by ambition's mad pursuits to afford time to feed love, as he was wont, by those attentions and small duties which are its support. Children may have already given her a foretaste of future ingratitude. Society, in which she formerly may have moved, the admired of all observers, looks coldly on her now; and while instinct and nature still doom her to love on until death, she feels impelled at this period to turn more fervently to religion.

Moral Development.—Classifications are never perfect, and much of what has been said in the previous section might here find place. Many will consider us incorrect in considering this epoch to be one of moral development; but we believe that the varied forms of love, under whatever name it may be designated, friendship, conjugal and parental affections, do not decrease, that religion takes a stronger hold upon both sexes, and that as yet the blighting influence of avarice is but little felt.

This is particularly true of women. Even if they have families of their own, without loving their children less, they can find time for acts of friendship: they often give both time and money for the relief of those who, according to the world's notion of things, have no particular claim upon their sympathy. The wonders of female charity, as they silently occur every hour of the day in this immense metropolis, form, doubtless, a redeeming point, atoning for the crime and vice which stand out in arrogant relief. We do not so much allude to the charitable deeds performed by ladies, variously associated, or in their private capacity, as to those noble and hidden acts of generous kindness which the poor perform to their poorer neighbours. We give from our overplus, we give even sometimes because Mr. * * *, our neighbour, has given, and we must do the same, though we may be ill able to afford it, and all this, perhaps, from no nobler motive than because our pride makes us say, "We cannot afford to be outdone." The poor give of their necessity. All have the satisfaction of a generous impulse for these motives; some a far higher; as indeed, we trust, have many also of their richer brethren.

Though referrible to another period of life, we cannot help noticing here, that we have not unfrequently met with women, the wives of workmen earning from twelve to twenty shillings a-week, who, though they have children of their own, adopt the orphan of a cousin or of a friend, because they could not bear to see it taken to the workhouse. Such noble acts are seldom imitated by the better classes, and they cannot help giving us a higher notion of human nature: and let not those who are single imagine that such charity can only fall to the lot of the wedded. Those, indeed, who have attained their sunset without having been granted the anxious though desirable vicissitudes of wedded life, and are content to remain in single blessedness, may,

if even destitute of relatives, or unfortunate in friendship, still find in the various forms of unmerited affliction which fill our country cottages or the hovels of our populous cities, that whereon to expend a warmth of feeling, an energy of self-sacrifice, which the sophisticated state of society has not permitted to flow into their natural and more grateful channels.

DISEASES INCIDENTAL TO THIS PERIOD.

I. Those which are common to both sexes.—II. Those which are peculiar to women.

I. DISEASES COMMON TO BOTH SEXES.

Dyspepsia.—This is the scientific name for indigestion, when it is prolonged for days, weeks, or months. The complaint is very little known to the lower orders, whose life is spent in out-door occupations and without mental strain.

It is not commonly met with in women, who are temperate by inclination and by fashion; but it abounds amongst the male portion of the educated classes in all large towns. It is the product of the mental and gastric intemperance, the evil effects of which we have repeatedly pointed out.

When dyspepsia has taken root, the patient should suit his life to the infirmity; and he may safely follow the rules laid down by Drs. Abernethy and Paris: — The dyspeptic patient should rise from his bed as soon as he awakes in the morning: for, as Mr. Abernethy justly states, "many persons upon first waking feel alert and disposed to rise, when, upon taking a second sleep, they become lethargic, can scarcely be awakened, and feel oppressed and indisposed to exertion for some time after they have risen." He should then walk, or rather saunter, for some time in the open air, previously to taking his breakfast. He is now in a condition to follow his usual avocations; but it is a cir-

cumstance of no slight importance to procure an evacuation at this period, which is easily effected by habit: a person who accustoms himself to the act at a certain hour of the day, will generally feel an inclination at the appointed season. The invalid should not allow his occupations, if sedentary, to engage him for more than three hours, after which, exercise on horseback, or by walking, should be uniformly taken. The state of the weather ought not to be urged as an objection to the prosecution of measures so essential to health. Where the season of the year, and the situation of the patient, will allow the exercise, Dr. Paris strongly urges the advantages to be derived from digging: and the stimulus thus given to the abdominal regions is highly salutary in dyspeptic affections. The hour of dinner should not be later than three o'clock, and the patient should rest for an hour before he sits down to the meal. It should consist of but few articles, should be carefully masticated, and the invalid should rise from the table at the moment he perceives that the relish given by the appetite ceases. With respect to the allowance of wine, every practitioner must use his discretion, and be guided by the former habits and recent condition of his patient. It is essential that the invalid should enjoy rest for at least two hours after dinner—that is to say, he should not enter upon any occupation or diversion that may occasion fatigue: to a gentle walk, or saunter in the garden, there can be no objection. At six or seven o'clock he may take some diluting liquid, as tea; after which, exercise will be highly useful, to assist the sanguification of his previous meal: in the summer season there will be no difficulty in accomplishing this object; and if the strength of the patient will allow the exertion, some active game, like bowls, will be attended with advantage. At ten o'clock he may take some toasted bread, or a lightly boiled egg, with a glass of wine and

water—should his previous habits render such an indulgence necessary—and at eleven he should retire to rest.

HYPOCHONDRIASIS.—This has been defined the art of extracting the greatest possible amount of poison from every circumstance of life.

We have already seen that the will has sufficient power over the body to check many symptoms of nervous disease. Thus women can often withstand emotions which were gaining the mastery over them, can prevent the flow of tears, and even hysterical attacks. In the same way men can sometimes ward off an epileptic fit, or a paroxysm of *angina pectoris;* but as every blessing may be converted into a scourge, the mind can disturb the functions of the body, and even sometimes interfere with its intimate structure. Thus by keeping the attention directed to some transient pain, we have, in many cases, the power of reproducing it in various parts of the body, giving rise by this means to a permanence of pain in some particular nerve, as to neuralgia. By a continued application of the same mental power, the disorder, also, in some cases, from functional becomes structural, and thus mechanical lesions may partly be ascribed to the influence of the mind. In hypochondriasis, however, the disease generally stops at the functional stage: thus when, from intemperance of mind or of body, the mind becomes aware that some of the functions of nutrition are painfully performed, it broods over the dyspeptic symptom until it has become habitual. The persistence of bodily suffering reacts upon the mind, which thus becomes deranged by an imaginary mischief, and is the victim of strange delusions. Then, as on the outbreak of any great mental overthrow, man feels a pleasure in brooding over an imaginary or real calamity; and he sits and sips the bitter cup of grief as leisurely as if its contents were a delicious draught.

When, instead of devoting all the force of attention to the organs of nutrition, the attention is concentrated on the sensorium itself, then, as Dr. Holland has remarked, "It gives rise to certain feelings of tension and uneasiness, caused possibly by some change in the circulation of the part, though it may be an effect, however difficult to be conceived, on the nervous system itself. Persistence in this effort, which is seldom, indeed, possible beyond a short time without confusion, produces results of a much more complex nature, and scarcely to be defined by any common terms of language." It is in fact the case of the mind turned inward upon the organs which most minister to its own operations; and by this reflex act disturbing them in every part,—an explanation which affords some clue to hypochondriasis and Mesmerism.

Man most frequently commits suicide during this period. Generally speaking this act is committed under the weight of such an intensity of anger, anguish, or despair that a jury is warranted in returning a verdict of temporary insanity, while in comparatively few instances is suicide the result of careful deliberation on the part of one evidently deranged. There still remain a few in whom the act is one of inexcusable cowardice. But while condemning the crime, we must not forget that society itself must bear in part the blame attached to its commission. Many of the criminals would have remained innocent if the legislature had prevented marriages which compromise in the offspring the soundness of the human mind, and if man had been more solicitous in rectifying the numerous abuses of education.

Women at this period of life are likewise very subject to similar disturbances of cerebral action; but instead of this being the result of overtaxing the powers of the body or of the mind, as we have seen it to be the case in men, the analogous disturbance of cerebral action in women most

frequently depends upon the perturbed action of the ovaries, which are often endowed with great activity previous to their subsidence into complete inaction. We shall defer the detail of these symptoms until we treat of those of cessation; but we may however observe, that there is great similarity in the regimen required by the hypochondriasis of men and the nervous symptoms of the change of life. A real state of nervous disease has been produced, and it must be treated as a reality. It will no more do to laugh a man out of his nervous affection, than to try to laugh the nervous system out of his frame; so the first point is to take such cases into serious consideration, so as to hold out a plan of life for the patients to follow.

When, in 1779, many of the Methodist preachers complained to the venerable Wesley of being "nervous, and subject to nervous affections," he told them: "1st, touch no dram, tea, tobacco, or snuff; 2dly, eat a very light supper, if any; 3dly, breakfast on nettle or orange-peel tea; 4thly, lie down before ten, rise before six; 5thly, every day use as much exercise as you can bear; or, 6thly, *murder yourself by inches.*" Part of this advice will always deserve adoption, and we need add nothing to what has been already stated in the previous epoch, page 306, relative to the temperance of mind and body, and to the necessity of change of air, and of country excursions; but there is one point upon which we would willingly dwell, if the limits of our work permitted; it is the great utility of manual labour. The labour of the hands and of the brain seem to be antagonistic; scarcely does thought arise in those persons whose sole occupation is manual labour. They work, they eat, they sleep, and then they work again, their life being filled up with this same rotation of anti-mental occupations. But those, on the contrary, whose life is constant thought, often, when awake, scarcely know whether they are eating, walking,

or performing some accustomed duty; and when they lie down to sleep, the still active mind builds up fabrics of dreams out of the materials of thought. Such are generally the victims of hypochondriasis, which seldom attacks the mechanic. Accordingly, educated men, who are obliged to make great mental exertion, *on the plea of health of mind*, should have recourse to all the varied games and country sports for which England is famous, such as hunting, fishing, shooting, cricket, &c.; and they would do well not to let the pressure of engagements, the activity of business, or the madness of emulation, so engage their thoughts, as to induce them to neglect any species of manual labour for which in childhood they may have shown a taste, whether for mechanics, carpentry, turning, drawing, sketching, or painting; for if set aside for years, a great effort of the will is required to resume occupations which have ceased to interest.

When the constitution is evidently giving way, manual labour is still more necessary. Relatives and friends should seek out and encourage the hobby which may be most suitable, such as the collecting of paintings, prints, books, medals, shells, &c. Their possession and gradual acquirement would give a new interest to a mind too much wrapped up in more serious things; and their arrangement and re-arrangement, their ticketing, or the pasting of prints into books, is a manual occupation which, in proportion to its duration, will take a corresponding weight off the mind. Women are more fortunate in this respect than men, for they have always at hand a choice of fancy or of useful works, capable of counteracting a too great strain upon the mind. Another proof of the extreme utility for educated men having some manual occupation, is the admirable benefit derived from it in our lunatic asylums. If this be the case when the mind is totally unhinged, how much more useful would the same plan

be as a preventive, or when the mind is merely jarred by repeated concussions. The treatment of insanity will also teach us to understand the great effects of another admirable plan for preventing or withstanding the cerebral affections now under discussion—travelling. There is one point upon which the profession generally are agreed, viz., the necessity of removing insane patients from their usual circumstances of residence and friends, and placing them in entirely new scenes. We do the same by travelling, which places a man in entirely new circumstances, every one of which makes a fresh call on his attention, solicits his interest, captivates his faculties, and completely leads him from some train of thought to which, perhaps, he has been wedded for years, and which may have become oppressive. In addition to this, the exercise of various kinds which he willingly takes, gives increased vigour to the muscles of the whole body, and energy to the brain itself. The mind of every person anticipates with pleasure the probability of finding health by an agreeable residence at some watering-place, where, under the guidance of medical authority, it will enjoy a peace and tranquillity it had not before. Half cured before arriving at the fountain of health, need we wonder if a continuance of regular hours and excellent habits of out-door exercise, for weeks or months, should, with the help of medicines agreeably prepared by Nature's own hand, and the constant absence of political squabbles, professional turmoils, and business anxieties, set the constitution to rights, and allow the mind to resume the usual serenity of its functions?

Travelling for Health.—Travelling to other countries at this period becomes a matter of great importance to those who can afford to do so; but the extent to which this work has already reached prevents our treating the subject as we intended. We therefore refer the reader to the works

of Dr. J. Johnson, Dr. Granville, and to "Bradshaw's Companion to the Continent," recently published by Mr. Edwin Lee. Dr. Sutro has likewise lately produced a valuable volume "On German Mineral Waters."

What has been said of travelling applies to both sexes; for all that has been said in praise of baths, exercise, and the advantage of a studious cultivation of the pleasures of nature, rather than those of society, by women at the change of life, will clearly point out how the combination of all these agencies, as they are to be met with in so many agreeable watering-places, both at home and abroad, may be made serviceable for the cure and prevention of disease resulting from the cessation of this function. Those blessed with ample fortunes can easily avail themselves of this provision for safely getting over the critical period of life, and remodelling the constitution so that it may endure for many years. They would also learn how nearly the goddess of health is allied to the genius of travelling, if proper directions had been given by those who have written on mineral waters, respecting the nature of the springs to be recommended, and the manner of taking them, when the periodical function has ceased: but the medical attendant at each medicated spring becomes imbued with so strong a feeling of idolatry for his own particular Egeria, that we cannot help smiling at the tales of wonder he recounts: few, however, of these wondrous tales relate to the utility to be derived by women at the change of life from the use of mineral waters.

With respect to the mineral waters best suited to those who are at the change of life, we must remark that we have seen patients at this period of life derive marked benefit from the baths of Aix en Savoie, to which we have already drawn attention, and which combine medicated waters with a sufficient amount of good society and a country

abounding in beautiful scenery. But whatever place be chosen, the following rules will be found useful:—

1. That whatever mineral water be given, it should be in the mildest form; otherwise much mischief may be done, by causing fever to come on at night, or by inducing a state of nervous excitement.

2. That according to the nature of different cases will patients derive either benefit from alkaline waters, from waters containing carbonic acid gas, or from sulphureous springs, or from ferruginous waters.

3. That the baths should only be taken of a temperature imparting a grateful sensation; and, notwithstanding any rules of the establishment to the contrary, they should not be continued for more than half an hour at a time.

4. That, generally speaking, patients will derive more benefit from bathing in sulphureous waters three or four times a week, than from taking them internally.

5. That, on the contrary, patients will in general derive more benefit from drinking those alkaline or effervescing waters which have a cooling and aperient effect.

6. That, as it is often advantageous to bathe in the sulphureous, while an alkaline or effervescent water is to be taken at meals or during the day, it is not without advantage to resort to those watering-places which combine a variety of springs.

COMPLAINTS INCIDENTAL TO THIS PERIOD.

I. Some are common to both sexes.

Gout.—Gout, and its allied complaint, rheumatic gout, seem to be produced by ungenial climates, and a high state of civilization. Those generally suffer from gout who eat more than they can digest, and drink all that does not reduce them to a state of intoxication. It would be prevented by the rules laid down in this book; or, if derived

from ancestors, its repeated return would be diminished by their observance.

Women, as it is well known, are not in general liable to gout until after cessation, but this rule is not without exception; we have seen patients tormented with it all their life, although they were as regular as possible; and for many years we had under our care a case of anomalous gout, in the daughter of a Russian nobleman, in whom it appeared at the early age of 13, and did not cease at the puberic change. The cause of this general immunity of women from this disorder may be traced to their more habitually temperate habits, and to the more constant action of the skin, as shown by the tendency to perspiration during the monthly periods, during pregnancy, and during lactation.

CANCER.—This terrible infliction, which may occupy various parts of the body, figures during this epoch to a considerable extent in the tables of mortality. The effects of the disease are as fatal as its causes are unknown.

By placing animals in cold, dark, damp places, by giving them but a little vitiated air, and by allowing them no exercise, we can cause them to die of consumption; but we know not how to produce cancer. That it does not depend upon habitual intemperance, is clear from the fact that throughout life women are more liable to cancer than men, and it is at this period that they become most liable to it. Thus M. Leroy d'Etiolles has shown on a large scale how much cancer is allied and dependent on the degradation of the human body which is brought about by age; for out of 2781 cases of cancer, collected from French authors, he found the disease occurred 1227 times in persons above 40 years of age, and 1061 times in those who were passed 60. The womb was affected with cancer in 30 per cent. of these cases, and the breast in 24 per cent.

The celebrated Antoine Dubois has said, "La cause du cancer est dans les nerfs." Dr. Dusourd observes, that a careful consideration of cases of cancer, either observed or read of, convinced him that in 75 per cent. the fatal disease had been preceded by long-continued grief, resulting from privation and change of social position. All we know of its cause is, that in women, particularly in those of a very nervous temperament, and under the influence of grief, the blood becomes poisoned, and cancerous products are deposited in some one part of the body, and the contagion is gradually disseminated through the whole system. The most rational line of conduct is to let our life be governed by approved rules of health, so as to prevent a preponderance of the nervous system.

RUPTURE.—Rupture, or hernia, as it is called, is an infirmity which affects men oftener than women, in the proportion of about four to one.

It consists in the possibility of some portion of the intestines forcing their way through those abdominal openings which are, in general, only sufficiently large to allow the blood-vessels to pass. This infirmity, we are informed by Mr. Gay, who has written an excellent work upon the subject, is most frequently observed for the first time between the ages of 40 and 50, although very frequent from 30 to 50; and if those who are subject to it do not carefully observe the precautions which we shall soon enumerate, the portion of intestine may become strangulated, and it is necessary to perform a dangerous surgical operation. This accident frequently occurs between 50 and 60, and it is explained by the gradual avoidance of the habitual precautions, which are likely to be thought useless after many years passed without accidents.

The following are the precautions necessary to be taken. In the first place, it would be necessary to obtain a proper

bandage, which is susceptible of being well adjusted; and this must be constantly worn. The patient should avoid all violent and sudden movements, or straining; for quoit players, soldiers, and particularly cavalry soldiers, huntsmen, and grooms, are very liable to hernia. The bowels should be kept open, and Mr. Gay believes that the practice of sponging the weak part with cold water, or cold salt and water, is of great utility.

II. Complaints peculiar to women.

Having shown by what means the derangements of the monthly function may be prevented, we have now to treat of the management of women during the last of the many revolutions by which their lives may be chequered; for it stands to reason that habits which have lasted more than thirty years cannot be set aside without frequently entailing very serious ill health. Popular prejudice has termed "critical" the period of life characterized by this change—a term warranted by the experience of past ages, bearing the test of daily observation, and which gives peculiar importance to this inquiry. In asserting that this period of life is critical, we do not mean, however, to maintain, with the older authors, that more women than men die between the ages of forty-five and fifty-five—for Duparcieux and Benoist de Chateauneuf have proved the contrary to be the case by statistical inquiry,—but that cessation in women is followed by a greater amount of suffering and disease than is the lot of men during the corresponding portion of their career.

Sir C. M. Clark, in commenting on the diseases of this epoch, states that "it is not unusual with women to refer all their extraordinary sensations to 'the change of life,' and to consider that, when they have thus accounted for their diseases, they have at the same time cured them; and in this, most medical men, judging at least from their practice, seem

to be of the same opinion." Dr. Meigs also remarks upon the dangers of this epoch that, "in his country, America, too little regard is paid to the dangers of the crisis; and when the threatening consequences of mismanagement or misapprehension have become startling, those fatal mutations are attributed to some trivial cause, and the victim passes away to the sound of the passing bell, and no increase of knowledge, acquired by such a mournful experience, stands in the way of the next victim to a management as unwise and as thoughtless."

"The complaints," adds Dr. Meigs, "which women at the change of life often make, are frequently hushed with the unsatisfactory reply that such complaints are owing to the change of life, and are likely to cease whenever the change shall become complete. A physician has no moral right, by his opinion, to put to sleep the anxieties of his patient, and to save himself the trouble of thinking, by so concise and unphilosophical a mode of proceeding. Whenever, therefore, a female, at this period, which is universally admitted to be a critical and dangerous time for her, comes to complain of symptoms referrible to some morbid condition of the reproductive tissues, it is clearly our duty to give a considerate attention to her case, and not to dismiss her until our judgment should be fully satisfied as to the therapeutical or hygienical indications of the case."

To derive benefit from the best advice, it is necessary to believe in the evils it is intended to avert. Women should, therefore, be impressed with the conviction of the dangers that await them; while, at the same time, they should be convinced that they depend upon causes almost entirely under their own control. Unfortunately, it too often happens that women are not made aware of the necessity of precautions until the function has entirely ceased; whereas, these should be taken so soon as nature shows its

intention to effect a change by repeated irregularities in the amount or quality of the accustomed discharge, as well as in the time of its appearance, and the pain by which it is attended.

In some women, after cessation, the stock of vital productivity is fairly exhausted, and no active treatment is required; but in most there is a superabundant nervous energy or a superabundance of blood; for that supply which was formerly sufficient for the maintenance of both mother and offspring, can thenceforth only be expended on the woman's frame, in which the circulating system tends to assimilate to that of man.

There is one important point to be remembered by women, that in proportion as their sufferings were protracted, previous to the healthy establishment of the periodical flow, so may they, in general, expect its cessation to be attended by a corresponding period and intensity of suffering. This is a useful warning to many women; but it must not also be inferred that those who have suffered little or nothing at its establishment, have no illness to expect, and therefore need take no precautions. Another fact, equally interesting and important to be known, is that in general *those diseases which precede the first appearance of the courses may likewise be expected to precede their cessation.* In proof that this position does not rest on an unsupported assertion, we shall state that we were told by Baron Alibert that he had observed some cutaneous eruptions to appear twice only in life—once before the first appearance of the monthly flow, and once at its cessation. Brierre de Boismont and other authors likewise notice the appearance of hysteria and epilepsy before these two important epochs in the lifetime of woman, the patient's life having been free from these diseases during the intervening period; and lately Sir Henry Marsh has stated having several

times noticed that women in whom the establishment of puberty had been preceded by repeated epistasis, experienced the same accident as a prominent symptom of cessation. In our own practice, we have several times seen them preceded by an abundant eruption of boils, frequently by continued diarrhœa, and still oftener by a great amount of pseudo-narcotism and hysteria in cases where there was little or none during the persistence of the monthly function, child-bearing, or lactation.

Another indication useful to women is, that whenever irregularities in the monthly appearance coincide with sensations of sinking at the pit of the stomach, with flushes of heat and perspirations, even though their age may only be between thirty and forty, they may in general consider these occurrences as warnings of cessation, particularly if they are accompanied by a corresponding amount of pseudo-narcotism. Lastly, there are diseases which occur at this critical time which escape all calculation, and can only be explained by the well-known fact, that the impetus of morbid action tells most forcibly on the weakest organ; for it would be erroneous to consider as disease of the critical time that which, if looked for, would have been long before discovered. However, those diseases which, although previously developed, proceed with increased activity after that time, may fairly be considered as the result of an alteration in the constitution, brought about by the change of life.

One observation applies to the treatment of all the diseases of this epoch—the necessity of time. Nature cannot work at a railway pace. A habit of thirty years cannot be interrupted without periods of hesitation, of trial, and infirmity, previous to the recovery of health. This patient expectation of health without recourse being made to vigorous measures is often irksome to women, for the notion of immediate relief clings with pertinacity to all sufferers.

ORDINARY SYMPTOMS OF CESSATION.—Convinced that a minute investigation into the *natural history* of the phenomena of cessation could alone give us an insight into the diseases of that epoch, we have carefully noted the morbid phenomena which occurred at cessation in several hundred women, and some of the most frequent symptoms may be referred to the cerebral system.

Headache, sick headache, hysteria, and pseudo-narcotism had existed at menstruation in - - - - -	64	per cent.
They were augmented in - - -	36	"
" remained the same in - - -	18	"
" were less in - - - -	10	"
" did not exist in - - - -	36	"
	100	

Thus when the habitual derivation from the sanguineous mass was no longer regularly performed every month, the cerebral symptoms were increased in thirty-six per cent. During the period preceding cessation, sick headache is but seldom observed.

With regard to hysteria, it will still be observed in women of a sanguine temperament, in whom the least disturbance of the periodical function has through life often brought on this disorder. Whereas, on the contrary, in women of a nervous temperament, hysteria will diminish in proportion as the activity of the reproductive organs becomes less and less, and will cease entirely with the subsidence of their action. *Pseudo-narcotism* is the most common symptom of cessation.

Those who have carefully analyzed the symptoms presented by some women at the change of life will remember the habitual giddiness, the uncertain step and tottering gait, the vacancy of feature, and the drowsy or drunken expression of the eye, as well as the efforts they made to recover their oppressed intellects when aroused by a question; and

exact observers will not deem exaggerated the expression of pseudo-narcotism. Such patients say that they feel as if they had taken too much, as if something had got into their head, that they are accused of being tipsy when, holding by the rails, they pass in the streets, that they have been turned off as drunk, or at least are not allowed to open the door to visiters by a master anxious to save his own and his servant's reputation.

Such examples of pseudo-narcotism are fortunately rare, for they present the extreme of what may be frequently observed. The ordinary symptoms are, a great tendency to sleep, an uneasy sensation of weight in the head, a feeling as if a cloud or a cobweb required to be brushed from the brain, disinclination for any exertion, a diminution in the memory and in the powers of the mind.

We have sometimes been told by women at this period of life, with an expression of anguish which could not be feigned, that at the monthly epochs they felt so strange in the head,—so lost,—such sensations of impending horror, that they were sure they must some day go mad. May not this be considered to be the last step of the ladder which may lead a woman from the first slight haziness of intellect to its total absorption?

We shall draw the attention of those who may tax us with exaggeration, to a sketch of a similar case drawn by the masterly hand of Sir H. Halford. "The subject of such an indisposition," he says, when alluding to the change of life, "has probably grown corpulent. She sits in an indolent posture, looks gloomy, hardly speaks at all, and we learn from her attendants that she lives under the impression that some fancied evil is about to befall her. She is suspicious, undecided in all her movements, and manifests symptoms which differ in degree only from melancholy mania."

The reader will infer that insanity is not an unfrequent

attendant of the change of life, and giving a promise of the restoration of the health of the body being followed by the return of reason. In his first report on the Female Lunatics at Colney Hatch, Dr. Davey says, "There are many females between the ages of forty and fifty, whose recoveries may be expected when the uterus shall have fairly resumed its original inaction, and when also the brain shall have lost a fertile source of irritation and disease. Unfortunately it happens that the poorer classes are much too unmindful of the health of women at the critical periods of life, and pay too little attention to the means whereby the uterus may be assisted in its efforts to preserve its due influence on the human economy; and therefore is it, in a very great measure, that insanity is so frequent an occurrence among women." Alas! there are over-abundant reasons why insanity should be no less frequent at this time of life in women who are in affluence.

Sinking at the Pit of the Stomach.—A slight tap on this part of the body will give great uneasiness, as the reader may discover by experimenting on himself; a greater, but not a violent blow, will cause sudden sinking, even to fainting; and a violent blow will cause death as if by lightning, showing the importance of this region of the body. A blow on the temple will stun a man; and we may explain the death that may ensue by concussion of the brain. Death from a blow in the epigastric region depends on the concussion of the nervous system, which is there situated. Notwithstanding the great obscurity which involves the knowledge of the functions of this system, we know that the little nervous masses which constitute this nervous centre are as important for the action of the stomach, heart, and lungs, and nutrition in general, as the spinal marrow is for sensation and motion, and the brain for thought. It is admitted that these three nervous centres

are in constant and mutual correspondence, acting and reacting upon one another by means of the voluminous nerves which unite them. We know, too, that the emotions, passions, and fatal intimations conceived in the brain, are communicated, lightning-like, to the pit of the stomach, causing a sense of sinking and prostration, instinctively impelling us to protect that region with the hand—an instinctive motion which will not be without value to those who dive deeper down than the mere surface of things. The "circa præcordia ludere" of the Latins will recur to the scholar: and those who are not content with perpetually copying others, venture to think that the cause of some nervous affections and species of insanity is rather to be sought in the undue or insufficient action of this ganglionic nervous centre on the cerebral centre, than in a diseased condition of the brain itself. That this nervous centre plays a more important part in woman than in man, is to us evident from the frequency of the appearance of the symptoms to which we now draw attention, at puberty, during the irregularities of the monthly flow, during pregnancy, lactation, and more particularly at cessation; and as to woman is confided the whole task of the nutrition of the embryo, as well as part of its nutrition for many months after birth, it is reasonable to suppose that the ganglionic system of nerves should be more active and more liable to deranged action than it is in man. The ganglionic symptoms of cessation are, feelings of sinking, depression at the pit of the stomach,—not actual pain, but an irritating, tormenting sense of want of support, of "vacuum," of "having no inside." These pains are associated with flushes of heat —"hot flushes," "burning heats"—and they are often the influence of strange sensations at the pit of the stomach, where they seem to rise, and which makes some women describe their symptoms by the term "up-flushes."

These sensations in the epigastric region are, in fact, the harbingers of flushes and suffusions of the cheek, as in blushing. On the subsidence of the heats, the skin breaks out into perspirations, gentle or drenching, sometimes hot, at others cold and clammy.

Are we wrong in referring the following symptoms more particularly to that nervous system, the filaments of which, like a web, envelop the smallest arterial vessel in their inextricable mazes?

Sensations of faintness, exhaustion, and sinking —often referred to the epigastric region— existed in	26 per cent.
Heats and flushes were noticed in . . .	38 "
Perspirations in	30 "
Sweats in	16 "

These symptoms, little dwelt on by pathologists, derive great importance from their frequency, and also from the insight they afford into the means by which nature relieves the system of the fluids that are no longer discharged every month; for when the periodical secretions from the uterine and the intestinal surfaces are checked, it seems as if the mass of fluids were thrown on the extensive surface of the skin, which is so frequently found to stand in antagonistic relation to these surfaces; thence arise the heats, the flushes, the gentle perspirations, by which, in the generality of cases, further mischief is prevented. It is not surprising that it should be so, for long ago Sanctorius established that "insensible perspiration alone discharges much more than all the sensible evacuations put together."—Sec. I. *Aph.* iv.

It will be remarked, however, that in 16 per cent. the cutaneous exhalation, by its amount, became itself a disease, without relieving the patient so well as the more moderate exhalation; which would not be understood, were it not for the uncontradicted statements of the same accurate observer: "That perspiration which is beneficial, and most clears the

body of superfluous matter, is not what goes off with sweat, but that insensible steam or vapour which in winter time exhales to about the quantity of fifty ounces in the space of one natural day."—Sec. I. *Aph.* xxi. "Sweat is always from some violent cause; and as such—as static experiments demonstrate—it hinders the insensible exhalation of the digested perspirable matter."—Sec. V. *Aph.* iii.

Perspiration is always more abundant at night. In this respect the modern researches of Dr. Milne Edwards amply confirm the invaluable observations of Sanctorius and Kiel; and while the drenching perspirations seldom last very long, the heats, the flushes, the gentle perspirations, often continue to appear several times a-day ten or sixteen years after cessation. The salutary effects to be derived from this agency, the value of which has been too little understood, might be exemplified by cases which would show that these perspirations, disagreeable though they may be, are sometimes very useful, and that therefore they should not be interrupted by any violent measures taken to check them.

The medical attendant is the only judge of when it is necessary to check the perspirations of cessation. The patient should never attempt to do so of her own accord, however intolerable they may become. We have known these sometimes to exist in so great an extent that the drops accumulated as they were wiped off the face, the clothes were always wet, and when in bed the sufferer was in fear of turning, for fear she should be chilled by the damp cold in the immediate vicinity of the body. Some patients troubled in this way have given us the warmest thanks for merely suggesting that a long, thin, flannel dress be worn over the night dress; others have derived benefit from the tepid bath, taken at night before going to bed, followed by a light repast in bed after the bath. Saline purgatives, Seltzer water, and other effervescing drinks,

may be serviceable; but other treatment is often wanted, the details of which would not suit the nature of this work.

The strange sensations at the pit of the stomach should not be neglected, because they impel the patient to seek relief in wine or brandy, porter or gin, according to her station in society. Now, instead of the wine-merchant, such patients would do far better to consult the doctor; for the use of stimulants merely relieves for a time, but does not prevent a return of the symptoms, which each time require more and more of the lulling beverage to alleviate. But while we inveigh against a very common practice, we must at the same time own to the strength of the impulse by which women are often led, at this time of life, to the abuse of stimulants. They require support, it is true, but it should be sought in as abundant a supply of food as can be well digested; and instead of spirits, let them avail themselves of some of the following hints, which have often done good to their fellow-sufferers. The only *internal* means of obtaining *temporary* relief which we can recommend is, from a few drops to a teaspoonful of aromatic spirits of ammonia in a little water. They must try to diminish the annoying sensations by a camphor-bag placed close to the pit of the stomach. If this has no decided effect, a pitch plaster to the pit of the stomach should be tried; and if this does not relieve, a belladonna or opium plaster may be resorted to, almost with a certainty of success. In some cases, wherein the uneasy sensations were accompanied by real pain, we have relieved the patient by applying a few drops of chloroform to the pit of the stomach; which acted locally, and not by inducing intoxication. But this we have added more as a hint to any medical friend who may peruse this book than to be adopted by the general reader, who should beware of playing with what, by injudicious management, might put

her in a state of narcotism, and perhaps be the occasion of death.

It is well that women should be prepared to expect every month a continuance, and sometimes even an augmentation, of the pains by which the critical flow was usually accompanied, and they must not fancy from this circumstance alone that fatal diseases are impending. These pains, in a large proportion of cases, are merely nervous, and are doubtless meant to warn women of the great degree of prudence necessary while they last. Their liability to these pains may be seen by the following table:—

Dorsal pains existed in		70 per cent.
They were augmented in	46	"
" the same in	17	"
" less in	7	"
They did not exist in		30 "
		100
Hypogastric pains of a bearing-down character, referred by women to the womb and ovaries, existed in		51 per cent.
They were augmented in	30	"
" the same in	10	"
" less in	9	"
There were none in		49 "
		100

Thus the nervous influence which used to direct a regular discharge is still in force, a fact proved by the persistence of the spinal pains in 70, and of the hypogastric in 51 per cent. They sometimes appear regularly every month, determining, in some cases, leucorrhœa and inflammatory affections of the womb, diarrhœa, or hæmorrhoids.

The prevention of these pains must be rather sought for in a well combined regimen, as given at page 337, than by mere local measures. Mild purgatives, of which flour of sulphur, combined with bi-borate or carbonate of soda, or calcined magnesia, according to the case, is by far the best,

and may be continued for a long time without any fear of the skin having any particular odour by which its presence can be at all detected. With regard to the outward means of relieving such pains, flannels wrung out of hot water, or mustard poultices, may be safely applied, and the wearing of a broad band of flannel round the lower part of the stomach has been found useful. Blisters to the loins should not be employed, for we have known them to bring on, at this period of life, a temporary loss of the use of the lower limbs.

LEUCORRHŒA.—We have stated that, in consequence of the continual tendency of the blood to ebb as usual to the lower part of the body, and owing to the persistence of those nervous pains which bear witness to the existence of this blood-current and help its progress, women at cessation are subject to leucorrhœa, the white or mucous discharges. The liability to such discharges may be gathered from the following table:—

Leucorrhœa existed in . . .			58 per cent.
" was augmented in .	44		"
" was stationary in .	8		"
" was diminished in .	6		"
" was not in . . .		42	"
		100	

Under ordinary circumstances, this discharge should be looked upon as a supplementary one, by which nature gradually intends to do away with the necessity of any discharge. It would be very imprudent to attempt to stop it, and tepid water is the only application that should be made without the sanction of medical advice. When the discharge is considerable, yellow, or of any other colour, and offensive to the smell, it indicates some uterine disease, as we have previously shown, page 249, and suggests the necessity of a careful investigation of the case.

INFLAMMATORY AFFECTIONS OF THE WOMB.—As inflammation of the womb is the great bugbear with which

women frighten themselves when they arrive at the change of life, it is right they should know that such complaints become less instead of more frequent at and after this period. As the life of the womb itself ceases to be active, so its liability to inflammatory affections becomes proportionably small. In our practice, 4 per cent. only of such cases have we met with at this period of life; and this statement is confirmed by the assertions of other practitioners both at home and abroad.

FLOODING.—It has been already shown that flooding occurred under various circumstances in 27 per cent. of women in whom cessation had taken place. This symptom, which at other times would be considered pernicious, is not so alarming at this period, and need not be interfered with until the patient's strength seems likely to be affected by the occurrence. Thus, when the flow occurs too often, is too abundant, or even lasts very long, without being very abundant, a woman should know that it is her duty not to permit her health to be entirely ruined by this constant drain, but to apply for relief, in order that by an accurate examination it may be ascertained whether the blood flows from an inflamed ulcerated surface, as in the case recorded at page 243, or from a cancerous breaking down of the womb's texture.

If the blood flow from a simple ulcer of the womb, it can soon be radically cured, as in the case alluded to, and in many others which we might detail if the work were destined for the professional instead of the general reader; but if the blood flow from the broken-down tissue of a cancerous womb, although, unfortunately, it will not permit of being cured in the same easy way, yet it will enable the attendant to devise measures for relief, for husbanding the patient's strength, so that she may have time to make all necessary preparations before the occurrence of death.

When flooding depends upon a cancerous breaking down

of the womb, the best means of checking both the loss of blood and the complaint is, to apply ice to the cancerous surface, as has been pointed out by Dr. James Arnold; but of course that can only be done by the medical attendant.

Uterine Fibrinous Tumours.—These again are most frequently met with at this time of life. They are often fatal by the flooding which they determine; but fortunately they are more amenable to treatment than cancer; and when the proper sense of duty on the part of the patient has permitted them to be detected by the medical attendant, they may in very many cases be altogether removed from the womb, and the patient restored to perfect health, as in the case of the lady mentioned at page 242.

Ovarian Tumours.—In the course of this work we have seen how very great was the influence of the small bodies, called ovaries, upon the female constitution; and in how many various ways they disturb, by their morbid action, the health of the whole system. We have also said that at cessation they die away into perfect inaction. But this is not always the case, for, besides the influence we have studied, and the diseases we have already sought to prevent, they are all through life liable to swell into enormous tumours. The little cells of the ovary, in which are mysteriously implanted the germs of life, take upon themselves an undue activity, and becoming prodigiously distended by fluids, constitute a disease which often baffles the power of medicine. These tumours are most frequently observed about this period of life, and, therefore, are often confounded with pregnancy. It would be out of place to say any thing relative to their treatment, but the painful inefficacy of medicine in many of the varieties of ovarian dropsy, and the great fatality of the disease, prompt us to make some remarks upon their prevention.

From a more than usually careful study of the causes of this complaint, we are convinced that the insidious beginnings of these terrible tumours are laid in the disordered performance of the function peculiar to women; that their heedlessly committing imprudences during the time allotted for the performance of that function, and then patiently enduring every month an intensity of pain in the lower part of the stomach, and sometimes even an amount of inflammatory action there, which would create alarm if it occurred in any other part of the body, are the causes of these tumours being able to take root. Once allowed to do so, their growth may be rapid; and they may spread to such dimensions that the unmarried appear to be on the eve of their confinement: thus married women are subjected to the ridicule of hopes unfulfilled; and, what is still worse, these tumours often doom both young and old to a premature death. We know not a more instructive lesson to mothers, and to those who have the care of young persons. Let them know that whenever the monthly function is very painfully performed, it is not natural; and if they will not consult some medical man at the earliest periods of such cases, they need not be surprised if afterwards they find their daughters suffering from some painful and almost irremovable disease.

Biliousness, Diarrhœa.—We have seen that when the natural current of the blood is arrested at cessation, it is suddenly translated to the skin, as shown by concomitant perspirations, or to the surface of the womb, as proved by the floodings, by the white discharges, and by other evidences of diseased action. We must now warn women against another misdirection of the blood and vital energy very common at cessation, namely, its undue translation to the internal surface of the body, the stomach, the liver, and the intestines.

Dr. Butler Lane's observations on the coincidence to the derangement of the biliary secretions at the change of life agree with our experience:—"Nothing can be more common than to find severe biliary derangement occurring at or about the period of the monthly cessation; and looking at the great physiological change which then takes place in connexion with hepatic development, it is naturally to be expected. A woman will complain of being bilious—viz., there may be a bitter, oily taste in the mouth, a sensation of burning in the throat, frontal headache, nausea, and even vomiting, the urine high-coloured, the bile abounding in the alvine dejections, and perhaps causing heat and a stinging sensation in the rectum, the tongue furred, a biliary tinge pervading the cutaneous surface, &c., &c. Such symptoms, or a modification thereof, often mark the great and important vicissitude which takes place in the female economy at the influential epoch in question; and the due appreciation of the symptoms made manifest, their ascription to the real source, and their judicious treatment, medicinal and dietetic, are of the highest consequence to the future welfare of the patient. I suspect that a great majority of those distressing maladies to which the uterus and its appendages become liable in life, might be traced in their origin to neglect and maltreatment at the critical period."

If we here enter so fully into medical details, it is in order that women may be aware that an occasional dose of calomel cannot effectually relieve this state of the system; and that, on the contrary, it requires to be treated by a systematic exhibition of alteratives, mineral waters, and by a scrupulous adherence to the regimen laid down in this portion of our work.

The utility of purgatives has become so much a matter of popular, as well as medical belief, that both patient and

medical attendant too often confide in them *alone*, to the neglect of other important means to which we have already alluded. This mode of treatment is one of nature's own suggestions, for it was found that diarrhœa occurred at cessation in the following number of instances:

Diarrhœa existed in . . .		12 per cent.
" was irregular in . .	8	"
" was regular, by coming on every month, in . .	4	"
	12	

The nature of the purgatives, and their amount, must depend upon every individual case; and this the medical attendant must decide. By trying experiments with purgatives, women do themselves as much harm at this as at any other period of life, and we have even seen the ordinary compound colocynth pill then produce, by its violent action, a falling-down of the womb, not before experienced.

Hæmorrhoids and Intestinal Loss of Blood.—It is not difficult, even for the general reader, to understand that the pelvic plethora, or determination of blood to the lower part of the bowels, should often seek to find a vent on a surface intimately associated with the uterine; and accordingly it was found that

Hæmorrhoids existed to various extents in		20 per cent.
They appeared for the first time after cessation in	12	"
" did not bleed in . . .	4	"
" were bleeding in . . .	8	"
" were considerably increased after cessation in . . .	4	"
" remained the same in . .	2	"
" diminished at cessation in .	2	"
Intestinal bleeding existed in .	2	"

At page 313 will be found intimated what it is necessary to do in such cases; and we merely repeat one precaution

not to check the flow suddenly, as this might be injurious; and to obtain early advice, so as not to do mischief.

CHLOROSIS.—We have said that the milder forms of chlorosis are very frequent at all times of life; that they depend upon some irregular reaction of the ovaries on the whole system; and that they particularly take place at the puberic epoch. A somewhat similar state is often observed at cessation, when the whole system suffers a shock similar to that which is so often received at puberty.

Every one must have noticed the altered appearance of some near relative at that period—the change of the skin from the healthy hue to the waxy, sallow tint, the bloodless lip, the paleness of the white of the eye; while headache, pseudo-narcotism, general debility, reluctance for exercise and for food, are symptoms similar to those of younger persons suffering from green-sickness. This coincidence of a similar affection at the dawn and at the end of the periodical function shows how great an influence this function has upon the constitution of women, and how totally the whole system is shaken and pulled to pieces previous to its being again remodeled, so as to endure for a long period under a different order of circumstances. Such patients are generally thin as well as debilitated, and all the rules of hygiene laid down for chlorotics, at page 229, apply equally to those who become very emaciated at the change of life. We shall even add, that the remedial measures found so useful in chlorosis will be similarly useful in this semi-chlorosis of cessation.

We have finished descanting on the prevention of a long series of infirmities by which the health of women is often very seriously assailed. We have attempted to do what has not, to our knowledge, been previously done, that is, to give women common-sense notions relative to these infirmities, and a safe thread to guide them in many delicate situations

of life. We have hunted down popular prejudices whenever they interfered with health. We have not willingly exaggerated anticipated evils, nor held out hopes where we entertained none ourselves. We have given no prescriptions which, only applying to individual cases, would lead patients to complicate their sufferings,—but we have laid particular stress on what we know of the causes of disease, to promote their prevention. We have given rules of hygiene applicable to the various periods of life, and to different morbid states, because these are within the scope of the patient's understanding, and because, in the majority of cases, they must escape the medical man's attention during his brief visits. In the sick-chamber he prescribes, he answers questions relative to regimen and general guidance, but he has not the time to give a lecture upon those rules of managing the sick which all should know. Lastly, we have attempted to convince the reader when it was advisable or when imperative to call in a medical adviser, and how by frankness to derive the greatest benefit from his experience. May our labours tend to diminish individual suffering!

The rate of mortality at this epoch is as follows:—

(Of 1000 Children born alive.)

Age on Birthdays.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
43	8	4	4
44	7	4	3
45	8	4	4
46	7	4	3
47	7	3	4
48	7	4	3
49	8	4	4

The mean future lifetime, for this period, will be seen from the following table:—

Age (or Birth-days.)	Mean Future Lifetime, in Years.		
	Persons.	Males.	Females.
43	25	25	26
44	25	24	25
45	24	23	24
46	23	23	24
47	23	22	23
48	22	21	22
49	21	21	22

The various rates of life insurance may be thus estimated:

Age next Birth-day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.			Females			Males.			Females		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
43	3	0	1	2	16	6	1	7	8	1	5	10	15	18	5	16	8	6
44	3	2	2	2	18	5	1	8	4	1	6	3	15	12	3	16	2	11
45	3	4	4	3	0	5	1	9	1	1	6	11	15	6	5	15	17	2
46	3	6	7	3	2	6	1	9	10	1	7	4	15	0	5	15	11	3
47	3	9	1	3	4	9	1	10	7	1	7	11	14	14	3	15	5	2
48	3	11	8	3	7	2	1	11	5	1	8	6	14	7	11	14	18	11
49	3	14	6	3	9	9	1	12	2	1	9	1	14	1	5	14	12	6

43	3	0	1	2	16	6	1	7	8	1	5	10	15	18	5	16	8	6	6	5	10	6	1	9
44	3	2	2	2	18	5	1	8	4	1	6	3	15	12	3	16	2	11	6	8	1	6	3	10
45	3	4	4	3	0	5	1	9	1	1	6	11	15	6	5	15	17	2	6	10	7	6	6	1
46	3	6	7	3	2	6	1	9	10	1	7	4	15	0	5	15	11	3	6	13	2	6	8	6
47	3	9	1	3	4	9	1	10	7	1	7	11	14	14	3	15	5	2	6	15	11	6	11	1
48	3	11	8	3	7	2	1	11	5	1	8	6	14	7	11	14	18	11	6	18	11	6	13	10
49	3	14	6	3	9	9	1	12	2	1	9	1	14	1	5	14	12	6	7	2	2	6	16	9

CHAPTER IX.

FORTY-NINE TO FIFTY-SIX AND SIXTY-THREE YEARS.

The Numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality per cent. for this period.		The Annual Mortality per cent.	
Males.	Females.	Males	Females.	Males.	Fem.	Males.	Fem.
880	892	120	108	12·031	10·083	1·719	1·543
811	832	189	168	18·923	16·776	2·703	2·397

Thus, for instance, out of 1000 *men alive at* 49 *years of age,* 880 *completed their* 56*th year, the remaining* 120 *died during the period* 49–56. *The mortality for this period was* 12·031 *per cent.; the annual mortality* 1·719 *per cent.*

If spring delights us by its strong hopes of future happiness; if summer is for a man a season of jubilee, in which he is apt to forget the shortness of its duration; autumn also has its charms. It comes laden with rich, savoury fruits, pouring from its urn streams of generous wine: by the touch of its magic wand the vegetable drapery of the earth assumes its richest appearance, blending the shades of green with red and yellow tints, and harmonizing all with the "brown magnificence" of decay. Autumn's very breath is genial: its freshness after the summer heat is invigorating, and winds up the strength of man for the space of time he has yet to live. If towards its close the leaves fall, and sing a melancholy death-dirge under our feet, still they disclose

buds ready to burst forth and spread fresh leaves around another generation of flowers, in which are hidden the precious seedlings of future generations.

Man has passed his spring-time of first-hopes; he has spent his vigorous strength in toiling hard in the heat of the day; he has gathered in the fruits of incessant exertion, gained money, consideration, fame, friends—he now enters into the autumn of life, and in the downfall of his mellow years he should, without retiring from the world, take a less active part in it, and, by a temperate use of all its blessings, should protect his tottering constitution from the many fatal influences which shorten life or embitter it with infirmities.

It is doubtless melancholy to see relations, friends—all those with whom one is associated by personal intercourse—descend one by one into the grave; but as the seared yellow leaves fall off from the human tree, the infant buds give the race that immortality which the common instinct of mankind and revealed religion promise alike to every individual man. Thus the duty of the present epoch, so far as health is concerned, is to husband the strength and powers of the constitution, to lend the aid of long experience to children, relatives, and friends, and to employ that calm judgment and wisdom which is the result of years, for the good of society, serving its general interests in the ways suggested by the social position of each; and while doing this, to lay up treasures for another world, to which the harmonies of nature and the sense of failing power inexorably point.

The decay of physical strength is generally gradual; but should it be otherwise, it is fair to infer that it is in consequence of some former long-continued abuse of human power. Thus in *men*, at 63, or some year previous, there is often seen a sudden breaking-up of the constitutional powers of the human body, as well as of the mental faculties; which is

generally fatal. But this is rarely observed in *women* whose constitution has at this epoch well recovered from the somewhat similar, though less fatal, modifications experienced by them at the change of life. While the ascent of a hill is generally marked by various resting-places, where one willingly reposes awhile, after toiling up its side, the descent is more precipitate, and has fewer points of repose. So is it with man, as he descends the hill of life; and as there are no marked stoppages or precipitous descents to be encountered in that portion of the declivity comprised between the 49th and 63d year, we have included that space of time in one chapter, so as not to make more breaks in our work than may be absolutely necessary.

Physical Decay.—The signs of decay observed during the last epoch steadily become more evident, life seeming gradually to retreat from its extreme boundary, and to become more concentrated within the central organs of the body. Instead of being soft, unctuous, moist, and warm, the skin now becomes harder, drier, wrinkled, colder, and less sensitive. We draw particular attention to this circumstance, because we shall see how it explains the complaints incidental to this epoch, and how well it suggests some of the means of prolonging life. While this is going on in the skin, the hair, whose vitality is always somewhat in proportion, becomes grayer and grayer, thinner and thinner, until it falls off; the teeth become diseased, their roots absorbed, and by the shrinking of their sockets they fall out; the eyes and ears, which are also intimately related to the skin, lose a portion of their special power—hearing becomes less easy, and sight becomes dimmed. Then does the indefatigable ingenuity of man come forth to nature's rescue, and substitutes most serviceable imitations of what is destroyed by time or sickness. Ladies of our country appear adorned with ringlets from the peasant-girls of Brittany; the hippopotamus of Egypt gives

us his teeth; and Penang furnishes the gutta percha, which, wrought into tubes, permits the deaf to hear.

Food.—The sense of taste is the most tenacious of the senses. Even when the others no longer perform their tasks with their usual willingness, this sense remains unimpaired—a bountiful provision, assuring to the body a constant supply of ever-necessary support. If, however, from habit, or from the great difficulty of finding enjoyment in the nobler occupations of the mind, the satisfaction of the palate be too much attended to, the inevitable consequence must be, either diseases of the stomach, or if digestion be good, more blood is produced than can be converted into muscle by exercise, or eliminated by perspiration. The system being thus provided with too abundant or too stimulating blood, the kidneys are called into increased action to reduce the vital fluid to its healthy standard. But as at this period of life the kidneys seldom bear to be thus overworked, they frequently become diseased, and the saline particles of the fluid they eliminate coalesce, and by their gradual increase produce stone in the bladder. But this is not all; for as this outlet of the human body is quite inadequate to remove the quantity of saline substances formerly thrown off by perspiration or employed in nutrition, the saline particles settle on those parts of the body which are gifted with less vital activity, and are in most immediate contact with the blood-stream. The arteries, in fact, become petrous, or ossified, as it is commonly called, both in the brain and many other parts of the body. In becoming ossified, they lose their cohesion, are less elastic, and are more apt to break under any extraordinary impulse. When they break, it is like the rupture of a reservoir. What the water did at Holmfirth on the day the Bilberry dam gave way, the blood does in various parts of the human body. In the lungs, it breaks down their tissue, and part of the blood may be coughed up. In

the brain, it disorganizes one portion, but as it can find no exit it presses on the rest, and induces apoplexy and paralysis. The heart or one of its neighbouring large vessels may burst: a mischief beyond repair, for then death is sudden.

Such, at this period of life, are the inevitable consequences of over-feeding, which can no more be defined now than at any other period, as with each individual the amount of food taken must vary, according to exercise, to mental activity, and to the state of the skin. All hints, therefore, on this subject, must be vague, except that of governing one's health with respect to food by a daily inspection of the water that is passed.

It has been seen that the urinary apparatus is a safety valve by which nature throws from the blood those saline particles which are not wanted for the repair of the body. All must have noticed that after an excess in eating or drinking, the water is often muddy. The kidneys may, therefore, be considered as indicating by the fluid they secrete whether the blood be loaded with an overabundant quantity of nutritive materials. This would afford a useful indication at all periods of life, but it is invaluable now that its prolongation depends upon the adjustment of food to the wants of the body. If the water, in the morning, be found clear, with its usual colour and appearance, the day's food may be measured by that consumed on the previous day; but if it be cloudy, muddy, or red, then the hint should be taken to diminish the nutritive quality or quantity of food, by taking fish instead of meat, and less beer or wine. If this change of regimen, continued for a few days, does not produce the desired effect, it shows that something must be wrong, either in the kidneys and the bladder, or in the system, and renders medical advice imperative.

We must not, however, forget that a kind of chemical dissolution of the body begins in old age. The fat on the sur-

face of the body, and around the viscera, the marrow, the gelatinous and calcareous portions of the bones, are, more or less, absorbed into the circulation, deposited on other parts of the body, or gradually evacuated by the urine. In old age, therefore, an habitually turbid state of the water may be consistent with health; though even then our advice holds good; for if a certain amount of thickening of the water is usual to the patient, it is well that he should receive the earliest information of this amount of deposit being permanently increased.

The elucidation of so simple a principle has detained us longer than we intended, but the details we have given will prevent our dwelling again on them when treating of diseases of the bladder. In conclusion, we may remark, that the practice of examining the water had fallen into discredit in the profession from the abuse which it had suffered in the hands of impostors, but the new views which modern chemistry has unfolded, and the admirable practical results to which they have led, have now restored the practice to its pristine reputation.

As regards spirituous stimulants, if they have only been taken in moderation, it would be highly injudicious to discontinue at once or so suddenly their use. In this opinion we are supported by Dr. Day, who mentions having witnessed several cases in which persons about the age of 60 becoming teetotallers, after drinking freely for thirty or forty years, few of them survived the change for more than two or three years.

Clothing.—The proofs we have advanced of the diminished vitality of the skin shows the folly of those who, having reached to this period of life, exhibit an utter contempt for flannel waistcoats and great-coats. The inclemencies of the season may, for a time, be braved; but with a skin deprived of the vitality of youth, men sooner or later

fall victims to their ignorance, or to the disdain of the laws by which the system is governed. The body must, therefore, be sufficiently clothed to ensure its moderate warmth by gentle exercise.

With respect to the clothing of women, we have nothing to add to what has already been said.

Exercise and Amusements.—Violent exercise must be left to the elastic frames of youth and of middle age; for, as we have seen that, at this period, the arteries assume a liability to become brittle, it stands to reason that strenuous exertions, causing the heart to beat violently, might be followed by a rupture of the blood-vessels, by apoplexy, &c. As much gentle exercise as possible should, however, be taken in the open air. Walking, riding, driving, all tend to increase the flow of blood to the skin, and to use the blood in the renovation of muscle. The moderation recommended in exercise should also be followed out in partaking of the various pleasures of society, and common sense will determine to each person the extent to which they may be indulged without compromising health. The advantages of travelling at this age are also too great to be lost sight of by those who can afford a luxury which not only repairs the damage done to the bodily tenement of the soul, but cheers it in a progress now liable to be painfully chequered by the loss of relatives, and ever-recurring mementos of approaching death.

Baths.—The Greeks and Romans considered bathing so important an element of health that palaces of gorgeous proportions were devoted to this practice. Why have we, then, allowed our better knowledge of the laws of the human frame, and of the two pounds of saline fluid daily permeating through our clothes in the shape of perspiration, to be hitherto almost useless? Looking around us, it would seem to be the popular belief that, except for little children,

it was not judicious to bathe the whole body. It is true that by the institution of baths and wash-houses the poor can have a bath for twopence, but some similar institution is wanted for the middle classes; for though a better kind of bath can be obtained at these institutions for sixpence, of which many gentlemen avail themselves, most ladies, while they are afraid of seeking cleanliness at a building constructed for the benefit of the poor, are not sufficiently well off to take baths at the old expensive establishments. We trust, however, that before long England will, in this respect, be as well provided as her continental neighbours.

At this period of life we should advise the warm bath to be taken every week, and if the skin be rough and harsh, the body when dry should be gently rubbed for a few minutes with the hand moistened with almond oil, and what the skin has failed to absorb should be wiped off with a soft towel. The human body is governed by the same physiological laws now as it was two thousand years ago; and if there had been no utility in anointing the body with oil, it would not have been continued for centuries by nations in a high state of civilization.

Sleep.—During the latter years of this period more sleep is generally required, but during the whole epoch it would be well not to let business or pleasure encroach on the hours pointed out by nature as the best fitted for sleep.

State of Mental Power.—We cannot consider this to be an epoch of mental development; for the imagination loses much of its creative power, and memory retains a less firm possession of its hoarded treasures: still many sterling qualities of the mind—discretion, judgment, and wisdom—are stronger than ever, while sanguine hope is converted into cool calculation, and temerity changed into caution. The decisions of all questions of most importance to society are

left to this age. Shakspeare has justly typified it by the "Justice" possessed of a portly corporation "with good capon lined,"

> "With eyes severe, and beard of formal cut,
> Full of wise saws and modern instances."

To man now applies what Milton said of another being—

> "Deep on his front engraved,
> Deliberation sat and public care;
> And princely counsel in his face yet shone
> Majestic, though in ruin."

Medical men and barristers are seldom either in great repute, or in extensive practice, before 49 years of age, and but few members of the church reach the episcopal bench before that time. If, therefore, the management of all that is important to man be given to this age, we must not consider it one of intellectual decay merely because the powers of mind have, in many instances, failed in the first years of this epoch, from climacteric disease. But although judgment and wisdom are increased by the effect of time, and by the prolonged experience of things human, the mind of man having taken its set, its mental aptitudes and acquirements are irrevocably fixed, and it is dangerous to assume others, or to attempt the acquisition of knowledge hitherto uncultivated. It is equally injudicious to remove altogether from those occupations to which a man has been wedded all his life, which should be continued, though with less intensity of purpose.

State of Moral Faculties.—Though all the *mental* faculties cannot be said to decay during this epoch, we must admit a degradation of the *moral* faculties. Man's life had been hitherto governed by love and ambition, and they still govern him, but to a diminished extent. As regards ambition, a man at this epoch rather seeks to maintain position than to advance it. As regards love, the scope of man's

affections becomes in general more and more restricted. There is a diminution in the intensity of a ruling force which, as philosophers, we are obliged to point out, while, at the same time, we admit the utility of the diminution; but soon does another hitherto almost unknown principle come into play:—avarice, or an inordinate love of wealth, and the fear of never having enough to satisfy the wants of life. Youth is full of vigour, and freely gives whatever it may possess; but when the strength begins to fail, man becomes afraid of its progressive failure, though he may flatter himself that he has many years to live. The language of this period is, "I must keep what I have accumulated, increase it so long as health and strength permit, and no longer spend as I have been accustomed to do." This, to a certain extent, is rational; but some are so unhappily organized, that they become so vividly impressed with the decay of their energies, and the danger of being left penniless when old and infirm, that they become dead to the sympathies and duties of society. No longer, as heretofore, is kind assistance held out to friends and to the poor; relatives and children are denied help, perhaps even education. Narrower and narrower grows the circle; till at last avarice attacks the miser in his own person, and the anticipated pleasure of having always wherewith to maintain life, causes him to stint himself in food and in raiment, until literally he kills himself by inches from fear of not having enough to eat some twenty years hence. Such extreme cases are, fortunately, very rare; but we must own that, towards the latter years of this epoch, the milder forms of avarice are not unfrequently to be met with.

Diseases incidental to Old Age.—Two thousand years have passed since Hippocrates stated that old age brings with it Affections of the Lungs and Difficulty of Breathing, Deafness and Imperfect Vision, Wakefulness, Vertigo and Apo-

plexy, Disorders of the Bladder and of the Kidneys, Diarrhœa, Cutaneous Irritation, Articular Diseases, and Gout. Such are still the disorders of this epoch and of the next; for though some of the complaints, on the prevention of which we shall now touch, occur more frequently in the next period, as they are to be met with in this, we think it better not to make useless divisions.

In infancy it was urged to send speedily for advice on the first sign of disease, because the intensity of vitality was such, that the disorder of one organ extended rapidly to another. It is equally necessary to lose no time in the treatment of the complaints of old age, but from a totally different motive; in old age, the sensibility of the nervous system becomes so diminished, that considerable disorganization may proceed, without its being made evident by immediate painful symptoms.

Organs of Sense.—During this and the following epoch, the organs of sense, which have hitherto been little impaired, suffer considerable diminution, and would often be reduced to comparative inutility, were it not for the sciences of light and sound, which suggest the mechanical appliances for removing or diminishing infirmities.

Deafness.—The causes of deafness may be temporary or permanent, and the affection may be due to disorder in the brain and nervous system, to disease and disorganization of the essential portions of the organ of hearing itself, or to causes which interfere with the transmission of sound.

The temporary causes of deafness may be such as have their origin in temporary disorder of the brain, resulting from external violence, or from disorder, either local or general, more particularly some forms of fever, of which deafness is a frequent concomitant. Some drugs, quinine particularly, given in too large doses, may also give rise to this affection.

Permanent deafness may result from disease of the brain, such as paralysis, or from violence, such as severe blows or falls upon the head, or from old age.

After having ascertained from one or more medical men competent to advise on such cases, that the deafness cannot be cured, it is most prudent not to run after the author of every new advertisement promising a cure; but to seek as much as possible to alleviate what cannot be removed, in the various artificial methods—ear-cornets, &c.—for collecting and conveying to the ear as large a body of sound as possible.

The remarkable power of gutta percha has afforded many facilities for giving comfort to the deaf, and for improving the means of hearing. One of the most ingenious of these adaptations is the following, made by Mr. Heeps, of Liverpool Road, by which means the deaf may hear a sermon delivered at some distance from them. A large gutta percha funnel, terminating in a wide tube, communicates from the cushion of the pulpit, under ground, to the pew. This tube, when it reaches the pew, divides into as many smaller ones as there are deaf persons, each of which, on applying the extremity of the tube to the ear, will be able to hear the preacher distinctly.

Loss of Sight.—Those who have been taught to deny final causes, should study the structure of the human eye, where the nerve is spread out to receive images of surface, and which is so skilfully constructed that in every act of vision light is first decomposed and then recomposed. The eye is also carefully protected in many different ways, so that its loss may be prevented. But notwithstanding this admirable provision of nature, this sad accident not unfrequently occurs, and at different epochs we have shown what were the dangers to which the eyes were most liable. Blindness is often the result of removable causes, and at about sixty, cataract makes its appearance. Like other

tissues of the body, the lens, hitherto transparent, becomes more solid, and therefore opaque, and it partially or completely prevents the passage of light. Both sexes and all constitutions are equally liable to this complaint, though, perhaps, the gouty suffer from it the most frequently.

Blindness, however, is very often the result of a total disorganization of the eyes. The proportion of the number of blind to that of the inhabitants of various countries is thus stated by M. Boissonneau:—

Countries.	Proportion of the Number of Blind to that of the inhabitants.		
Russia	1	in	207
Sweden and Norway	1	"	200
Saxony	1	"	175
Austria	1	"	169
England	1	"	162
France	1	"	160
Prussia	1	"	160
Denmark	1	"	158
Switzerland	1	"	149
Holland	1	"	146
United States	1	"	145
Belgium	1	"	144
Egypt	1	"	50

This table confirms the idea emitted by Mr. Zenne, of Berlin, that the number of the blind increases in proportion as we advance from the poles to the equator; and gives us a practical hint on the advantage of cold applications, and the powerful influence of heat and light in the production of diseases of the eyes.

Few of us are ever subjected to the burning heat of Syria, but each may place the eyes in a similar condition by subjecting them to the action of the fire.

Amongst the ordinary causes of inflammation, none is so prejudicial as the heat of the fire; and those who have a tendency to ophthalmia cannot be too careful in so arranging circumstances as to protect their eyes from its influence.

Another interesting result of this investigation is, that the loss of sight, like so many other misfortunes, mostly falls to the lot of the poorer classes. Thus, if we admit on an average one blind person out of 150, there will be 200,000 blind in a population of 30,000,000; and out of these 200,000 only 400 will belong to the upper classes, while 16,000 will be found in the middling, and 180,000 in the lower orders of society.

One of the principal causes of this calamity amongst the poor is the inflammation of the eyes determined by their habitual contact with damp, vitiated air. In some countries this cause exists on a large scale; for instance, those who know Amsterdam will remember that, while the rich can live in good health, the poor and some of the middling classes live constantly in cellars on a level or below the surface of the canals, so that the fetid exhalations of uncleanliness are combined with those of half-stagnant water. Under such conditions, the constitutional powers fail; they become subject to diseases of a low order, to inflammatory affections of the eyes, and to purulent ophthalmia, which last is so fatal in that country and in Belgium, that out of 448 persons to whom M. Boissonneau applied glass eyes, 267 had lost them from purulent ophthalmia. The beneficial effects of cold, bracing air on the eyes, is shown by the returns of Dr. Florus, chief surgeon to the Military Hospital at St. Petersburgh, whence it appears that out of 9863 poor patients treated, during three years and a half, for different forms of ophthalmia, 12 had each lost but one eye, and only 9 had lost both of them.

Should the eyes be lost, the affliction not only depends on the loss of vision, but on the deformity occasioned. The loss of one eye, for instance, which is the most common occurrence, creates a repulsive feeling against a person thus afflicted; if he be rich, it greatly diminishes the pleasure

of social intercourse; if he be poor, it prevents his gaining a living. Great credit is therefore due to those who have succeeded in completely removing this frightful deformity by the insertion of glass eyes; and one of those who has most successfully done so, in many parts of Europe, is M. Boissonneau, for a long period intrusted with the task of removing this deformity in the Paris hospitals, and now similarly engaged at some of those in London.

Diseases of the Teeth.—The teeth at this age are liable to caries, absorption of the sockets, and deposition of bone in the sockets, causing the teeth to be expelled. Loosening from absorption of the alveoli, is natural to old age; but it can and often does occur at a less advanced period, through disease induced by any constitutional disturbance, such as salivation, purpura, &c.; in fact, any condition of the system which induces increased vascularity in the gums, leads, consequently, to absorption of the alveoli.

By an admirable adaptation of means to ends, when the teeth drop out the gums acquire sufficient solidity for the mastication of food. When, however, some few teeth still remain, preventing the gums bruising the food, though not in sufficient number to perform their accustomed office, an apparatus should be worn to support some artificial teeth. Mr. Stokes has lately drawn the attention of the profession to a plan by which he avoids the inconvenience of the metallic clasps by which the artificial teeth are generally fixed to the natural ones, and which sooner or later cause them to decay.

Apoplexy.—This is the most frequent and the most important of the affections which attack the head; and it demands more of our attention, because its approach is often as sudden as it is fatal. A more correct knowledge of the warning symptoms of the complaint would sometimes prevent its appearance; and if all knew what is necessary to

be done when the blow has been struck, its after-treatment would be greatly facilitated.

Warnings of Apoplexy.—When, at this epoch, a person so changes in appearance that his face has a constant tendency to flush, and when this is accompanied by nausea, headache, vertigo, and drowsiness; or should the same symptoms occur, but with the exception of the face becoming red, it turns paler than usual; and when at the same time there is an incapacity for exertion, a sense of weight, of numbness, or of itching in the limbs, the relatives may justly be alarmed; and still more so, should these symptoms be accompanied by an unusual ringing in the ears, by deafness, by flashes across the eyes, by a sudden loss of memory, by a difficulty of pronouncing certain words, and by a strange sensation of things feeling like velvet. When several of these symptoms have occurred, no time should be lost in sending for the medical attendant, and still more so, if there is drooping of the eyelids, or a distortion of the face, for then the serious mischief has begun.

Apoplexy becomes more and more frequent as age advances; it causes death in about 22 per cent. of cases in the last epoch, 34 per cent. in the present, and in about 50 per cent. of the following. The warnings, therefore, not only of apoplexy, but of its almost constant accompaniment, paralysis, ought to create increased alarm in the mind of the relative, according as they occur in a person more or less advanced in life. Until advice can be obtained, the patient should be kept quiet, on less food than usual, and the feet and legs should be immersed in hot water, containing flour of mustard.

Apoplectic Fit.—Until the nearest practitioner can arrive, the friends must unfasten all ligatures, such as cravats, stays, garters, undress the patient, and put him to bed.

If the patient's face be hot and flushed, with the veins of the head and neck distended, he will probably require bleeding and cooling measures: the head should then be raised, and sponged with cold vinegar and water, while large mustard poultices are applied to the thighs and calves of the legs. If, on the contrary, the patient's face be cold and clammy, there may be so much prostration of strength that immediate bleeding would destroy life; then should a tea-spoonful of aromatic spirits of ammonia be given in a little water, or a small quantity of brandy and water, and the patient's warmth revived by a mustard poultice to the pit of the stomach, and hot flannels to the body. Should it be impossible to obtain advice for several hours, a strong purgative should be immediately given in the first case, and, in the second, as soon as ever the patient has a little revived.

Supposing the patient be cured, what course is necessary to be adopted to prevent the recurrence of the attack? There is but one way, it is for a man to consider himself invalided for life. However well he may feel afterwards, business must not be resumed, nor professional duties, nor the conduct of affairs. The Bilberry dam of the reservoir of Holmfirth will soon be repaired, and the desolation caused by its rupture will soon give place to renewed prosperity; but when a similar accident occurs in the brain the rupture can only be patched up, and as other arterial tubes may have been rendered equally brittle by the earthy particles having been deposited in their once elastic tissue, the greatest precautions will be always necessary.

Insanity.—Esquirol said, "Les vices de la société augmentent le nombre des pauvres et des criminels; les progrès de la civilisation multiplient les fous." Later researches have confirmed this statement, and show that England is equally remarkable by the degree of civilization

to which it has attained, and for the great number of its lunatics. There is in England one lunatic to every 783 inhabitants.

Insanity attains to its greatest frequency at this, and through the following periods of life; and this might be anticipated as a result of the declining vigour of the organic action of the brain itself, of the wear and tear of life, and of the losses and calamities which must chequer its protracted duration. There are in general evident warnings of this most sad of all inflictions, and the sooner they are attended to, the greater chance has the patient of recovery. He should be at once removed from all that has, hitherto, been familiar to him, for the mistaken kindness of friends and relatives, who first disguise to themselves the fatal fact, and then try to have the patient cured at home, has often stood in the way of the recovery of the rich lunatic; while the poor, in reality, fares better by being immediately taken to the asylums provided by the philanthropic spirit of the age for those who are so sorely afflicted.

Here we may remark a peculiarity in the laws of this country, that, if a lunatic be rich, it is considered necessary to spend in legal proceedings four or five thousand pounds in order to ascertain, whether, previously, to this legal spoliation, the lunatic had any right to dispose of his own property. This singular practice is unknown in other countries.

When a deranged mind has been restored to health, it should never after be subject to any undue strain; and all the causes which led to its overthrow, and which might recall this sad event to the patient's memory, should be avoided as much as possible.

Insanity is most frequent in women from 20 to 40, or during the full activity of the reproductive system. It is more frequent in man from 40 to 60, when the battle rages

and victory is doubtful, and from 60 to 80, when both sexes resemble one another in constitution; they are likewise similarly liable to death from insanity.

Bronchitis.—This complaint becomes more and more frequent as man advances in years, and in many cases it becomes a natural safety-valve for the system. But during the continuance of prolonged bronchitis, not in the least dangerous to the patient, an acute attack may suddenly come on, the chest will fill with an increased secretion of mucus, the breathing become more and more difficult, the face will turn bluish, and the patient will die, if not relieved by an emetic. Tickling the throat with a feather, a table-spoonful of mustard-flour in a pint of warm water, will quickly promote vomiting.

Much of the advice given in page 284 will now be found available. Particular attention will be necessary to maintain the uniform temperature of the room, which, in winter, the patient should not leave until any severe attack be considerably alleviated, or not at all if there be any tendency to a return of the complaint. Our observations relative to climate in consumption, page 282, apply with equal force to the alleviation or the cure of chronic bronchitis. Madeira, Palermo, and Cairo, would be excellent wintering-places for those afflicted with this complaint.

Asthma.—This is an intense difficulty of breathing, recurring at various intervals. It is now known to be seldom a mere nervous affection, but the symptom of disease in the heart or in the lungs; but whether it be nervous, or the symptom of some hidden complaint, if the attack be severe, it would be justifiable to induce vomiting by the means above described.

Heart Diseases.—About 5 per cent. of all who die in London at 60 years or upwards die from diseases of the heart, or of the neighbouring large blood-vessels; and when

we consider that the heart has been unceasingly beating for so long a period, and is impelled to so much increased action by physical exertion and mental emotion, we may wonder how this organ could have so long withstood the wear and tear of life. When those who are known to be affected with heart disease are suddenly taken with pain at the region of the heart, with intense difficulty of breathing, and the lips and face turn livid, while sending for advice the skin should be rubbed with hot flannels, and the legs and feet should be plunged into mustard and water as hot as can be borne.

FAINTING.—This may be but a momentary loss of power on the part of the heart to propel the blood, or it may be the consequence of some more serious derangement. In a fainting fit, all tightened articles of dress should be loosened, and the patient laid flat upon the floor. The window should be opened, the face should be sprinkled with cold water, eau de Cologne should be applied to the nostrils, and when the patient can swallow, he should be given a little wine.

GOUT.—This complaint during the previous years had only troubled its victim every two or three years: now its attacks become more frequent; and those who have increased the hereditary tendency to the disease by their continued indulgence in good eating, or whose nervous system has been unhinged by calamities, or by great mental exertion, have scarcely any intermission to the attacks, except when the summer heat gives increased activity to the functions of the skin. The patient will have learnt from his medical adviser what is best suited for his individual case when an acute attack comes suddenly on, but we shall again re-echo what has been so frequently said relative to the danger of putting the gouty limb into cold water, or from the application of refrigerant lotions to the

hot and swollen joint; for this fool-hardy practice has too frequently been known to bring on apoplexy, paralysis, or gout in some one of the vital organs.

Although repeatedly warned by the united voice of the faculty, that gout in its aggravated forms cannot be eradicated, and only moderated in its intensity, the public will ever continue to lend a willing ear to the charlatans who promise to dislodge the enemy by force instead of persuasion, and thus numbers are annually sent to their graves.

We have stated that during the summer heat, gouty patients often experience a truce from suffering; and we may add that this complaint is unknown in the Brazils and in the East Indies, the heat of the climate not permitting the skin to relinquish the active performance of its functions. Should, however, patients suffering from this complaint expatriate themselves in hopes of cure, and again return to a cold climate, they will find their old enemy re-appear with the winter.

Mineral waters are often of signal use to gouty patients. The hot alkaline baths of Vichy and Ems have often given decided benefit; so also have the hot salt baths of Wiesbaden, and the aperient saline waters of Marienbad. Several of the mineral springs with which Aix-en-Savoie abounds, are well calculated to relieve if not cure gout, and its ally, rheumatic gout. This, as we have already stated, is a watering-place too little frequented by the English, and we can answer for the potent efficacy of its waters in the diseases under immediate consideration.

Diseases of the Kidneys and of the Bladder.—We have seen, page 382, how, on the failing of vitality in the skin, the kidneys and the bladder are condemned to double work. If, in addition to this, those who begin this period of life will not proportion their food to their wants, and cannot resist the culinary temptations set in their way,

these organs become deranged, and can scarcely ever recover their healthy state, on account of the continuation of the causes which first brought on their diseased condition. Women, owing to their temperate habits and different conformation, are much less liable to these most annoying and fatal complaints.

KIDNEYS.—When persons suffer from pains in the loins, when the legs swell slightly, the eyelids are puffy, and the water frothy, they should not delay having advice, for these symptoms almost certainly indicate a form of diseased kidneys very difficult to treat.

BLADDER.—At all periods of life the bladder should be emptied when nature suggests, and if delayed too long, this partial mastery over nature brings its own punishment; for the muscular coat becomes paralyzed, and if not mechanically emptied, the bladder bursts, as in the following case, related by Dr. Day:—"A young lady setting out with her husband on her wedding-tour, was induced from feelings of false delicacy to abstain from passing water until she retired for the night. From its over-distention, the bladder became paralyzed. Not possessed of sufficient moral courage to communicate her state to her husband, rupture of the distended organ ensued, and in twenty-four hours she was a corpse." If such an accident may occur to the young, how much more careful should old people be, for under such circumstances, if surgical aid be not speedily procured, death is the sure consequence. So died the illustrious Tycho Brahé—riding in the same carriage with the Emperor of Austria, he esteemed court-etiquette above the mandates of nature, and fell a victim to his temerity.

Volumes might be filled with such cases, occurring either to the high or to the lowly; but we shall merely mention one more. An elderly gentleman did the honours of the British Museum to a party of ladies, and made several

fruitless attempts to escape from their importunities; he at last succeeded, and as he was descending the steps he met a medical friend, told him what had occurred, adding, that he had all at once experienced a feeling of relief. His friend told him to go home as soon as he could, and instructed him what to do; but it was too late, for in two hours he expired, death being caused by rupture of the bladder.

As age comes on, the muscular coat of this organ participates in the loss of power of all the muscular tissues of the body, and there is a greater difficulty in expelling the water. This is rendered still more difficult in man, by internal swellings, which may prevent the free exit of the water, and determine irritation of the bladder, retention of urine, &c. When these symptoms take place, the patient will often experience great relief from a warm bath, or from flannels wrung out of hot water, sprinkled with powdered camphor, and applied to the lower part of the stomach; but should these fail to relieve, and indeed under all circumstances, a surgeon must be consulted, for stone, and other complaints of this organ, are common during this period.

Owing to more temperate habits, and a less complicated conformation of the urinary apparatus, women suffer much less than men from affections of the bladder.

STONE.—Under the circumstances above mentioned, the bladder, to make use of Sir Benjamin Brodie's illustration, resembles a vessel never washed out; the solid parts of the urine deposit and coalesce, and when once a nucleus is formed, there is no reason why it should not go on increasing. After 50 years of age, this affection, though of rare occurrence in women, is very common in men; and the operations which it generally renders necessary are fatal to about one-fourth of those operated upon.

As this disease, like those of the kidneys and bladder, is

almost unknown in hot climates, from the skin being stimulated by heat to the proper performance of its duty, the removal of patients to a warmer climate would therefore be one means of prevention.

INTESTINAL AFFECTIONS.—While in old age the skin suffers from a diminished amount of vitality, the internal lining membranes of the body, the stomach and intestines, suffer changes. Their capacity diminishes, the muscular membrane becomes thinner, and although the mucous membrane which lines the whole extent of the alimentary canal becomes thinner, the mucous follicles diminish, so that less gastric fluid is secreted, digestion is not so well performed, and indigestion, dyspepsia, and constipation become more frequent.

DYSPEPSIA.—At this period, as in childhood, the mere distention of the stomach by wind will at times produce symptoms having the alarming appearance of apoplexy: then a teaspoonful of aromatic spirits of ammonia in a little water, or a cup of ginger-tea, with mustard-poultices to the pit of the stomach, will dispel all alarming symptoms. Constipation is often a frequent attendant upon old age. The usual medical adviser should be asked for an appropriate purgative, in case a glass of water on getting up in the morning, or a light repast of stewed prunes or baked apples at night, will not bring the bowels to act properly.

HÆMORRHOIDS AND COMPLAINTS OF THE RECTUM.—These are very common at this period of life, but the advice already given relative to their prevention, at page 313, renders it unnecessary to do more than allude to them once more.

CANCER.—This is the time of life when cancer is most frequent in both sexes, and in women it continues to be fatal to about the same number of victims, from the age of 45 to that of 70. Would that we had some cure, or at least some preventive! but besides curing patients, besides pre-

venting diseases, the medical profession has another task to perform, that of alleviating suffering, and diminishing pain, so that the mind may bear with patience what cannot be cured. While, however, we are echoing the conviction of the medical profession upon this point, it is only just to diminish the unfavourable effect we may produce in the mind of our readers, by observing that many of the cases formerly called cancerous have lately been proved not to be so, and are therefore curable; and although we have no remedy for true cancer, still we know that it sometimes cures itself, and more frequently suspends its progress for a protracted period. This permits us to believe that if not curable now, it may one day be made amenable to treatment.

Cutaneous Irritation.—We have shown how the epidermis, or scarf-skin, becomes more or less rough, dry, and impermeable, and how, by often assuming the character of a foreign body, it may keep up a perpetual irritation on the subjacent papillæ of the true skin, thus giving a sufferer the inclination almost to tear himself to pieces. A patient lately told us that if this irritation were not relieved, she must go out of her mind. If the skin, on the first appearance of the irritation, be sponged with cold vinegar and water or some cooling lotion, gently dried, and then carefully dredged with the ordinary toilet powder, to which may be added one drachm of powdered camphor to every ounce of powder, the irritation will seldom attain to so tormenting an extent. If it were possible at once to cure these affections, it would be imprudent to do so.

Liability to Fracture of Bones.—In old age, while the calcareous part remains the same, the gelatinous element which used to give solidity to bone, disappears, and is replaced by a reddish, oily matter, of which the areolar tissue of the bone becomes saturated: for this reason, those advanced in age are very subject to fracture, even from slight

falls—a fact which explains the great attention by which the aged are surrounded in every country.

CLIMACTERIC DECAY.—The wise physicians of olden time remarked, that at about 63 there was frequently a sudden breaking-up of the whole system, and a speedy dissolution of the body. This has, of late years, engaged the attention of Sir Henry Halford, who has seen it occur from the privation of rest, from a state of feverish excitement, from intemperance in spirituous drinks in those who had previously led an abstemious life, from the sudden disappearance of a cutaneous eruption, from mental depression caused by the loss of a near relative, as well as from marriage contracted late in life. Each of these causes of rapid decay is an additional warning to husband with extreme frugality the little vital oil still left unburnt.

The rate of mortality is as follows:—

(OF 1000 CHILDREN BORN ALIVE.)

Age or Birth-days.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
50	7	4	3
51	8	4	4
52	7	4	3
53	8	4	4
54	7	4	3
55	10	5	5
56	9	5	4
57	9	5	4
58	10	5	5
59	11	6	5
60	11	6	5
61	12	6	6
62	12	6	6
63	13	7	6

The mean duration of life has been thus estimated:—

Age or Birth-days.	Mean future Lifetime in Years.		
	Persons.	Males.	Females.
50	21	20	21
51	20	19	20
52	19	19	20
53	19	18	19
54	18	17	18
55	17	17	18
56	17	16	17
57	16	15	16
58	15	15	16
59	15	14	15
60	14	14	14
61	13	13	14
62	13	12	13
63	12	12	13

The various rates of life insurance will be seen from the following table:—

Age next Birth day.	Life Insurance £100.						Present value of a Life Annuity of £1.						Life Annuity which £100 will purchase.					
	Uniform Annual Premium.						Premium for a Single Year.											
	Males.			Females			Males.			Females			Males.			Females		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
50	3	17	6	3	12	6	1	13	0	1	9	8	13	14	9	14	5	10	7	5	7	6	19	11
51	4	0	9	3	15	6	1	13	10	1	10	3	13	7	10	13	11	1	7	9	4	7	3	5
52	4	4	3	3	18	9	1	14	9	1	10	10	13	0	10	13	11	10	7	13	5	7	7	1
53	4	8	0	4	2	4	1	15	7	1	11	5	12	13	6	13	4	7	7	17	9	7	12	2
54	4	12	2	4	6	2	1	16	6	1	12	4	12	6	0	12	11	0	8	2	7	7	15	8
55	4	16	8	4	10	4	2	0	11	1	16	7	11	18	2	12	9	2	8	7	11	8	0	6
56	5	1	4	4	14	8	2	5	4	1	19	4	11	10	8	12	1	7	18	13	5	8	5	7
57	5	6	2	4	19	3	2	8	8	2	2	6	11	3	3	11	14	0	18	19	2	8	10	11
58	5	11	4	5	4	1	2	12	6	2	5	11	10	15	10	11	6	5	19	5	4	8	16	8
59	5	16	10	5	9	3	2	16	8	2	9	7	10	8	6	10	18	10	19	11	10	9	2	9
60	6	2	7	5	14	8	3	1	0	2	13	8	10	1	2	10	11	4	9	18	10	9	9	4
61	6	8	9	6	0	6	3	5	11	2	18	1	9	14	0	10	3	10	10	6	3	9	16	3
62	6	15	2	6	6	7	3	11	2	3	2	10	9	6	10	9	16	5	10	14	2	10	3	8
63	7	2	0	6	13	1	3	16	9	3	7	11	8	19	8	9	9	1	11	2	7	10	11	7

CHAPTER X.

SIXTY-THREE TO SEVENTY AND EIGHTY.

The numbers living out of 1000 completing this period of life.		The Numbers dying out of 1000 during this period.		The Mortality per cent. for this period.		The Annual Mortality per cent.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Fem.
697	726	303	274	30·258	27·449	4·323	3·921
365	399	635	601	63·496	60·134	6·350	6·013

Thus, for instance, out of 1000 *men alive at* 63 *years of age,* 697 *completed their* 70*th year. The remaining* 303 *died during the period* 63–70. *The mortality for this period was* 30·258 *per cent.; the annual mortality was* 4·323 *per cent.*

Winter has come, casting its death-like desolation over the face of nature. It robs it of its heat, shuts up the pores and avenues of the earth, binding it into rock-like solidity. The once-smiling landscape is now desolate, or clothed with a thick funereal mantle of winter's weaving, which but ill conceals the gaunt skeletons of trees no longer spreading aloft their leafy banners. Winter blocks up the currents of mighty rivers, the arteries which cause one part of the world to communicate with its fellow limbs. It sweeps from the wide fields of air the myriads of jewelled insects which, in swift succession, ran through their bright career; and frightening away the merry songsters, it replaces their hymns of gladness by a sepulchral silence, save when the winds moan through the forest trees; save when the whirlwinds sing their death-psalms at the annual funeral of nature.

The mute creation stands drooping in wintry trance, or becomes torpid; and notwithstanding the god-like ingenuity of man, winter benumbs his sense of feeling, paralyzes his limbs, and sometimes plunges him in a sleep which knows no waking.

In describing the effects of winter upon nature, we have described the effects of this last period upon the life of man. It takes away the little vital heat that still remains, it robs him of all beauty, and crowns him, as if in derision, with a diadem of snow. Attacking the skin, it benumbs and shrivels it up into something like the bark of trees. It impedes more and more the circulation of the blood in the arteries or the blood-rivers, it blocks them up, preventing all communication between one limb of the body and another. It attacks the nervous system, and suddenly strikes down a limb or the whole frame with an apoplectic stroke, as lightning does a tree. It deprives the very bones of their solidity, rendering them brittle as dead wood, while at the same time it does all it can to unite into one the beautifully separated bones of the human frame.

This is sad under any circumstances, but how much sadder did we not know that nature expects her resurrection in spring; and if "that knowledge which every man brings into this world," did not teach, and revelation did not confirm us in the belief, that out of corruption will spring incorruption, and out of mortality will rise immortality. In the former periods man may have been subject to decay, but now it is the general lot. Seventy is the end of the 10th septenniad: it concludes the threescore years and ten allotted to man by the Psalmist. Eighty is the last and final climacteric admitted by the old Greek philosophers, as well as by medical men. But it is idle to discuss divisions when nature is fast confounding them all in its rapid dissolution of the human body.

All the phenomena of decay, by which this epoch is marked, seem gradually to wean man from each of the three worlds in which he has been hitherto so active; from the physical, the intellectual and the moral world; so that man may quit the scene without regret, as he must feel that he has outlived all that rendered his life a blessing to himself, and a comfort to others.

Moral Decay.—The soul's power of loving has gradually diminished during the last few years; narrower and narrower has become that circle of affection by which we all surround ourselves, until old age concentrates all in self, and in the least noble part of self,—the mere satisfaction of animal wants. This diminution in the energy of the faculty of loving would alone detach us from a world, to which men are more anchored by the ties of affection than by any other links. Whatever indeed remains of that best faculty of the human soul, can no longer exhaust itself on the dearest objects of affection. Parents are gone, children too may not have survived to close their parents' eyes, relations and friends drop off one by one, leaving, at every death, something less to live for. Stationary for twenty years, man cannot take to loving new things, new men, new institutions. His own country, and its improved institutions, now seem strange to him, so he falls back upon bygone times, pities himself for being obliged to live on in a strange, unloveable world, and therefore seldom repines when death strikes him with his wand.

As if to show how little material organization is the cause of our moral faculties, it often occurs after the lapse of many years wherein they have lain dormant, that the spirit of love and self-sacrifice is rekindled on the dying bed; that deep injuries are forgiven; that noble charities are planned, and that tenderness wells from the human wreck, boundless as when the heart beat highest in the days of

youth. Still, the time is come; and albeit relations and friends may cluster round this relic of another time, and wish to preserve it for the sake of bygone days, they cannot but deplore that the inevitable semi-disorganization of the brain should have already so long interfered with the manifestation of that principle of love so often nobly shown, and which, though about to be liberated from the body, they feel confident will one day be again made manifest, not only as it was formerly, but to a much higher multiplication of power.

"Slow, slow, mighty wanderer, sink to thy rest,
Thy course of beneficence done;
As glorious go down to the ocean's warm breast,
As when thy first race was begun.
Then slow, mighty wanderer, sink to thy rest,
And rise again beautiful, blessing, and blest."

MENTAL DECAY.—Many are so happily constituted, that for them there is no Statute of Limitations on their mental faculties, and they exhibit but little signs of intellectual degradation, although their life may be protracted much beyond the ordinary lifetime of man. But from 70 to 80 there is generally an unmistakeable diminution of mental energy. Memory fails: the latest impressions generally first fade away, and the earlier impressions and occurrences of life are alone recorded, and even these sometimes very imperfectly. Ambition has long ceased to have any very strong hold upon man: the fear of outliving pecuniary resources often remains, but even that in general has ceased to disturb the peaceful tenor of the decrepit mind. The judgment, lately so sure, also fails, or is only shown at rare intervals, while the old man becomes subject to a morbid irritability, or to the mental helplessness of second childhood.

The gradual progress of senile demention is thus graphically sketched by Dr. Holland:—"The faculty of receiving and associating fresh impressions, for the most part declines

earlier than the power of combining and using those formerly received, and the faculty of directing and fixing combinations or successions of ideas, is one of those earliest impaired. In some cases a word, or even part of a word, of double application, will suddenly, and without the consciousness of change, carry off the mind to a new and wholly foreign subject; and in others in which the memory is remarkably tenacious as to persons, and detached events of past life, there is a singular incapacity of associating them together by any reasonable link; and the slightest relations of time or place suffice to carry the mind wholly astray from its subject. In reference to the decay of memory, the power of recollecting words and names is lost earlier and more readily than that of events; the ideas are often sufficiently distinct, while the words required for their expression are either not forthcoming, or others in no way applicable are substituted." Dr. Prichard remarks on the same state: "Perception, indeed, takes place, but the impression is momentarily evanescent. The individual sees and hears, he replies to questions, but his attention is so little excited that he speedily forgets what he has said, and repeats the same remarks or inquiries after a few minutes. At the same time, ideas long ago impressed upon the mind remain nearly in their original freshness, and are capable of being called up whenever the attention is directed towards them. Sensations produced by present objects are so slight, and the notions connected with them so confused and indistinct, that the individual affected scarcely knows where he is, yet he recognises without difficulty persons with whom he has been long acquainted; and if questioned regarding his former life, and the transactions and pursuits of his youth or manhood, he will often give pertinent and sensible replies. The disorder of his mind consists, not in defective memory of the past, but in the incapacity for attention, and for

receiving the influence of present external agencies, which, in a different state of the cerebral organization, would have produced a stronger effect upon the sensorium." The remarkable diminution of sensibility in old age is often shown by the manner in which men see friends die around them, and are insensible to what would, a few years before, have deeply wounded their feelings. How often have we seen this in the large hospital for the aged at Paris!

In those who do not arrive at this extreme state of second childhood, the little mental energy still remaining is most artfully used, in establishing a comparison between the olden time and the present, always to the disadvantage of the latter. They seek to persuade others, what they really believe, that the same loss of power they themselves feel has befallen all nature; that society is more perverse, that individuals are animated by worse motives, that youth is adorned with less beauty, that the seasons are more ungenial, that the blue vault of heaven is less blue, that the sun is less warm, &c. Their talk is of misfortunes, failures, death, and desolation. And as if to show that however intimately intelligence is wedded to matter, the material structure is not the cause of the mental faculties, and that these are not annihilated by the material structure being impaired, there may come "a light before the death," and the soul may recover the power of again exhibiting the faculties with which it was endowed before it was united to the body, and which, during that union, have so frequently excited admiration. Nay, more—Holy Writ, as well as the philosophy of old, teaches that the dying man, in some rare instances, has exhibited unusual perspicacity, and has become endowed with prophetic vision.

> "Leaving the old, both worlds at once they view,
> Who stand upon the threshold of the new."

But the hour has struck; and, thoroughly weaned from the

world, even by the use of the little intelligence which a worn-out brain will allow him to exhibit, he does not wish to live: and although surrounding friends and relations may attempt to prolong these faint glimmerings of reason, they cannot really regret that the immortal soul should be at last released from so base a thraldom, and that after one more labour-pang, the human mind should not only regain its long-lost power, but even enter upon the new revelations of far superior science.

"Slow, slow, mighty wanderer, sink to thy rest,
Thy course of beneficence done;
As glorious go down to the ocean's warm breast,
As when thy first race was begun.
Then slow, mighty wanderer, sink to thy rest,
And rise again beautiful, blessing, and blest."

Physical Decay.—As Mr. Paget observes, some people, as they grow old, seem to wither and dry up, become sharp-featured and spinous, yet withal, wiry and tough, clinging to life, and letting death have them, as it were, by small instalments, slowly paid. Such are the "lean and slippered pantaloons," who with their "shrunk shanks" declare the pervading atrophy. Others, women more often than men, as old and as ill-nourished as these, yet make a far different appearance. With these the first sign of old age is, that they grow fat; and this abides with them till, it may be, in a last illness, sharper than old age, they are robbed even of that, and become pursy, short-winded, pale, and flabby, their skin hanging, not in wrinkles, but in rolls, and their voice, instead of rising "towards a childish treble," becomes gruff and husky. The increasing constitutional weakness is shown in many ways, and one of the Scotch Benefit Societies has exemplified it by the number of days of sickness per annum to which its members are liable according to their different ages.

Years of age.	Days.
At 20	4
30	4
40	5½
45	7
50	9½
55	12½
60	16
65	30½
70	73½

The moral and mental faculties which were last manifested, have now sunk too low for the possibility of recruiting them. There remains the body, which was the first to appear, and is the last to disappear from the world: let us see how far its state of decay can be prevented, and how life can be prolonged.

The first element of longevity is, to be descended from a long-lived family. We add our testimony to that of Rush, who states that he never met with a person above 80, of whom one or both of the parents had not been long-lived.

The second element is, to have been brought up and educated according to the plan laid down in the first part of this volume; to have lived according to the rules of temperance, both of body and mind; and to have been supported through life by the peace of mind afforded by a good conscience and a firm trust in Providence.

The third element is, to withstand decay by a scientific use of many of the means already treated of, as food, &c.

Food.—The food should be taken at regular times; it is not required to be so abundant as it used to be when more exertion was taken; but as to quantity no directions can be given, as that must depend upon each individual case. Neither would it be worth while to enter into a long disquisition relative to what viands should be taken, for a person cannot have lived sixty or seventy years, without knowing that which best agrees with him. Pepper and spices

need not be feared; they are even indicated by the anatomical condition of the alimentary canal, alluded to in page 401, and by the sluggish performance of the digestive functions which they determine. Plutarch says, that at Sparta, the old men sat by themselves, and fed on the black broth, leaving the flesh to the young men. Our made-dishes and curries are good, for similar motives, and also because the meat thus prepared is easier of digestion. Two or three glasses of wine may also be usefully taken. The bowels should be kept regular by variation in diet, and by the habit of taking a large tumbler of cold water on rising in the morning, or stewed prunes or baked apples at night. But the regularity thus recommended is not intended to recur at the same time in all persons; for while some require a daily evacuation, others are equally healthy when they are only moved every two or three days.

Clothing.—Even when in good health, old persons frequently suffer from very cold hands and feet; therefore their clothing should be proportionably increased, so as to be sufficient to retain warmth, even if as many great-coats are required as the stage-coachmen in other times used to assume, to increase their own importance as well as the heat of the body. The servant of the Prince de Beaufremont, who came from Mount Jura to Paris, at the age of 121, to pay his respects to the first National Assembly of France, shivered with cold in the middle of the dog-days, when he was not near a good fire. Dr. Rush mentions that Dr. Chosat, of Philadelphia, "who lived to be 85, slept in a baize night-gown, under eight blankets and a coverlet, in a stove-room, many years before he died." It is doubtless from the neglect of providing very aged persons with sufficiently warm bed-clothes, that they are so often found dead in their beds in the morning after a cold night. Old people should be thoroughly warm on going to bed, and there

should be placed at their feet a tin or a stone bottle, filled with hot water, and wrapped up in flannel.

EXERCISE.—This should be of the gentlest kind, varied, and taken in the sunniest part of the day, during the whole year, if the patient reside in a warm climate, and during the warmest months of the year only, if he reside in London; for during the cold months of November, December, January, February, and March, the mortality is considerably the greatest amongst those who die of natural decay. From following this plan, many have preserved their health to a great age, Voltaire amongst the number.

FRICTIONS.—This kind of passive exercise is of great value. We have so often alluded to its utility, that we now prefer letting the reader have Dr. Day's excellent remarks upon the subject:—"The desiccation and death of the epidermis or scarf-skin, and the thickening of the cutis, can only be prevented by regular ablutions and frictions. The tepid water bath is an invaluable remedy. The surface of the body must be rubbed by an attendant until a thorough glow is established. In cases where the debility is too great to admit of a regular bath, as, for instance, when reaction cannot be easily produced, friction must be had recourse to. I regard it as a most important auxiliary to medical treatment; and it is strange that when its therapeutic value is so clearly demonstrated in the writings of the ancient physicians, and is daily exemplified on the sleek skins of our horses, we should have allowed so valuable a practice to fall into almost utter desuetude. Friction may be practised either with the naked hand, with a piece of flannel, or with the flesh-brush. To be of real service, the process should be continued for at least half an hour every morning and evening, should be extended not only to the limbs, but to the trunk, and especially to the region of the spine, and should be performed by a person properly instructed. In rubbing the abdomen, the course of the hand should accord with the

direction of the large intestine; by this simple means we can frequently prevent constipation and relieve the flatulence that is often so distressing in old age.

"I was consulted, nine or ten years ago, by a gentleman between 60 and 70 years of age, for disease of the heart. He had resided most of his life on the Continent, and told me that a French physician had told him to pay especial attention to the condition of his skin. He was provided with an instrument very like the currycomb we use for horses; and he stated, that if he chanced to omit being currycombed and rubbed down for a single morning, he always felt the want of his grooming in the course of the day, and was sure to suffer from depression of spirits."

ANOINTING.—A hale centenarian was one day asked by the Emperor Augustus by what means he had reached to so great an age, with the full enjoyment of his mental and bodily faculties? He replied, "Intra mulso, foris olio;" or, by applying oil to his skin and mead to his stomach. Dr. Holland has hinted that the harsh skin of the dyspeptic might be advantageously rubbed with warm oils; others advise oil as an adjunct to improve the state of the skin in old age. We give the plan what little support we can, but we well know that the practice is so contrary to our habits, that even if it were to prolong life it would not be followed out.

SLEEP.—Old age differs from childhood in the amount of sleep which is required. Aged persons should retire to bed early; for even if they do not sleep, rest, warmth, and the horizontal position are very beneficial. Most old people complain of sleeplessness in a greater or less degree, but we have little doubt they often deceive themselves on this point. We are told by such persons that they have not closed their eyes for four or five nights: that they slept a few minutes last Wednesday fortnight, and so forth (for extreme particu-

larity in detail is usually observed in these narratives;) but in these cases the probability is that they have slept, restlessly, perhaps, and without much refreshment, without being in the least aware of it, every night. An old patient of Dr. Day's used to tell him, in most piteous tones, that all she required was sleep. How long it was since "nature's sweet restorer" had last visited her, we are afraid to say; but calling upon her one afternoon, he found her lying on her bed, sleeping as soundly and comfortably as any old woman could wish to do. The noise of a person entering the room soon awoke her; she rubbed her eyes, looked up, and said "all she wanted was sleep; she had not closed her eyes for a month, and that if we could not give her something to procure her sleep, she must infallibly die."

Now in such a case narcotics should not be administered. The physician may often do much by insisting on early rising, increased exercise in the open air, and an alteration in the dinner hour, from 6 or 7 o'clock to 1 or 2. A glass of wine, or a little milk with a table-spoonful of old rum in it, shortly before going to bed, may sometimes be prescribed with advantage. We often find it advisable to recommend a biscuit and a little weak wine and water to be kept at the bedside and taken during the night; for old people who complain that, on waking, they cannot get to sleep again, have derived remarkable advantage from attention to this point. This is what the French call an "*en cas;*" and Louis XVIII., to whose "*appetit charmant*" Lady Morgan has alluded, had always a cold chicken placed beside his bed, *in case* hunger should prevent his slumbers.

Climate.—We have shown that the loss of vitality in the skin is one of the great sources of the diseases of old age; that it retains its vitality much longer in hot climates; and that many of the affections which cause death to the aged in England, are scarcely known in warmer temperatures. The natural inference from this is, that for the pro-

longation of life the best means would be to seek a permanent residence in a warmer climate.

Now, though it would be injudicious to go so far as the East or West Indies, where, if climacteric decay did not follow the total change, life might be curtailed by liver-disease or fevers, it would be extremely beneficial to resort to such spots as we recommended to consumptive patients,—Madeira, Palermo, or Naples. This plan has been tested, and was formerly the custom of one of the most practical of all the nations who have ruled the world; for, after a certain age, the wealthy Romans changed their residence from Rome to Naples. Without going abroad, many might imitate the Romans in migrating to the south of their native land.

DISEASES INCIDENTAL TO THIS EPOCH.—The precautions these suggest will be found at page 387. It must be evident to all that nature can only be lightened of its load to a certain extent, and so helped to totter on through the fag end of its journey, with the assistance of medicine.

CONDUCT OF RELATIVES WHEN THERE IS NO HOPE OF RECOVERY.—We cannot conclude this chapter without touching upon an important subject,—What is to be done by relatives and friends when the disease is known to be mortal? All trouble is often saved by the patient's being aware that he will not recover, either by an instinct which is not of rare occurrence, by the inutility of treatment prescribed, or by the looks and tones of voice of those that surround his pillow. But when such is not the case, is it dealing fairly with a human being to prevent his making those arrangements which may be necessary for the welfare of surviving relatives? Is it just to prevent his having time to settle the affairs of conscience, and to derive strength and comfort for the coming trial, from the conversation and prayers of the minister of his creed? Is it right to let immortal man die like a dog for whom there is

no immortality? The sick man has a soul to care for, even if he has no children to bless, no last advice to give, no fortune to divide. Such an end ill becomes the dignity of man. So soon as the disease is above the resources of art, the patient should be warned of it, that he may be prepared to meet death face to face. Some may, indeed, own that such a course is right, but then comes the feeling that—"It would be impossible to do so," "It would be so painful," "It would hurt the patient's feelings," "It would frighten him to death;" and there would occur to the mind some case where the announcement of the fatality of the complaint caused the death of a relative or friend.

To argue that a thing ought not to be done because it may have been often done indiscreetly, is the old sophism by which all good customs are attacked, and we know that the announcement imprudently made has often given a shock to the nervous system of patients, from which they did not rally. It is the relative or the clergyman who should prepare the patient for coming death, for however ill the patient may be, the medical attendant should never be asked to do so; he must always be looked upon as the herald of good health, with power, under God's blessing, of curing the complaint.

With regard to the manner in which the disclosure should be made, so much depends upon the individual's turn of mind that we can but offer hints. The moment fitted for the disclosure should be carefully watched, for in all long illnesses there are ups and downs,—there are moments when the mind is more attuned to decay,—sometimes when worse, sometimes when better; and then without ever telling a patient that he is irrevocably doomed to death, the friend can softly hint how precarious life is to all, and therefore mostly so to those who have been long suffering from illness; that it is wonderful what recoveries are sometimes made, but that still the disease under which he is

labouring is dangerous; that after all there is but one Great Physician; that friends had called to inquire after him, amongst others the clergyman, and ask, if he called again, whether he would not like to see him, &c. &c.

Such seems to be the duty of all towards relatives in their last illness; but many prejudices prevent its being followed. There is the fear of the agony of death, which we are taught, from our very childhood, to consider as attended by considerable pain: this is so much exaggerated that, if space permitted, we would devote a concluding chapter to prove its fallacy. This exaggeration, however, not only causes the patient to fear its approach, but often prevents relatives making the communication when the event is impending. Another reason is the fear relatives entertain of giving themselves, rather than the patient, unnecessary pain. All naturally feel anxious to keep up their own illusions as long as possible, and to hope against hope; and then not unfrequently the idea occurs—"What is the use of giving ourselves so much pain when, after all, the patient may recover?"

Though the medical man is not called upon to prepare his patients for another world, though his powers of cure fail, he is, nevertheless, indispensable. He alone knows how to diminish suffering; he alone can tell how much of, or what sedative preparation is required to blunt the acuteness of pain; how the patient's strength can be kept up; what instincts relative to food may be indulged: and by carefully watching the case, he may sometimes actively interfere at a critical moment, and literally snatch a victim from the grave.

If the contrary, however, occurs, and if, day by day, the patient sinks, and death is imminent, painful as it must be to the physician to see a ruin for which science has no remedy, his place is still beside the still living body, to sympathize with its last woes, to ease its last pangs, and to watch over the health of sorrowing relatives and friends,

who are more liable to disease from being worn out by the deepest anxiety of mind, from want of accustomed sleep, and from constant attendance in a sick-room.

Although the diminution of all natural appetites, the gradual obliteration of the organs of sense, the increasing weakness, and the loss of sensibility, almost always effectually wean man from any strong desire to live, friends and relatives cling round the wreck as round a monument of past beauty and grandeur, convinced that the self-same body, which they so fondly cherished, will one day appear to them not only restored to pristine beauty, but transfigured beyond even affection's widest scope of conception.

"Slow, slow, mighty wanderer, sink to thy rest,
Thy course of beneficence done;
As glorious go down to the ocean's warm breast,
As when thy first race was begun.
Then slow, mighty wanderer, sink to thy rest,
And rise again beautiful, blessing, and blest."

The rate of mortality is as follows:—

(Of 1000 Children born alive.)

Age on Birthday.	Dying in the Year following each Birthday.		
	Persons.	Males.	Females.
64	13	7	6
65	14	7	7
66	15	8	7
67	14	7	7
68	15	8	7
69	16	8	8
70	16	8	8
71	15	8	7
72	16	8	8
73	16	8	8
74	15	7	8
75	16	8	8
76	15	7	8
77	15	8	7
78	13	6	7
79	14	7	7
80	13	6	7

The mean duration of life is thus established :—

Age or Birthdays.)	Mean Future Lifetime, in Years.		
	Persons.	Males.	Females.
64	12	11	12
65	11	11	12
66	11	10	11
67	10	10	10
68	10	9	10
69	9	9	10
70	9	9	9
71	8	8	9
72	8	8	8
73	8	7	8
74	7	7	7
75	7	7	7
76	6	6	7
77	6	6	6
78	6	6	6
79	5	5	6
80	5	5	5

The various rates of life insurance are as follow :—

Age on Birthday.	Life Insurance £100.				Present value of a Life Annuity of £1.		Life Annuity which £100 will purchase.	
	Uniform Annual Premium.		Premium for a single Year.					
	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Fem.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s d
64	7 9 4	6 19 11	4 2 9	3 13 5	8 12 9	9 1 10	11 11 7	11 0 0
65	7 17 0	7 7 3	4 9 4	3 19 6	8 5 10	8 14 8	12 1 3	11 9 1
66	8 5 2	7 15 0	4 16 3	4 5 11	7 19 0	8 7 7	12 11 6	11 18 9
67	8 13 10	8 3 3	5 3 10	4 11 7	7 12 4	8 0 7	13 2 7	12 9 1
68	9 3 0	8 12 3	5 12 0	5 1 11	7 5 9	7 13 8	13 14 5	13 0 3
69	9 12 9	9 1 4	6 0 9	5 8 6	6 19 4	7 6 11	14 7 1	13 12 3
70	10 3 2	9 11 3	6 10 1	5 17 4	6 13 0	7 0 4	15 0 8	14 5 1
71	10 14 1	10 1 10	7 0 1	6 6 10	6 6 10	6 13 10	15 15 4	14 18 11
72	11 5 9	10 13 0	7 11 2	6 17 1	6 0 10	6 7 5	16 11 0	15 13 10
73	11 18 1	11 4 11	8 2 9	7 8 1	5 15 0	6 1 3	17 7 11	16 9 11
74	12 11 3	11 17 7	8 15 2	8 0 1	5 9 3	5 15 2	18 6 2	17 7 3
75	13 5 2	12 11 1	9 8 10	8 12 9	5 3 8	5 9 4	19 5 10	18 5 11
76	13 19 11	13 5 5	10 2 10	9 6 8	4 18 3	5 3 7	20 7 0	19 6 1
77	14 15 7	14 0 7	10 18 7	10 1 9	4 13 1	4 18 1	21 9 10	20 7 11
78	15 12 2	14 16 8	11 14 11	10 17 3	4 8 0	4 12 8	22 14 7	21 11 7
79	16 9 8	15 13 10	12 12 10	11 14 3	4 3 1	4 7 6	24 1 3	22 17 2
80	17 8 2	16 12 0	13 11 3	12 13 0	3 18 5	4 2 6	25 10 2	24 4 10

Age on Birthday.	To 1000 Children born alive, the number living on each birthday.			Dying in the Year following each Birthday.			Mean future Lifetime in Years.		
	Persons.	Males.	Fem.	Persons.	Males	Fem.	Persons.	Males.	Fem.
CHAP.									
II.—0	1000	513	487	146	82	64	41	40	42
1	854	431	423	53	27	26	47	47	48
2	801	404	397	27	14	13	49	49	50
3	774	390	384	18	9	9	50	50	50
III.—4	756	381	375	14	7	7	50	50	50
5	742	374	368	11	6	5	50	50	50
6	731	368	363	8	4	4	50	49	50
7	723	364	359	6	3	3	49	49	50
IV.—8	717	361	356	6	3	3	49	48	49
9	711	358	353	5	2	3	48	48	48
10	706	356	350	4	2	2	47	47	48
11	702	354	348	3	2	1	47	46	47
12	699	352	347	4	2	2	46	46	46
13	695	350	345	4	2	2	45	45	46
14	691	348	343	4	2	2	44	44	45
V.—15	687	346	341	6	3	3	44	43	44
16	681	343	338	5	2	3	43	43	43
17	676	341	335	5	3	2	42	42	43
18	671	338	333	5	2	3	42	41	42
19	666	336	330	6	3	3	41	41	41
20	660	333	327	6	3	3	40	40	41
21	656	331	325	6	3	3	40	39	40
VI.—22	650	328	322	6	3	3	39	39	39
23	644	325	319	6	3	3	38	38	39
24	638	322	316	5	2	3	38	37	38
25	633	320	313	6	3	3	37	36	38
26	627	317	310	5	3	3	36	36	37
27	622	314	308	6	3	3	36	35	36
28	616	311	305	6	3	3	35	34	36
VII.—29	610	308	302	6	3	3	34	34	35
30	604	305	299	6	3	3	34	33	34
31	598	302	296	8	4	4	33	32	34
32	590	298	292	6	3	3	32	32	33
33	584	295	289	6	3	3	32	31	32
34	578	292	286	6	3	3	31	30	32
35	572	289	283	7	4	3	30	30	31
36	565	285	280	6	3	3	30	29	30
37	559	282	277	8	4	4	29	29	30
38	551	278	273	6	3	3	28	28	29
39	545	275	270	7	4	3	28	27	28
40	538	271	267	7	3	4	27	27	28
41	531	268	263	7	4	3	26	26	27
42	524	264	260	6	3	3	26	25	26
VIII.—43	518	261	257	8	4	4	25	25	26
44	510	257	253	7	4	3	25	24	25
45	503	253	250	8	4	4	24	23	24
46	495	249	246	7	4	3	23	23	24
47	488	245	243	7	3	4	23	22	23
48	481	242	239	7	4	3	22	21	22
49	474	238	236	8	4	4	21	21	22

FROM THE ENGLISH LIFE TABLE.

the Registrar-General.

Life Insurance £100.*								Present value of a Life Annuity of £1.*				Life Annuity which £100 will purchase.*			
Uniform Annual Premium.				Premium for a Single year.											
Males.			Females.			Males.			Females.			Males.			Fem.		
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
2	5	10	2	2	1	15	9	5	12	17	6	18	4	4	18	18	7	5	9	9	5	5	8
1	11	4	1	10	9	6	2	4	5	17	2	21	6	5	21	9	7	4	13	10	4	13	1
1	7	1	1	6	8	3	5	10	3	5	6	22	8	9	22	10	11	4	9	2	4	8	9
1	5	4	1	5	0	2	7	6	2	5	6	22	18	5	23	0	8	4	7	3	4	6	10
1	4	5	1	4	1	1	14	8	1	14	2	23	4	0	23	5	10	4	6	3	4	5	10
1	4	0	1	3	8	1	8	2	1	6	8	23	6	7	23	8	5	4	5	9	4	5	5
1	3	9	1	3	6	1	2	9	1	1	6	23	7	8	23	9	2	4	5	6	4	5	3
1	3	10	1	3	7		18	5		17	10	23	7	5	23	8	8	4	5	7	4	5	4
1	4	1	1	3	10		15	0		15	7	23	6	1	23	7	2	4	5	10	4	5	7
1	4	5	1	4	3		12	1		13	6	23	3	9	23	5	1	4	6	3	4	6	0
1	5	0	1	4	8		9	9		11	10	23	0	8	23	2	5	4	6	10	4	6	6
1	5	8	1	5	3		9	10		10	4	22	16	11	22	19	2	4	7	7	4	7	1
1	6	4	1	5	11		9	10		9	8	22	13	0	22	15	6	4	8	4	4	7	10
1	7	1	1	6	7		12	1		11	1	22	8	11	22	11	6	4	9	1	4	8	7
1	7	9	1	7	3		13	2		12	10	22	5	4	22	7	9	4	9	10	4	9	4
1	8	4	1	7	11		13	6		14	8	22	1	10	22	4	2	4	10	6	4	10	1
1	9	0	1	8	6		13	10		14	11	21	18	3	22	1	0	4	11	3	4	10	8
1	9	9	1	9	2		14	3		15	3	21	14	8	21	17	9	4	12	0	4	11	5
1	10	5	1	9	9		14	8		15	7	21	11	0	21	14	5	4	12	10	4	12	1
1	11	2	1	10	5		15	0		15	11	21	7	3	21	11	1	4	13	7	4	12	9
1	11	11	1	11	1		15	5		16	2	21	3	6	21	7	8	4	14	5	4	13	6
1	12	9	1	11	10		15	9		16	7	20	19	9	21	4	3	4	15	4	4	14	2
1	13	6	1	12	6		16	3		16	10	20	15	10	21	0	9	4	16	2	4	15	1
1	14	4	1	13	3		16	6		17	3	20	11	11	20	17	2	4	17	1	4	15	11
1	15	3	1	14	0		17	1		17	8	20	7	11	20	13	6	4	18	1	4	16	9
1	16	1	1	14	10		17	6		17	11	20	3	11	20	9	9	4	19	0	4	17	7
1	17	0	1	15	8		17	11		18	3	19	19	9	20	6	0	5	0	1	4	18	6
1	18	0	1	16	6		18	5		18	8	19	15	7	20	2	2	5	1	1	4	19	6
1	19	0	1	17	5		18	10		19	1	19	11	5	19	18	3	5	2	2	5	0	5
2	0	0	1	18	4		19	4		19	5	19	7	1	19	14	3	5	3	4	5	1	5
2	1	1	1	19	3		19	11		19	10	19	2	8	19	10	2	5	4	6	5	2	6
2	2	2	2	0	3	1	0	4	1	0	3	18	18	3	19	6	1	5	5	9	5	3	7
2	3	4	2	1	4	1	0	11	1	0	8	18	13	9	19	1	10	5	7	0	5	4	9
2	4	7	2	2	5	1	1	5	1	1	1	18	9	1	18	17	6	5	8	4	5	5	11
2	5	10	2	3	6	1	1	11	1	1	6	18	4	5	18	13	1	5	9	9	5	7	3
2	7	1	2	4	8	1	2	7	1	1	11	17	19	8	18	8	7	5	11	3	5	8	6
2	8	6	2	5	11	1	3	2	1	2	5	17	14	10	18	4	0	5	12	9	5	9	11
2	9	11	2	7	3	1	3	8	1	2	10	17	9	10	17	19	3	5	14	4	5	11	4
2	11	5	2	8	7	1	4	4	1	3	4	17	4	10	17	14	6	5	16	0	5	12	10
2	13	0	2	10	0	1	5	0	1	3	10	16	19	8	17	9	6	5	17	9	5	14	5
2	14	7	2	11	6	1	5	7	1	4	3	16	14	5	17	4	6	5	19	7	5	16	1
2	16	4	2	13	1	1	6	4	1	4	9	16	9	1	16	19	4	6	1	7	5	17	11
2	18	2	2	14	9	1	7	0	1	5	3	16	3	7	16	14	0	6	3	7	5	19	9
3	0	1	2	16	6	1	7	8	1	5	10	15	18	5	16	8	6	6	5	10	6	1	9
3	2	2	2	18	5	1	8	4	1	6	3	15	12	3	16	2	11	6	8	1	6	3	10
3	4	4	3	0	5	1	9	1	1	6	11	15	6	5	15	17	2	6	10	7	6	6	1
3	6	7	3	2	6	1	9	10	1	7	4	15	0	5	15	11	3	6	13	2	6	8	6
3	9	1	3	4	9	1	10	7	1	7	11	14	14	3	15	5	2	6	15	11	6	11	1
3	11	8	3	7	2	1	11	5	1	8	6	14	7	11	14	18	11	6	18	11	6	13	10
3	14	6	3	9	9	1	12	2	1	9	1	14	1	5	14	12	6	7	2	2	6	16	9

Age on Birthday.	To 1000 Children born alive, the number living on each birthday.			Dying in the year following each Birthday.			Mean future Lifetime, in Years.		
	Persons	Males.	Fem.	Persons	Males	Fem.	Persons.	Males	Fem.
CHAP. IX.—50	466	234	232	7	4	3	21	20	21
51	459	230	229	8	4	4	20	19	20
52	451	226	225	7	4	3	19	19	20
53	444	222	222	8	4	4	19	18	19
54	436	218	218	7	4	3	18	17	18
55	429	214	215	10	5	5	17	17	18
56	419	209	210	9	5	4	17	16	17
57	410	204	206	9	5	4	16	15	16
58	401	199	202	10	5	5	15	15	16
59	391	194	197	11	6	5	15	14	15
60	380	188	192	11	6	5	14	14	14
61	369	182	187	12	6	6	13	13	14
62	357	176	181	12	6	6	13	12	13
63	345	170	175	13	7	6	12	12	13
X.—64	332	163	169	13	7	6	12	11	12
65	319	156	163	14	7	7	11	11	12
66	305	149	156	15	8	7	11	10	11
67	290	141	149	14	7	7	10	10	10
68	276	134	142	15	8	7	10	9	10
69	261	126	135	16	8	8	9	9	10
70	245	118	127	16	8	8	9	9	9
71	229	110	119	15	8	7	8	8	9
72	214	102	112	16	8	8	8	8	8
73	198	94	104	16	8	8	8	7	8
74	182	86	96	15	7	8	7	7	7
75	167	79	88	16	8	8	7	7	7
76	151	71	80	15	7	8	6	6	7
77	136	64	72	15	8	7	6	6	6
78	121	56	65	13	6	7	6	6	6
79	108	50	58	14	7	7	5	5	6
80	94	43	51	13	6	7	5	5	5
81	81	37	44	11	5	6	5	5	5
82	70	32	38	12	6	6	5	4	5
83	58	26	32	9	4	5	4	4	4
84	49	22	27	9	4	5	4	4	4
85	40	18	22	8	4	4	4	4	4
86	32	14	18	7	3	4	4	3	4
87	25	11	14	5	2	3	3	3	3
88	20	9	11	4	2	2	3	3	3
89	16	7	9	4	2	2	3	3	3
90	12	5	7	3	1	2	3	3	3
91	9	4	5	3	1	2	3	3	3
92	6	3	3	2	1	1	2	2	2
93	4	2	2	1	1	0	2	2	2
94	3	1	2	1	0	1	2	2	2
95	2	1	1	1	1	0	2	2	2
96	1	0	1	1	0	1	0	0	0

* In the calculations which involve the value of

NOTE.—The Table may be read thus: Out of 1000 children (513 males and birthday. The deaths (6 persons, 3 males and three females,)

ENGLISH LIFE TABLE, &c.—*Continued.*

Life Insurance £100.*									Present Value of a Life Annuity of £1.*				Life Annuity which £100 will purchase.*			
Uniform Annual Premium.				Premium for a single Year.												
Males.			Females.			Males.			Females.				Males.			Fem.		
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
3	17	6	3	12	6	1	13	0	1	9	8	13	14	9	14	5	10	7	5	7	6	19	11
4	0	9	3	15	6	1	13	10	1	10	3	13	7	10	13	19	0	7	9	4	7	3	5
4	4	3	3	18	9	1	14	9	1	10	10	13	0	10	13	11	11	7	13	5	7	7	1
4	8	0	4	2	4	1	15	7	1	11	5	12	13	6	13	4	7	7	17	9	7	11	2
4	12	2	4	6	2	1	16	6	1	12	4	12	6	0	12	17	0	8	2	7	7	15	8
4	16	8	4	10	4	2	0	11	1	16	7	11	18	2	12	9	2	8	7	11	8	0	6
5	1	4	4	14	8	2	5	4	1	19	4	11	10	8	12	1	7	8	13	5	8	5	7
5	6	2	4	19	3	2	8	8	2	2	6	11	3	3	11	14	0	8	19	2	8	10	11
5	11	4	5	4	1	2	12	6	2	5	11	10	15	10	11	6	5	9	5	4	8	16	8
5	16	10	5	9	3	2	16	8	2	9	7	10	8	6	10	18	10	9	11	10	9	2	9
6	2	7	5	14	8	3	1	0	2	13	8	10	1	2	10	11	4	9	18	10	9	9	4
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