CHARLES KINGSLEY

HEALTH AND EDUCATION

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Содержание

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THE SCIENCE OF HEALTH

Whether the British race is improving or degenerating? What, if it seem probably degenerating, are the causes of so great an evil? How they can be, if not destroyed, at least arrested?—These are questions worthy the attention, not of statesmen only and medical men, but of every father and mother in these isles.

I shall say somewhat about them in this Essay; and say it in a form which ought to be intelligible to fathers and mothers of every class, from the highest to the lowest, in hopes of convincing some of them at least that the science of health, now so utterly neglected in our curriculum of so-called education, ought to be taught—the rudiments of it at least—in every school, college, and university.

We talk of our hardy forefathers; and rightly. But they were hardy, just as the savage is usually hardy, because none but the hardy lived. They may have been able to say of themselves—as they do in a state paper of 1515, now well known through the pages of Mr. Froude—"What comyn folk of all the world may compare with the comyns of England, in riches, freedom, liberty, welfare, and all prosperity? What comyn folk is so mighty,

and so strong in the felde, as the comyns of England?" They may have been fed on "great shins of beef," till they became, as Benvenuto Cellini calls them, "the English wild beasts." But they increased in numbers slowly, if at all, for centuries. Those terrible laws of natural selection, which issue in "the survival of the fittest," cleared off the less fit, in every generation, principally by infantile disease, often by wholesale famine and pestilence; and left, on the whole, only those of the strongest constitutions to perpetuate a hardy, valiant, and enterprising race.

At last came a sudden and unprecedented change. In the first years of the century, steam and commerce produced an enormous increase in the population. Millions of fresh human beings found employment, married, brought up children who found employment in their turn, and learnt to live more or less civilised lives. An event, doubtless, for which God is to be thanked. A quite new phase of humanity, bringing with it new vices and new dangers: but bringing, also, not merely new comforts, but new noblenesses, new generosities, new conceptions of duty, and of how that duty should be done. It is childish to regret the old times, when our soot-grimed manufacturing districts were green with lonely farms. To murmur at the transformation would be, I believe, to murmur at the will of Him without whom not a sparrow falls to the ground.

> "The old order changeth, yielding place to the new,
> And God fulfils himself in many ways,

Lest one good custom should corrupt the world."

Our duty is, instead of longing for the good old custom, to take care of the good new custom, lest it should corrupt the world in like wise. And it may do so thus:—

The rapid increase of population during the first half of this century began at a moment when the British stock was specially exhausted; namely, about the end of the long French war. There may have been periods of exhaustion, at least in England, before that. There may have been one here, as there seems to have been on the Continent, after the Crusades; and another after the Wars of the Roses. There was certainly a period of severe exhaustion at the end of Elizabeth's reign, due both to the long Spanish and Irish wars and to the terrible endemics introduced from abroad; an exhaustion which may have caused, in part, the national weakness which hung upon us during the reign of the Stuarts. But after none of these did the survival of the less fit suddenly become more easy; or the discovery of steam power, and the acquisition of a colonial empire, create at once a fresh demand for human beings and a fresh supply of food for them. Britain, at the beginning of the nineteenth century, was in an altogether new social situation.

At the beginning of the great French war; and, indeed, ever since the beginning of the war with Spain in 1739—often snubbed as the "war about Jenkins's ear"—but which was, as I hold, one of the most just, as it was one of the most popular, of

all our wars; after, too, the once famous "forty fine harvests" of the eighteenth century, the British people, from the gentleman who led to the soldier or sailor who followed, were one of the mightiest and most capable races which the world has ever seen, comparable best to the old Roman, at his mightiest and most capable period. That, at least, their works testify. They created —as far as man can be said to create anything—the British Empire. They won for us our colonies, our commerce, the mastery of the seas of all the world. But at what a cost—

> "Their bones are scattered far and wide,
> By mount, and stream, and sea."

Year after year, till the final triumph of Waterloo, not battle only, but worse destroyers than shot and shell—fatigue and disease—had been carrying off our stoutest, ablest, healthiest young men, each of whom represented, alas! a maiden left unmarried at home, or married, in default, to a less able man.

The strongest went to the war; each who fell left a weaklier man to continue the race; while of those who did not fall, too many returned with tainted and weakened constitutions, to injure, it may be, generations yet unborn. The middle classes, being mostly engaged in peaceful pursuits, suffered less of this decimation of their finest young men; and to that fact I attribute much of their increasing preponderance, social, political, and intellectual, to this very day. One cannot walk the streets of

any of our great commercial cities without seeing plenty of men, young and middle-aged, whose whole bearing and stature shows that the manly vigour of our middle class is anything but exhausted. In Liverpool, especially, I have been much struck not only with the vigorous countenance, but with the bodily size of the mercantile men on 'Change. But it must be remembered always, first, that these men are the very élite of their class; the cleverest men; the men capable of doing most work; and next, that they are, almost all of them, from the great merchant who has his villa out of town, and perhaps his moor in the Highlands, down to the sturdy young volunteer who serves in the haberdasher's shop, country-bred men; and that the question is, not what they are like now, but what their children and grandchildren, especially the fine young volunteer's, will be like? And a very serious question I hold that to be; and for this reason:

War is, without doubt, the most hideous physical curse which fallen man inflicts upon himself; and for this simple reason, that it reverses the very laws of nature, and is more cruel even than pestilence. For instead of issuing in the survival of the fittest, it issues in the survival of the less fit: and therefore, if protracted, must deteriorate generations yet unborn. And yet a peace such as we now enjoy, prosperous, civilised, humane, is fraught, though to a less degree, with the very same ill effect.

In the first place, tens of thousands—Who knows it not?—lead sedentary and unwholesome lives, stooping, asphyxiated, employing as small a fraction of their bodies as of their

minds. And all this in dwellings, workshops, what not?—the influences, the very atmosphere of which tend not to health, but to unhealth, and to drunkenness as a solace under the feeling of unhealth and depression. And that such a life must tell upon their offspring, and if their offspring grow up under similar circumstances, upon their offspring's offspring, till a whole population may become permanently degraded, who does not know? For who that walks through the by-streets of any great city does not see? Moreover, and this is one of the most fearful problems with which modern civilisation has to deal—we interfere with natural selection by our conscientious care of life, as surely as does war itself. If war kills the most fit to live, we save alive those who—looking at them from a merely physical point of view—are most fit to die. Everything which makes it more easy to live; every sanatory reform, prevention of pestilence, medical discovery, amelioration of climate, drainage of soil, improvement in dwelling-houses, workhouses, gaols; every reformatory school, every hospital, every cure of drunkenness, every influence, in short, which has —so I am told—increased the average length of life in these islands, by nearly one-third, since the first establishment of life insurances, one hundred and fifty years ago; every influence of this kind, I say, saves persons alive who would otherwise have died; and the great majority of these will be, even in surgical and zymotic cases, those of least resisting power; who are thus preserved to produce in time a still less powerful progeny.

Do I say that we ought not to save these people, if we can? God forbid. The weakly, the diseased, whether infant or adult, is here on earth; a British citizen; no more responsible for his own weakness than for his own existence. Society, that is, in plain English, we and our ancestors, are responsible for both; and we must fulfil the duty, and keep him in life; and, if we can, heal, strengthen, develop him to the utmost; and make the best of that which "fate and our own deservings" have given us to deal with. I do not speak of higher motives still; motives which to every minister of religion must be paramount and awful. I speak merely of physical and social motives, such as appeal to the conscience of every man—the instinct which bids every human-hearted man or woman to save life, alleviate pain, like Him who causes His sun to shine on the evil and on the good, and His rain to fall on the just and on the unjust.

But it is palpable, that in so doing we must, year by year, preserve a large percentage of weakly persons, who, marrying freely in their own class, must produce weaklier children, and they weaklier children still. Must, did I say? There are those who are of opinion—and I, after watching and comparing the histories of many families, indeed, of every one with whom I have come in contact for now five-and-thirty years, in town and country, can only fear that their opinion is but too well founded on fact—that in the great majority of cases, in all classes whatsoever, the children are not equal to their parents, nor they, again, to their grandparents of the beginning of the century; and

that this degrading process goes on most surely, and most rapidly, in our large towns, and in proportion to the antiquity of those towns, and therefore in proportion to the number of generations during which the degrading influences have been at work.

This and cognate dangers have been felt more and more deeply, as the years have rolled on, by students of human society. To ward them off, theory after theory has been put on paper, especially in France, which deserve high praise for their ingenuity, less for their morality, and, I fear, still less for their common-sense. For the theorist in his closet is certain to ignore, as inconvenient to the construction of his Utopia, certain of those broad facts of human nature which every active parish priest, medical man, or poor-law guardian has to face every day of his life.

Society and British human nature are what they have become by the indirect influences of long ages, and we can no more reconstruct the one than we can change the other. We can no more mend men by theories than we can by coercion—to which, by the by, almost all these theorists look longingly as their final hope and mainstay. We must teach men to mend their own matters, of their own reason, and their own free-will. We must teach them that they are the arbiters of their own destinies; and, to a fearfully great degree, of their children's destinies after them.

We must teach them not merely that they ought to be free, but that they are free, whether they know it or not, for good and for evil. And we must do that in this case, by teaching them sound

practical science; the science of physiology, as applied to health.

So, and so only, can we check—I do not say stop entirely—though I believe even that to be ideally possible; but at least check the process of degradation which I believe to be surely going on, not merely in these islands, but in every civilised country in the world, in proportion to its civilisation.

It is still a question whether science has fully discovered those laws of hereditary health, the disregard of which causes so many marriages disastrous to generations yet unborn. But much valuable light has been thrown on this most mysterious and most important subject during the last few years. That light—and I thank God for it—is widening and deepening rapidly. And I doubt not that, in a generation or two more, enough will be known to be thrown into the shape of practical and proveable rules; and that, if not a public opinion, yet at least, what is more useful far, a wide-spread private opinion, will grow up, especially among educated women, which will prevent many a tragedy and save many a life.

But, as to the laws of personal health: enough, and more than enough, is known already, to be applied safely and easily by any adults, however unlearned, to the preservation not only of their own health, but of that of their children.

The value of healthy habitations, of personal cleanliness, of pure air and pure water, of various kinds of food, according as each tends to make bone, fat, or muscle, provided only—provided only—that the food be unadulterated; the value of

various kinds of clothing, and physical exercise, of a free and equal development of the brain-power, without undue overstrain in any one direction; in one word, the method of producing, as far as possible, the mentem sanam in corpore sano, and the wonderful and blessed effects of such obedience to those laws of nature, which are nothing but the good will of God expressed in facts—their wonderful and blessed tendency, I say, to eliminate the germs of hereditary disease, and to actually regenerate the human system—all this is known; known as fully and clearly as any human knowledge need be known; it is written in dozens of popular books and pamphlets. And why should this divine voice, which cries to man, tending to sink into effeminate barbarism through his own hasty and partial civilisation,—"It is not too late.

For your bodies, as for your spirits, there is an upward, as well as a downward path. You, or if not you, at least the children whom you have brought into the world, for whom you toil, for whom you hoard, for whom you pray, for whom you would give your lives,—they still may be healthy, strong, it may be beautiful, and have all the intellectual and social, as well as the physical advantages, which health, strength, and beauty give."—Ah, why is this divine voice now, as of old, Wisdom crying in the streets, and no man regarding her? I appeal to women, who are initiated, as we men can never be, into the stern mysteries of pain, and sorrow, and self-sacrifice;—they who bring forth children, weep over children, slave for children, and, if they have none of their own, then slave, with the holy instinct of the sexless bee, for the

children of others—Let them say, shall this thing be?

Let my readers pardon me if I seem to write too earnestly. That I speak neither more nor less than the truth, every medical man knows full well. Not only as a very humble student of physiology, but as a parish priest of thirty years' standing, I have seen so much unnecessary misery; and I have in other cases seen similar misery so simply avoided; that the sense of the vastness of the evil is intensified by my sense of the easiness of the cure.

Why, then—to come to practical suggestions—should there not be opened in every great town in these realms a public school of health? It might connect itself with—I hold that it should form an integral part of—some existing educational institute. But it should at least give practical lectures, for fees small enough to put them within the reach of any respectable man or woman, however poor. I cannot but hope that such schools of health, if opened in the great manufacturing towns of England and Scotland, and, indeed, in such an Irish town as Belfast, would obtain pupils in plenty, and pupils who would thoroughly profit by what they hear. The people of these towns are, most of them, specially accustomed by their own trades to the application of scientific laws. To them, therefore, the application of any fresh physical laws to a fresh set of facts, would have nothing strange in it. They have already something of that inductive habit of mind which is the groundwork of all rational understanding or action. They would not turn the deaf and contemptuous ear with which the savage and the superstitious receive the revelation of nature's

mysteries. Why should not, with so hopeful an audience, the experiment be tried far and wide, of giving lectures on health, as supplementary to those lectures on animal physiology which are, I am happy to say, becoming more and more common?

Why should not people be taught—they are already being taught at Birmingham—something about the tissues of the body, their structure and uses, the circulation of the blood, respiration, chemical changes in the air respired, amount breathed, digestion, nature of food, absorption, secretion, structure of the nervous system,—in fact, be taught something of how their own bodies are made and how they work? Teaching of this kind ought to, and will, in some more civilised age and country, be held a necessary element in the school-course of every child, just as necessary as reading, writing, and arithmetic; for it is after all the most necessary branch of that "technical education" of which we hear so much just now, namely, the technic, or art, of keeping oneself alive and well.

But we can hardly stop there. After we have taught the condition of health, we must teach also the condition of disease; of those diseases specially which tend to lessen wholesale the health of townsfolk, exposed to an artificial mode of life.

Surely young men and women should be taught something of the causes of zymotic disease, and of scrofula, consumption, rickets, dipsomania, cerebral derangement, and such like. They should be shown the practical value of pure air, pure water, unadulterated food, sweet and dry dwellings. Is there one of

them, man or woman, who would not be the safer and happier, and the more useful to his or her neighbours, if they had acquired some sound notions about those questions of drainage on which their own lives and the lives of their children may every day depend? I say—women as well as men. I should have said women rather than men. For it is the women who have the ordering of the household, the bringing up of the children; the women who bide at home, while the men are away, it may be at the other end of the earth.

And if any say, as they have a right to say—"But these are subjects which can hardly be taught to young women in public lectures;" I rejoin,—Of course not, unless they are taught by women,—by women, of course, duly educated and legally qualified. Let such teach to women, what every woman ought to know, and what her parents will very properly object to her hearing from almost any man. This is one of the main reasons why I have, for twenty years past, advocated the training of women for the medical profession; and one which countervails, in my mind, all possible objections to such a movement. And now, thank God, I am seeing the common sense of Great Britain, and indeed of every civilised nation, gradually coming round to that which seemed to me, when I first conceived of it, a dream too chimerical to be cherished save in secret—the restoring woman to her natural share in that sacred office of healer, which she held in the Middle Ages, and from which she was thrust out during the sixteenth century.

I am most happy to see, for instance, that the National Health Society,[1] which I earnestly recommend to the attention of my readers, announces a "Course of Lectures for Ladies on Elementary Physiology and Hygiene, by Miss Chessar," to which I am also most happy to see, governesses are admitted at half-fees. Alas! how much misery, disease, and even death, might have been prevented, had governesses been taught such matters thirty years ago, I, for one, know too well. May the day soon come when there will be educated women enough to give such lectures throughout these realms, to rich as well as poor,—for the rich, strange to say, need them often as much as the poor do, —and that we may live to see, in every great town, health classes for women as well as for men, sending forth year by year more young women and young men taught, not only to take care of themselves and of their families, but to exercise moral influence over their fellow-citizens, as champions in the battle against dirt and drunkenness, disease and death.

There may be those who would answer—or rather, there would certainly have been those who would have so answered thirty years ago, before the so-called materialism of advanced science had taught us some practical wisdom about education, and reminded people that they have bodies as well as minds and souls—"You say, we are likely to grow weaklier, unhealthier. And if it were so, what matter? Mind makes the man, not body. We do not want our children to be stupid giants and bravos;

[1] 9, Adam Street, Adelphi, London.

but clever, able, highly educated, however weakly Providence or the laws of nature may have chosen to make them. Let them overstrain their brains a little; let them contract their chests, and injure their digestion and their eyesight, by sitting at desks, poring over books. Intellect is what we want. Intellect makes money. Intellect makes the world. We would rather see our son a genius than an athlete." Well: and so would I.

But what if intellect alone does not even make money, save as Messrs. Dodson & Fogg, Sampson Brass, and Montagu Tigg were wont to make it, unless backed by an able, enduring, healthy physique, such as I have seen, almost without exception, in those successful men of business whom I have had the honour and the pleasure of knowing? What if intellect, or what is now called intellect, did not make the world, or the smallest wheel or cog of it? What if, for want of obeying the laws of nature, parents bred up neither a genius nor an athlete, but only an incapable unhappy personage, with a huge upright forehead, like that of a Byzantine Greek, filled with some sort of pap instead of brains, and tempted alternately to fanaticism and strong drink? We must, in the great majority of cases have the corpus sanem if we want the mentem sanem; and healthy bodies are the only trustworthy organs for healthy minds. Which is cause and which is effect, I shall not stay to debate here.

But wherever we find a population generally weakly, stunted, scrofulous, we find in them a corresponding type of brain, which cannot be trusted to do good work; which is capable more or

less of madness, whether solitary or epidemic. It may be very active; it may be very quick at catching at new and grand ideas —all the more quick, perhaps, on account of its own secret *malaise* and self-discontent: but it will be irritable, spasmodic, hysterical. It will be apt to mistake capacity of talk for capacity of action, excitement for earnestness, virulence for force, and, too often, cruelty for justice. It will lose manful independence, individuality, originality; and when men act, they will act, from the consciousness of personal weakness, like sheep rushing over a hedge, leaning against each other, exhorting each other to be brave, and swaying about in mobs and masses. These were the intellectual weaknesses which, as I read history, followed on physical degradation in Imperial Rome, in Alexandria, in Byzantium. Have we not seen them reappear, under fearful forms, in Paris but the other day?

I do not blame; I do not judge. My theory, which I hold, and shall hold, to be fairly founded on a wide induction, forbids me to blame and to judge: because it tells me that these defects are mainly physical; that those who exhibit them are mainly to be pitied, as victims of the sins or ignorance of their forefathers. But it tells me too, that those who, professing to be educated men, and therefore bound to know better, treat these physical phenomena as spiritual, healthy, and praiseworthy; who even exasperate them, that they may make capital out of the weaknesses of fallen man, are the most contemptible and yet the most dangerous of public enemies, let them cloak their quackery under whatsoever

patriotic, or scientific, or even sacred words.

There are those again honest, kindly, sensible, practical men, many of them; men whom I have no wish to offend; whom I had rather ask to teach me some of their own experience and common sense, which has learned to discern, like good statesmen, not only what ought to be done, but what can be done—there are those, I say, who would sooner see this whole question let alone. Their feeling, as far as I can analyse it, seems to be, that the evils of which I have been complaining, are on the whole inevitable: or, if not, that we can mend so very little of them, that it is wisest to leave them alone altogether, lest, like certain sewers, "the more you stir them, the more they smell."

They fear lest we should unsettle the minds of the many for whom these evils will never be mended; lest we make them discontented; discontented with their houses, their occupations, their food, their whole social arrangements; and all in vain.

I should answer, in all courtesy and humility—for I sympathise deeply with such men and women, and respect them deeply likewise—But are not people discontented already, from the lowest to the highest? And ought a man, in such a piecemeal, foolish, greedy, sinful world as this is, and always has been, to be anything but discontented? If he thinks that things are going all right, must he not have a most beggarly conception of what going right means? And if things are not going right, can it be anything but good for him to see that they are not going right?

Can truth and fact harm any human being? I shall not believe

so, as long as I have a Bible wherein to believe. For my part, I should like to make every man, woman, and child whom I meet discontented with themselves, even as I am discontented with myself. I should like to awaken in them, about their physical, their intellectual, their moral condition, that divine discontent which is the parent, first of upward aspiration and then of self-control, thought, effort to fulfil that aspiration even in part. For to be discontented with the divine discontent, and to be ashamed with the noble shame, is the very germ and first upgrowth of all virtue. Men begin at first, as boys begin when they grumble at their school and their schoolmasters, to lay the blame on others; to be discontented with their circumstances—the things which stand around them; and to cry, "Oh that I had this!" "Oh that I had that!" But that way no deliverance lies. That discontent only ends in revolt and rebellion, social or political; and that, again, still in the same worship of circumstances—but this time desperate—which ends, let it disguise itself under what fine names it will, in what the old Greeks called a tyranny; in which—as in the Spanish republics of America, and in France more than once—all have become the voluntary slaves of one man, because each man fancies that the one man can improve his circumstances for him.

But the wise man will learn, like Epictetus the heroic slave, the slave of Epaphroditus, Nero's minion—and in what baser and uglier circumstances could human being find himself?—to find out the secret of being truly free; namely, to be discontented with

no man and no thing save himself. To say not—"Oh that I had this and that!" but "Oh that I were this and that!" Then, by God's help—and that heroic slave, heathen though he was, believed and trusted in God's help—"I will make myself that which God has shown me that I ought to be and can be."

Ten thousand a-year, or ten million a-year, as Epictetus saw full well, cannot mend that vulgar discontent with circumstances, which he had felt—and who with more right?—and conquered, and despised. For that is the discontent of children, wanting always more holidays and more sweets. But I wish my readers to have, and to cherish, the discontent of men and women.

Therefore I would make men and women discontented, with the divine and wholesome discontent, at their own physical frame, and at that of their children. I would accustom their eyes to those precious heirlooms of the human race, the statues of the old Greeks; to their tender grandeur, their chaste healthfulness, their unconscious, because perfect, might: and say—There; these are tokens to you, and to all generations yet unborn, of what man could be once; of what he can be again if he will obey those laws of nature which are the voice of God. I would make them discontented with the ugliness and closeness of their dwellings; I would make the men discontented with the fashion of their garments, and still more just now the women, of all ranks, with the fashion of theirs; and with everything around them which they have the power of improving, if it be at all ungraceful, superfluous, tawdry, ridiculous, unwholesome. I would make

them discontented with what they call their education, and say to them—You call the three Royal R's education? They are not education: no more is the knowledge which would enable you to take the highest prizes given by the Society of Arts, or any other body. They are not education: they are only instruction; a necessary groundwork, in an age like this, for making practical use of your education: but not the education itself.

And if they asked me, What then education meant? I should point them, first, I think, to noble old Lilly's noble old 'Euphues,' of three hundred years ago, and ask them to consider what it says about education, and especially this passage concerning that mere knowledge which is now-a-days strangely miscalled education. "There are two principal and peculiar gifts in the nature of man, knowledge and reason. The one"—that is reason—"commandeth, and the other"—that is knowledge —"obeyeth. These things neither the whirling wheel of fortune can change, nor the deceitful cavillings of worldlings separate, neither sickness abate, nor age abolish." And next I should point them to those pages in Mr. Gladstone's 'Juventus Mundi,' where he describes the ideal training of a Greek youth in Homer's days; and say,—There: that is an education fit for a really civilised man, even though he never saw a book in his life; the full, proportionate, harmonious educing—that is, bringing out and developing—of all the faculties of his body, mind, and heart, till he becomes at once a reverent yet a self-assured, a graceful and yet a valiant, an able and yet an eloquent personage.

And if any should say to me—"But what has this to do with science? Homer's Greeks knew no science;" I should rejoin—But they had, pre-eminently above all ancient races which we know, the scientific instinct; the teachableness and modesty; the clear eye and quick ear; the hearty reverence for fact and nature, and for the human body, and mind, and spirit; for human nature, in a word, in its completeness, as the highest fact upon this earth. Therefore they became in after years, not only the great colonisers and the great civilisers of the old world—the most practical people, I hold, which the world ever saw; but the parents of all sound physics as well as of all sound metaphysics. Their very religion, in spite of its imperfections, helped forward their education, not in spite of, but by means of, that anthropomorphism which we sometimes too hastily decry.

As Mr. Gladstone says in a passage which I must quote at length—"As regarded all other functions of our nature, outside the domain of the life to Godward—all those functions which are summed up in what St. Paul calls the flesh and the mind, the psychic and bodily life, the tendency of the system was to exalt the human element, by proposing a model of beauty, strength, and wisdom, in all their combinations, so elevated that the effort to attain them required a continual upward strain. It made divinity attainable; and thus it effectually directed the thought and aim of man

'Along the line of limitless desires.'

Such a scheme of religion, though failing grossly in the government of the passions, and in upholding the standard of moral duties, tended powerfully to produce a lofty self-respect, and a large, free, and varied conception of humanity. It incorporated itself in schemes of notable discipline for mind and body, indeed of a lifelong education; and these habits of mind and action had their marked results (to omit many other greatnesses) in a philosophy, literature, and art, which remain to this day unrivalled or unsurpassed."

So much those old Greeks did for their own education, without science and without Christianity. We who have both: what might we not do, if we would be true to our advantages, and to ourselves?

THE TWO BREATHS. A LECTURE DELIVERED AT WINCHESTER, MAY 31, 1869

Ladies,—I have been honoured by a second invitation to address you here, from the lady to whose public spirit the establishment of these lectures is due. I dare not refuse it: because it gives me an opportunity of speaking on a matter, knowledge and ignorance about which may seriously affect your health and happiness, and that of the children with whom you may have to do. I must apologize if I say many things which are well known to many persons in this room: they ought to be well known to all; and it is generally best to assume total ignorance in one's hearers, and to begin from the beginning.

I shall try to be as simple as possible; to trouble you as little as possible with scientific terms; to be practical; and at the same time, if possible, interesting.

I should wish to call this lecture "The Two Breaths:" not merely "The Breath;" and for this reason: every time you breathe, you breathe two different breaths; you take in one, you give out another. The composition of those two breaths is different. Their effects are different. The breath which has been breathed out must not be breathed in again. To tell you why it must not would lead me into anatomical details, not quite in place

here as yet: though the day will come, I trust, when every woman entrusted with the care of children will be expected to know something about them. But this I may say—Those who habitually take in fresh breath will probably grow up large, strong, ruddy, cheerful, active, clear-headed, fit for their work.

Those who habitually take in the breath which has been breathed out by themselves, or any other living creature, will certainly grow up, if they grow up at all, small, weak, pale, nervous, depressed, unfit for work, and tempted continually to resort to stimulants, and become drunkards.

If you want to see how different the breath breathed out is from the breath taken in, you have only to try a somewhat cruel experiment, but one which people too often try upon themselves, their children, and their work-people. If you take any small animal with lungs like your own—a mouse, for instance—and force it to breathe no air but what you have breathed already; if you put it in a close box, and while you take in breath from the outer air, send out your breath through a tube, into that box, the animal will soon faint; if you go on long with this process, it will die.

Take a second instance, which I beg to press most seriously on the notice of mothers, governesses, and nurses: If you allow a child to get into the habit of sleeping with its head under the bed-clothes, and thereby breathing its own breath over and over again, that child will assuredly grow pale, weak, and ill. Medical men have cases on record of scrofula appearing in children previously

healthy, which could only be accounted for from this habit, and which ceased when the habit stopped. Let me again entreat your attention to this undoubted fact.

Take another instance, which is only too common: If you are in a crowded room, with plenty of fire and lights and company, doors and windows all shut tight, how often you feel faint—so faint, that you may require smelling-salts or some other stimulant. The cause of your faintness is just the same as that of the mouse's fainting in the box: you and your friends, and, as I shall show you presently, the fire and the candles likewise, having been all breathing each other's breaths, over and over again, till the air has become unfit to support life. You are doing your best to enact over again the Highland tragedy, of which Sir James Simpson tells in his lectures to the working-classes of Edinburgh, when at a Christmas meeting thirty-six persons danced all night in a small room with a low ceiling, keeping the doors and windows shut. The atmosphere of the room was noxious beyond description; and the effect was, that seven of the party were soon after seized with typhus fever, of which two died. You are inflicting on yourselves the torments of the poor dog, who is kept at the Grotto del Cane, near Naples, to be stupified, for the amusement of visitors, by the carbonic acid gas of the Grotto, and brought to life again by being dragged into the fresh air; nay, you are inflicting upon yourselves the torments of the famous Black Hole of Calcutta; and, if there was no chimney in the room, by which some fresh air could enter,

the candles would soon burn blue—as they do, you know, when ghosts appear; your brains become disturbed; and you yourselves run the risk of becoming ghosts, and the candles of actually going out.

Of this last fact there is no doubt; for if, instead of putting a mouse into the box, you will put a lighted candle, and breathe into the tube, as before, however gently, you will in a short time put the candle out.

Now, how is this? First, what is the difference between the breath you take in and the breath you give out? And next, why has it a similar effect on animal life and a lighted candle?

The difference is this. The breath which you take in is, or ought to be, pure air, composed, on the whole, of oxygen and nitrogen, with a minute portion of carbonic acid.

The breath which you give out is an impure air, to which has been added, among other matters which will not support life, an excess of carbonic acid.

That this is the fact you can prove for yourselves by a simple experiment. Get a little lime water at the chemist's, and breathe into it through a glass tube; your breath will at once make the lime-water milky. The carbonic acid of your breath has laid hold of the lime, and made it visible as white carbonate of lime—in plain English, as common chalk.

Now, I do not wish, as I said, to load your memories with scientific terms: but I beseech you to remember at least these two—oxygen gas and carbonic acid gas; and to remember that,

as surely as oxygen feeds the fire of life, so surely does carbonic acid put it out.

I say, "the fire of life." In that expression lies the answer to our second question: Why does our breath produce a similar effect upon the mouse and the lighted candle? Every one of us is, as it were, a living fire. Were we not, how could we be always warmer than the air outside us? There is a process going on perpetually in each of us, similar to that by which coals are burnt in the fire, oil in a lamp, wax in a candle, and the earth itself in a volcano. To keep each of those fires alight, oxygen is needed; and the products of combustion, as they are called, are more or less the same in each case—carbonic acid and steam.

These facts justify the expression I just made use of—which may have seemed to some of you fantastical—that the fire and the candles in the crowded room were breathing the same breath as you were. It is but too true. An average fire in the grate requires, to keep it burning, as much oxygen as several human beings do; each candle or lamp must have its share of oxygen likewise, and that a very considerable one; and an average gas-burner—pray attend to this, you who live in rooms lighted with gas—consumes as much oxygen as several candles. All alike are making carbonic acid. The carbonic acid of the fire happily escapes up the chimney in the smoke: but the carbonic acid from the human beings and the candles remains to poison the room, unless it be ventilated.

Now, I think you may understand one of the simplest, and yet

most terrible, cases of want of ventilation—death by the fumes of charcoal. A human being shut up in a room, of which every crack is closed, with a pan of burning charcoal, falls asleep, never to wake again. His inward fire is competing with the fire of the charcoal for the oxygen of the room; both are making carbonic acid out of it: but the charcoal, being the stronger of the two, gets all the oxygen to itself, and leaves the human being nothing to inhale but the carbonic acid which it has made. The human being, being the weaker, dies first: but the charcoal dies also.

When it has exhausted all the oxygen of the room, it cools, goes out, and is found in the morning half-consumed beside its victim. If you put a giant or an elephant, I should conceive, into that room, instead of a human being, the case would be reversed for a time: the elephant would put out the burning charcoal by the carbonic acid from his mighty lungs; and then, when he had exhausted all the air in the room, die likewise of his own carbonic acid.

* * * * *

Now, I think, we may see what ventilation means, and why it is needed.

Ventilation means simply letting out the foul air, and letting in the fresh air; letting out the air which has been breathed by men or by candles, and letting in the air which has not. To understand how to do that, we must remember a most simple chemical law,

that a gas as it is warmed expands, and therefore becomes lighter; as it cools, it contracts, and becomes heavier.

Now the carbonic acid in the breath which comes out of our mouth is warm, lighter than the air, and rises to the ceiling; and therefore in any unventilated room full of people, there is a layer of foul air along the ceiling. You might soon test that for yourselves, if you could mount a ladder and put your heads there aloft. You do test it for yourselves when you sit in the galleries of churches and theatres, where the air is palpably more foul, and therefore more injurious, than down below.

Where, again, work-people are employed in a crowded house of many storeys, the health of those who work on the upper floors always suffers most.

In the old monkey-house of the Zoological Gardens, when the cages were on the old plan, tier upon tier, the poor little fellows in the uppermost tier—so I have been told—always died first of the monkey's constitutional complaint, consumption, simply from breathing the warm breath of their friends below. But since the cages have been altered, and made to range side by side from top to bottom, consumption—I understand—has vastly diminished among them.

The first question in ventilation, therefore, is to get this carbonic acid safe out of the room, while it is warm and light and close to the ceiling; for if you do not, this happens—The carbonic acid gas cools and becomes heavier; for carbonic acid, at the same temperature as common air, is so much heavier than

common air, that you may actually—if you are handy enough—turn it from one vessel to another, and pour out for your enemy a glass of invisible poison. So down to the floor this heavy carbonic acid comes, and lies along it, just as it lies often in the bottom of old wells, or old brewers' vats, as a stratum of poison, killing occasionally the men who descend into it. Hence, as foolish a practice as I know is that of sleeping on the floor; for towards the small hours, when the room gets cold, the sleeper on the floor is breathing carbonic acid.

And here one word to those ladies who interest themselves with the poor. The poor are too apt in times of distress to pawn their bedsteads and keep their beds. Never, if you have influence, let that happen. Keep the bedstead, whatever else may go, to save the sleeper from the carbonic acid on the floor.

How, then, shall we get rid of the foul air at the top of the room? After all that has been written and tried on ventilation, I know no simpler method than putting into the chimney one of Arnott's ventilators, which may be bought and fixed for a few shillings; always remembering that it must be fixed into the chimney as near the ceiling as possible. I can speak of these ventilators from twenty-five years' experience. Living in a house with low ceilings, liable to become overcharged with carbonic acid, which produces sleepiness in the evening, I have found that these ventilators keep the air fresh and pure; and I consider the presence of one of these ventilators in a room more valuable than three or four feet additional height of ceiling. I have found,

too, that their working proves how necessary they are, from this simple fact:—You would suppose that, as the ventilator opens freely into the chimney, the smoke would be blown down through it in high winds, and blacken the ceiling: but this is just what does not happen. If the ventilator be at all properly poised, so as to shut with a violent gust of wind, it will at all other moments keep itself permanently open; proving thereby that there is an up-draught of heated air continually escaping from the ceiling up the chimney. Another very simple method of ventilation is employed in those excellent cottages which Her Majesty has built for her labourers round Windsor. Over each door a sheet of perforated zinc, some 18 inches square, is fixed; allowing the foul air to escape into the passage; and in the ceiling of the passage a similar sheet of zinc, allowing it to escape into the roof. Fresh air, meanwhile, should be obtained from outside, by piercing the windows, or otherwise. And here let me give one hint to all builders of houses. If possible, let bedroom windows open at the top as well as at the bottom.

Let me impress the necessity of using some such contrivances, not only on parents and educators, but on those who employ work-people, and above all on those who employ young women in shops or in work-rooms. What their condition may be in this city I know not; but most painful it has been to me in other places, when passing through warehouses or work-rooms, to see the pale, sodden, and, as the French would say "etiolated" countenances of the girls who were passing the greater part of the day in them;

and painful, also, to breathe an atmosphere of which habit had, alas! made them unconscious, but which to one coming out of the open air was altogether noxious, and shocking also; for it was fostering the seeds of death, not only in the present but in future generations.

Why should this be? Every one will agree that good ventilation is necessary in a hospital, because people cannot get well without fresh air. Do they not see that by the same reasoning good ventilation is necessary everywhere, because people cannot remain well without fresh air? Let me entreat those who employ women in work-rooms, if they have no time to read through such books as Dr. Andrew Combe's 'Physiology applied to Health and Education,' and Madame de Wahl's 'Practical Hints on the Moral, Mental, and Physical Training of Girls,' to procure certain tracts published by Messrs. Jarrold, Paternoster Row, for the Ladies' Sanitary Association; especially one which bears on this subject, 'The Black-Hole in our own Bedrooms;' Dr. Lankester's 'School Manual of Health;' or a manual on ventilation, published by the Metropolitan Working Classes Association for the Improvement of Public Health.

I look forward—I say it openly—to some period of higher civilisation, when the Acts of Parliament for the ventilation of factories and workshops shall be largely extended, and made far more stringent; when officers of public health shall be empowered to enforce the ventilation of every room in which persons are employed for hire; and empowered also to demand

a proper system of ventilation for every new house, whether in country or in town. To that, I believe, we must come: but I had sooner far see these improvements carried out, as befits the citizens of a free country, in the spirit of the Gospel rather than in that of the Law; carried out, not compulsorily and from fear of fines, but voluntarily, from a sense of duty, honour, and humanity. I appeal, therefore, to the good feeling of all whom it may concern, whether the health of those whom they employ, and therefore the supply of fresh air which they absolutely need, are not matters for which they are not, more or less, responsible to their country and their God.

And if any excellent person of the old school should answer me—"Why make all this fuss about ventilation? Our forefathers got on very well without it"—I must answer that, begging their pardons, our ancestors did nothing of the kind. Our ancestors got on usually very ill in these matters: and when they got on well, it was because they had good ventilation in spite of themselves.

First. They got on very ill. To quote a few remarkable instances of longevity, or to tell me that men were larger and stronger on the average in old times, is to yield to the old fallacy of fancying that savages were peculiarly healthy, because those who were seen were active and strong. The simple answer is, that the strong alone survived, while the majority died from the severity of the training. Savages do not increase in number; and our ancestors increased but very slowly for many centuries. I am not going to disgust my audience with statistics of disease:

but knowing something, as I happen to do, of the social state and of the health of the Middle and Elizabethan Ages, I have no hesitation in saying that the average of disease and death was far greater then than it is now. Epidemics of many kinds, typhus, ague, plague—all diseases which were caused more or less by bad air—devastated this land and Europe in those days with a horrible intensity, to which even the choleras of our times are mild. The back streets, the hospitals, the gaols, the barracks, the camps—every place in which any large number of persons congregated, were so many nests of pestilence, engendered by uncleanliness, which denied alike the water which was drunk and the air which was breathed; and as a single fact, of which the tables of insurance companies assure us, the average of human life in England has increased twenty-five per cent. since the reign of George I., owing simply to our more rational and cleanly habits of life.

But secondly, I said that when our ancestors got on well, they did so because they got ventilation in spite of themselves. Luckily for them, their houses were ill-built; their doors and windows would not shut. They had lattice-windowed houses, too; to live in one of which, as I can testify from long experience, is as thoroughly ventilating as living in a lantern with the horn broken out. It was because their houses were full of draughts, and still more, in the early middle age, because they had no glass, and stopped out the air only by a shutter at night, that they sought for shelter rather than for fresh air, of which they sometimes had

too much; and, to escape the wind, built their houses in holes, such as that in which the old city of Winchester stands. Shelter, I believe, as much as the desire to be near fish in Lent, and to occupy the rich alluvium of the valleys, made the monks of Old England choose the river-banks for the sites of their abbeys. They made a mistake therein, which, like most mistakes, did not go unpunished. These low situations, especially while the forests were yet thick on the hills around, were the perennial haunts of fever and ague, produced by subtle vegetable poisons, carried in the carbonic acid given off by rotting vegetation. So there, again, they fell in with man's old enemy—bad air.

Still, as long as the doors and windows did not shut, some free circulation of air remained. But now, our doors and windows shut only too tight. We have plate-glass instead of lattices; and we have replaced the draughty and smoky, but really wholesome open chimney, with its wide corners and settles, by narrow registers, and even by stoves. We have done all we can, in fact, to seal ourselves up hermetically from the outer air, and to breathe our own breaths over and over again; and we pay the penalty of it in a thousand ways unknown to our ancestors, through whose rooms all the winds of heaven whistled, and who were glad enough to shelter themselves from draughts in the sitting-room by the high screen round the fire, and in the sleeping-room by the thick curtains of the four-post bedstead, which is now rapidly disappearing before a higher civilisation. We therefore absolutely require to make for ourselves the very ventilation from

which our ancestors tried to escape.

But, ladies, there is an old and true proverb, that you may bring a horse to the water, but you cannot make him drink. And in like wise it is too true, that you may bring people to the fresh air, but you cannot make them breathe it. Their own folly, or the folly of their parents and educators, prevents their lungs being duly filled and duly emptied. Therefore, the blood is not duly oxygenated, and the whole system goes wrong.

Paleness, weakness, consumption, scrofula, and too many other ailments, are the consequences of ill-filled lungs. For without well-filled lungs, robust health is impossible.

And if any one shall answer—"We do not want robust health so much as intellectual attainment. The mortal body, being the lower organ, must take its chance, and be even sacrificed, if need be, to the higher organ—the immortal mind:"—To such I reply, You cannot do it. The laws of nature, which are the express will of God, laugh such attempts to scorn. Every organ of the body is formed out of the blood; and if the blood be vitiated, every organ suffers in proportion to its delicacy; and the brain, being the most delicate and highly specialised of all organs, suffers most of all and soonest of all, as every one knows who has tried to work his brain when his digestion was the least out of order. Nay, the very morals will suffer. From ill-filled lungs, which signify ill-repaired blood, arise year by year an amount not merely of disease, but of folly, temper, laziness, intemperance, madness, and, let me tell you fairly, crime—the sum of which will never

be known till that great day when men shall be called to account for all deeds done in the body, whether they be good or evil.

I must refer you on this subject again to Andrew Combe's 'Physiology,' especially chapters iv. and vii.; and also to chapter x. of Madame de Wahl's excellent book. I will only say this shortly, that the three most common causes of ill-filled lungs, in children and in young ladies, are stillness, silence, and stays.

First, stillness; a sedentary life, and want of exercise. A girl is kept for hours sitting on a form writing or reading, to do which she must lean forward; and if her schoolmistress cruelly attempts to make her sit upright, and thereby keep the spine in an attitude for which Nature did not intend it, she is thereby doing her best to bring on that disease, so fearfully common in girls' schools, lateral curvature of the spine. But practically the girl will stoop forward. And what happens? The lower ribs are pressed into the body, thereby displacing more or less something inside.

The diaphragm in the meantime, which is the very bellows of the lungs, remains loose; the lungs are never properly filled or emptied; and an excess of carbonic acid accumulates at the bottom of them. What follows? Frequent sighing to get rid of it; heaviness of head; depression of the whole nervous system under the influence of the poison of the lungs; and when the poor child gets up from her weary work, what is the first thing she probably does? She lifts up her chest, stretches, yawns, and breathes deeply—Nature's voice, Nature's instinctive cure, which is probably regarded as ungraceful, as what is called

"lolling" is. As if sitting upright was not an attitude in itself essentially ungraceful, and such as no artist would care to draw.

As if "lolling," which means putting the body in the attitude of the most perfect ease compatible with a fully expanded chest, was not in itself essentially graceful, and to be seen in every reposing figure in Greek bas-reliefs and vases; graceful, and like all graceful actions, healthful at the same time. The only tolerably wholesome attitude of repose, which I see allowed in average school-rooms, is lying on the back on the floor, or on a sloping board, in which case the lungs must be fully expanded.

But even so, a pillow, or some equivalent, ought to be placed under the small of the back: or the spine will be strained at its very weakest point.

I now go on to the second mistake—enforced silence. Moderate reading aloud is good: but where there is any tendency to irritability of throat or lungs, too much moderation cannot be used. You may as well try to cure a diseased lung by working it, as to cure a lame horse by galloping him. But where the breathing organs are of average health, let it be said once and for all, that children and young people cannot make too much noise. The parents who cannot bear the noise of their children have no right to have brought them into the world. The schoolmistress who enforces silence on her pupils is committing—unintentionally no doubt, but still committing—an offence against reason, worthy only of a convent. Every shout, every burst of laughter, every song—nay, in the case of infants, as physiologists well know,

every moderate fit of crying—conduces to health, by rapidly filling and emptying the lung, and changing the blood more rapidly from black to red, that is, from death to life. Andrew Combe tells a story of a large charity school, in which the young girls were, for the sake of their health, shut up in the hall and school-room during play hours, from November till March, and no romping or noise allowed. The natural consequences were, the great majority of them fell ill; and I am afraid that a great deal of illness has been from time to time contracted in certain school-rooms, simply through this one cause of enforced silence. Some cause or other there must be for the amount of ill-health and weakliness which prevails especially among girls of the middle classes in towns, who have not, poor things, the opportunities which richer girls have, of keeping themselves in strong health by riding, skating, archery—that last quite an admirable exercise for the chest and lungs, and far preferable to croquet, which involves too much unwholesome stooping.—Even playing at ball, if milliners and shop-girls had room to indulge in one after their sedentary work, might bring fresh spirits to many a heart, and fresh colour to many a cheek. I spoke just now of the Greeks.

I suppose you will all allow that the Greeks were, as far as we know, the most beautiful race which the world ever saw. Every educated man knows that they were also the cleverest of all races; and, next to his Bible, thanks God for Greek literature.

Now, these people had made physical as well as intellectual education a science as well as a study. Their women practised

graceful, and in some cases even athletic, exercises. They developed, by a free and healthy life, those figures which remain everlasting and unapproachable models of human beauty: but —to come to my third point—they wore no stays. The first mention of stays that I have ever found is in the letters of dear old Synesius, Bishop of Cyrene, on the Greek coast of Africa, about four hundred years after the Christian era. He tells us how, when he was shipwrecked on a remote part of the coast, and he and the rest of the passengers were starving on cockles and limpets, there was among them a slave girl out of the far East, who had a pinched wasp-waist, such as you may see on the old Hindoo sculptures, and such as you may see in any street in a British town. And when the Greek ladies of the neighbourhood found her out, they sent for her from house to house, to behold, with astonishment and laughter, this new and prodigious waist, with which it seemed to them it was impossible for a human being to breathe or live; and they petted the poor girl, and fed her, as they might a dwarf or a giantess, till she got quite fat and comfortable, while her owners had not enough to eat. So strange and ridiculous seemed our present fashion to the descendants of those who, centuries before, had imagined, because they had seen living and moving, those glorious statues which we pretend to admire, but refuse to imitate.

It seems to me that a few centuries hence, when mankind has learnt to fear God more, and therefore to obey more strictly those laws of nature and of science which are the will of God

—it seems to me, I say, that in those days the present fashion of tight lacing will be looked back upon as a contemptible and barbarous superstition, denoting a very low level of civilisation in the peoples which have practised it. That for generations past women should have been in the habit—not to please men, who do not care about the matter as a point of beauty—but simply to vie with each other in obedience to something called fashion —that they should, I say, have been in the habit of deliberately crushing that part of the body which should be specially left free, contracting and displacing their lungs, their heart, and all the most vital and important organs, and entailing thereby disease, not only on themselves but on their children after them; that for forty years past physicians should have been telling them of the folly of what they have been doing: and that they should as yet, in the great majority of cases, not only turn a deaf ear to all warnings, but actually deny the offence, of which one glance of the physician or the sculptor, who know what shape the human body ought to be, brings them in guilty: this, I say, is an instance of—what shall I call it?—which deserves at once the lash, not merely of the satirist, but of any theologian who really believes that God made the physical universe. Let me, I pray you, appeal to your common sense for a moment. When any one chooses a horse or a dog, whether for strength, for speed, or for any other useful purpose, the first thing almost to be looked at is the girth round the ribs; the room for heart and lungs. Exactly in proportion to that will be the animal's general

healthiness, power of endurance, and value in many other ways.

If you will look at eminent lawyers and famous orators, who have attained a healthy old age, you will see that in every case they are men, like the late Lord Palmerston, and others whom I could mention, of remarkable size, not merely in the upper, but in the lower part of the chest; men who had, therefore, a peculiar power of using the diaphragm to fill and to clear the lungs, and therefore to oxygenate the blood of the whole body. Now, it is just these lower ribs, across which the diaphragm is stretched like the head of a drum, which stays contract to a minimum.

If you advised owners of horses and hounds to put their horses or their hounds into stays, and lace them up tight, in order to increase their beauty, you would receive, I doubt not, a very courteous, but certainly a very decided, refusal to do that which would spoil not merely the animals themselves, but the whole stud or the whole kennel for years to come. And if you advised an orator to put himself into tight stays, he, no doubt, again would give a courteous answer; but he would reply—if he was a really educated man—that to comply with your request would involve his giving up public work, under the probable penalty of being dead within the twelvemonth.

And how much work of every kind, intellectual as well as physical, is spoiled or hindered; how many deaths occur from consumption and other complaints which are the result of this habit of tight lacing, is known partly to the medical men, who lift up their voices in vain, and known fully to Him who will not

interfere with the least of His own physical laws to save human beings from the consequences of their own wilful folly.

And now—to end this lecture with more pleasing thoughts—What becomes of this breath which passes from your lips? Is it merely harmful; merely waste? God forbid! God has forbidden that anything should be merely harmful or merely waste in this so wise and well-made world. The carbonic acid which passes from your lips at every breath—ay, even that which oozes from the volcano crater when the eruption is past—is a precious boon to thousands of things of which you have daily need. Indeed there is a sort of hint at physical truth in the old fairy tale of the girl, from whose lips, as she spoke, fell pearls and diamonds; for the carbonic acid of your breath may help hereafter to make the pure carbonate of lime of a pearl, or the still purer carbon of a diamond. Nay, it may go—in such a world of transformations do we live—to make atoms of coal strata, which shall lie buried for ages beneath deep seas, shall be upheaved in continents which are yet unborn, and there be burnt for the use of a future race of men, and resolved into their original elements. Coal, wise men tell us, is on the whole breath and sunlight; the breath of living creatures who have lived in the vast swamps and forests of some primæval world, and the sunlight which transmuted that breath into the leaves and stems of trees, magically locked up for ages in that black stone, to become, when it is burnt at last, light and carbonic acid, as it was at first. For though you must not breathe your breath again, you may at least eat your breath, if you will

allow the sun to transmute it for you into vegetables; or you may enjoy its fragrance and its colour in the shape of a lily or a rose.

When you walk in a sunlit garden, every word you speak, every breath you breathe, is feeding the plants and flowers around. The delicate surface of the green leaves absorbs the carbonic acid, and parts it into its elements, retaining the carbon to make woody fibre, and courteously returning you the oxygen to mingle with the fresh air, and be inhaled by your lungs once more. Thus do you feed the plants; just as the plants feed you; while the great life-giving sun feeds both; and the geranium standing in the sick child's window does not merely rejoice his eye and mind by its beauty and freshness, but repays honestly the trouble spent on it; absorbing the breath which the child needs not, and giving to him the breath which he needs.

So are the services of all things constituted according to a Divine and wonderful order, and knit together in mutual dependence and mutual helpfulness.—A fact to be remembered with hope and comfort; but also with awe and fear. For as in that which is above nature, so in nature itself; he that breaks one physical law is guilty of all. The whole universe, as it were, takes up arms against him; and all nature, with her numberless and unseen powers, is ready to avenge herself on him, and on his children after him, he knows not when nor where. He, on the other hand, who obeys the laws of nature with his whole heart and mind, will find all things working together to him for good.

He is at peace with the physical universe. He is helped and

befriended alike by the sun above his head and the dust beneath his feet: because he is obeying the will and mind of Him who made sun, and dust, and all things; and who has given them a law which cannot be broken.

THE TREE OF KNOWLEDGE

The more I have contemplated that ancient story of the Fall, the more it has seemed to me within the range of probability, and even of experience. It must have happened somewhere for the first time; for it has happened only too many times since. It has happened, as far as I can ascertain, in every race, and every age, and every grade of civilisation. It is happening round us now in every region of the globe. Always and everywhere, it seems to me, have poor human beings been tempted to eat of some "tree of knowledge," that they may be, even for an hour, as gods; wise, but with a false wisdom; careless, but with a frantic carelessness; and happy, but with a happiness which, when the excitement is past, leaves too often—as with that hapless pair in Eden—depression, shame, and fear. Everywhere, and in all ages, as far as I can ascertain, has man been inventing stimulants and narcotics to supply that want of vitality of which he is so painfully aware; and has asked nature, and not God, to clear the dull brain, and comfort the weary spirit.

This has been, and will be perhaps for many a century to come, almost the most fearful failing of this poor, exceptional, over-organised, diseased, and truly fallen being called man, who is in doubt daily whether he be a god or an ape; and in trying wildly to become the former, ends but too often in becoming the latter.

For man, whether savage or civilised, feels, and has felt in every age, that there is something wrong with him. He usually confesses this fact—as is to be expected—of his fellow-men, rather than of himself; and shows his sense that there is something wrong with them by complaining of, hating, and killing them. But he cannot always conceal from himself the fact that he, too, is wrong, as well as they; and as he will not usually kill himself, he tries wild ways to make himself at least feel—if not to be—somewhat "better." Philosophers may bid him be content; and tell him that he is what he ought to be, and what nature has made him. But he cares nothing for the philosophers. He knows, usually, that he is not what he ought to be; that he carries about with him, in most cases, a body more or less diseased and decrepit, incapable of doing all the work which he feels that he himself could do, or expressing all the emotions which he himself longs to express; a dull brain and dull senses, which cramp the eager infinity within him; as—so Goethe once said with pity—the horse's single hoof cramps the fine intelligence and generosity of his nature, and forbids him even to grasp an object, like the more stupid cat, and baser monkey. And man has a self, too, within, from which he longs too often to escape, as from a household ghost; who pulls out, at unfortunately rude and unwelcome hours, the ledger of memory.

And so when the tempter—be he who he may—says to him "Take this, and you will 'feel better'—Take this, and you shall be as gods, knowing good and evil:" then, if the temptation was, as

the old story says, too much for man while healthy and unfallen, what must it be for his unhealthy and fallen children? In vain we say to man—

> "'Tis life, not death, for which you pant;
> 'Tis life, whereof your nerves are scant;
> More life, and fuller, that you want."

And your tree of knowledge is not the tree of life: it is, in every case, the tree of death; of decrepitude, madness, misery. He prefers the voice of the tempter—"Thou shalt not surely die." Nay, he will say at last,—"Better be as gods awhile, and die: than be the crawling, insufficient thing I am; and live."

He—did I say? Alas! I must say she likewise. The sacred story is only too true to fact, when it represents the woman as falling, not merely at the same time as the man, but before the man. Only let us remember that it represents the woman as tempted; tempted, seemingly, by a rational being, of lower race, and yet of superior cunning; who must, therefore, have fallen before the woman. Who or what the being was, who is called the Serpent in our translation of Genesis, it is not for me to say. We have absolutely, I think, no facts from which to judge; and Rabbinical traditions need trouble no man much. But I fancy that a missionary, preaching on this story to Negroes; telling them plainly that the "Serpent" meant the first Obeah man; and then comparing the experiences of that hapless pair in Eden, with their own after certain orgies not yet extinct in

Africa and elsewhere, would be only too well understood: so well, indeed, that he might run some risk of eating himself, not of the tree of life, but of that of death. The sorcerer or sorceress tempting the woman; and then the woman tempting the man; this seems to be, certainly among savage peoples, and, alas! too often among civilised peoples also, the usual course of the world-wide tragedy.

But—paradoxical as it may seem—the woman's yielding before the man is not altogether to her dishonour, as those old monks used to allege who hated, and too often tortured, the sex whom they could not enjoy. It is not to the woman's dishonour, if she felt, before her husband, higher aspirations than those after mere animal pleasure. To be as gods, knowing good and evil, is a vain and foolish, but not a base and brutal, wish. She proved herself thereby—though at an awful cost—a woman, and not an animal. And indeed the woman's more delicate organisation, her more vivid emotions, her more voluble fancy, as well as her mere physical weakness and weariness, have been to her, in all ages, a special source of temptation which it is to her honour that she has resisted so much better than the physically stronger, and therefore more culpable, man.

As for what the tree of knowledge was, there really is no need for us to waste our time in guessing. If it was not one plant, then it was another. It may have been something which has long since perished off the earth. It may have been—as some learned men have guessed—the sacred Soma, or Homa, of

the early Brahmin race; and that may have been a still existing narcotic species of Asclepias. It certainly was not the vine. The language of the Hebrew Scripture concerning it, and the sacred use to which it is consecrated in the Gospels, forbid that notion utterly; at least to those who know enough of antiquity to pass by, with a smile, the theory that the wines mentioned in Scripture were not intoxicating. And yet—as a fresh corroboration of what I am trying to say—how fearfully has that noble gift to man been abused for the same end as a hundred other vegetable products, ever since those mythic days when Dionusos brought the vine from the far East, amid troops of human Mænads and half-human Satyrs; and the Bacchæ tore Pentheus in pieces on Cithæron, for daring to intrude upon their sacred rites; and since those historic days, too, when, less than two hundred years before the Christian era, the Bacchic rites spread from Southern Italy into Etruria, and thence to the matrons of Rome; and under the guidance of Pœnia Annia, a Campanian lady, took at last shapes of which no man must speak, but which had to be put down with terrible but just severity, by the Consuls and the Senate.

But it matters little, I say, what this same tree of knowledge was. Was every vine on earth destroyed to-morrow, and every vegetable also from which alcohol is now distilled, man would soon discover something else wherewith to satisfy the insatiate craving. Has he not done so already? Has not almost every people had its tree of knowledge, often more deadly than any distilled liquor, from the absinthe of the cultivated Frenchman,

and the opium of the cultivated Chinese, down to the bush-poisons wherewith the tropic sorcerer initiates his dupes into the knowledge of good and evil, and the fungus from which the Samoiede extracts in autumn a few days of brutal happiness, before the setting in of the long six months' night? God grant that modern science may not bring to light fresh substitutes for alcohol, opium, and the rest; and give the white races, in that state of effeminate and godless quasi-civilisation which I sometimes fear is creeping upon them, fresh means of destroying themselves delicately and pleasantly off the face of the earth.

It is said by some that drunkenness is on the increase in this island. I have no trusty proof of it: but I can believe it possible; for every cause of drunkenness seems on the increase.

Overwork of body and mind; circumstances which depress health; temptation to drink, and drink again, at every corner of the streets; and finally, money, and ever more money, in the hands of uneducated people, who have not the desire, and too often not the means, of spending it in any save the lowest pleasures. These, it seems to me, are the true causes of drunkenness, increasing or not. And if we wish to become a more temperate nation, we must lessen them, if we cannot eradicate them.

First, overwork. We all live too fast, and work too hard. "All things are full of labour, man cannot utter it." In the heavy struggle for existence which goes on all around us, each man is tasked more and more—if he be really worth buying

and using—to the utmost of his powers all day long. The weak have to compete on equal terms with the strong; and crave, in consequence, for artificial strength. How we shall stop that I know not, while every man is "making haste to be rich, and piercing himself through with many sorrows, and falling into foolish and hurtful lusts, which drown men in destruction and perdition." How we shall stop that, I say, I know not. The old prophet may have been right when he said, "Surely it is not of the Lord that the people shall labour in the very fire, and weary themselves for very vanity;" and in some juster, wiser, more sober system of society—somewhat more like the Kingdom of The Father come on earth—it may be that poor human beings will not need to toil so hard, and to keep themselves up to their work by stimulants, but will have time to sit down, and look around them, and think of God, and of God's quiet universe, with something of quiet in themselves; something of rational leisure, and manful sobriety of mind, as well as of body.

But it seems to me also, that in such a state of society, when—as it was once well put—"every one has stopped running about like rats:"—that those who work hard, whether with muscle or with brain, would not be surrounded, as now, with every circumstance which tempts toward drink; by every circumstance which depresses the vital energies, and leaves them an easy prey to pestilence itself; by bad light, bad air, bad food, bad water, bad smells, bad occupations, which weaken the muscles, cramp the chest, disorder the digestion. Let any rational man, fresh from

the country—in which I presume God, having made it, meant all men, more or less, to live—go through the back streets of any city, or through whole districts of the "black countries" of England: and then ask himself—Is it the will of God that His human children should live and toil in such dens, such deserts, such dark places of the earth? Let him ask himself—Can they live and toil there without contracting a probably diseased habit of body; without contracting a certainly dull, weary, sordid habit of mind, which craves for any pleasure, however brutal, to escape from its own stupidity and emptiness? When I run through, by rail, certain parts of the iron-producing country—streets of furnaces, collieries, slag heaps, mud, slop, brick house-rows, smoke, dirt—and that is all; and when I am told, whether truly or falsely, that the main thing which the well-paid and well-fed men of those abominable wastes care for is—good fighting-dogs: I can only answer, that I am not surprised.

I say—as I have said elsewhere, and shall do my best to say again—that the craving for drink and narcotics, especially that engendered in our great cities, is not a disease, but a symptom of disease; of a far deeper disease than any which drunkenness can produce; namely, of the growing degeneracy of a population striving in vain by stimulants and narcotics to fight against those slow poisons with which our greedy barbarism, miscalled civilisation, has surrounded them from the cradle to the grave.

I may be answered that the old German, Angle, Dane, drank heavily. I know it: but why did they drink, save for the same

reason that the fenman drank, and his wife took opium, at least till the fens were drained? why but to keep off the depressing effects of the malaria of swamps and new clearings, which told on them—who always settled in the lowest grounds—in the shape of fever and ague? Here it may be answered again, that stimulants have been, during the memory of man, the destruction of the Red Indian race in America. I reply boldly, that I do not believe it. There is evidence enough in Jaques Cartier's 'Voyages to the Rivers of Canada;' and evidence more than enough in Strachey's 'Travaile in Virginia'—to quote only two authorities out of many—to prove that the Red Indians, when the white man first met with them, were, in North and South alike, a diseased, decaying, and, as all their traditions confess, decreasing race. Such a race would naturally crave for "the water of life," the "usque-bagh," or whisky, as we have contracted the old name now. But I should have thought that the white man, by introducing among these poor creatures iron, fire-arms, blankets, and above all horses wherewith to follow the buffalo-herds which they could never follow on foot, must have done ten times more towards keeping them alive, than he has done towards destroying them by giving them the chance of a week's drunkenness twice a year, when they came in to his forts to sell the skins which, without his gifts, they would never have got.

Such a race would, of course, if wanting vitality, crave for stimulants. But if the stimulants, and not the original want of vitality, combined with morals utterly detestable, and worthy

only of the gallows—and here I know what I say, and dare not tell what I know, from eye-witnesses—have been the cause of the Red Indians' extinction: then how is it, let me ask, that the Irishman and the Scotsman have, often to their great harm, been drinking as much whisky—and usually very bad whisky—not merely twice a year, but as often as they could get it, during the whole "iron age;" and, for aught any one can tell, during the "bronze age," and the "stone age" before that: and yet are still the most healthy, able, valiant, and prolific races in Europe? Had they drunk less whisky they would, doubtless, have been more healthy, able, valiant, and perhaps even more prolific, than they are now. They show no sign, however, as yet, of going the way of the Red Indian.

But if the craving for stimulants and narcotics is a token of deficient vitality: then the deadliest foe of that craving, and all its miserable results, is surely the Sanatory Reformer; the man who preaches, and—as far as ignorance and vested interests will allow him, procures—for the masses, pure air, pure sunlight, pure water, pure dwelling-houses, pure food. Not merely every fresh drinking-fountain: but every fresh public bath and wash-house, every fresh open space, every fresh growing tree, every fresh open window, every fresh flower in that window—each of these is so much, as the old Persians would have said, conquered for Ormuzd, the god of light and life, out of the dominion of Ahriman, the king of darkness and of death; so much taken from the causes of drunkenness and disease, and added to the causes

of sobriety and health.

Meanwhile one thing is clear: that if this present barbarism and anarchy of covetousness, miscalled modern civilisation, were tamed and drilled into something more like a Kingdom of God on earth: then we should not see the reckless and needless multiplication of liquor shops, which disgraces this country now.

As a single instance: in one country parish of nine hundred inhabitants, in which the population has increased only one-ninth in the last fifty years, there are now practically eight public-houses, where fifty years ago there were but two. One, that is, for every hundred and ten—or rather, omitting children, farmers, shopkeepers, gentlemen, and their households, one for every fifty of the inhabitants. In the face of the allurements, often of the basest kind, which these dens offer, the clergyman and the schoolmaster struggle in vain to keep up night-schools and young men's clubs, and to inculcate habits of providence.

The young labourers over a great part of the south and east, at least, of England,—though never so well off, for several generations, as they are now—are growing up thriftless, shiftless; inferior, it seems to me, to their grandfathers in everything, save that they can usually read and write, and their grandfathers could not; and that they wear smart cheap cloth clothes, instead of their grandfathers' smock-frocks.

And if it be so in the country: how must it be in towns? There must come a thorough change in the present licensing system, in spite of all the "pressure" which certain powerful vested interests

may bring to bear on governments. And it is the duty of every good citizen, who cares for his countrymen, and for their children after them, to help in bringing about that change as speedily as possible.

Again: I said just now that a probable cause of increasing drunkenness was the increasing material prosperity of thousands who knew no recreation beyond low animal pleasure. If I am right—and I believe that I am right—I must urge on those who wish drunkenness to decrease, the necessity of providing more, and more refined recreation for the people.

Men drink, and women too, remember, not merely to supply exhaustion; not merely to drive away care: but often simply to drive away dulness. They have nothing to do save to think over what they have done in the day, or what they expect to do to-morrow; and they escape from that dreary round of business thought, in liquor or narcotics. There are still those, by no means of the hand-working class, but absorbed all day by business, who drink heavily at night in their own comfortable homes, simply to recreate their overburdened minds. Such cases, doubtless, are far less common than they were fifty years ago: but why? Is not the decrease of drinking among the richer classes certainly due to the increased refinement and variety of their tastes and occupations?

In cultivating the æsthetic side of man's nature; in engaging him with the beautiful, the pure, the wonderful, the truly natural; with painting, poetry, music, horticulture, physical science—in all this lies recreation, in the true and literal sense of that word, namely,

the recreating and mending of the exhausted mind and feelings, such as no rational man will now neglect, either for himself, his children, or his work-people.

But how little of all this is open to the masses, all should know but too well. How little opportunity the average hand-worker, or his wife, has of eating of any tree of knowledge, save of the very basest kind, is but too palpable. We are mending, thank God, in this respect. Free libraries and museums have sprung up of late in other cities beside London. God's blessing rest upon them all. And the Crystal Palace, and still later, the Bethnal Green Museum, have been, I believe, of far more use than many average sermons and lectures from many average orators.

But are we not still far behind the old Greeks, and the Romans of the Empire likewise, in the amount of amusement and instruction, and even of shelter, which we provide for the people? Recollect the—to me—disgraceful fact; that there is not, as far as I am aware, throughout the whole of London, a single portico or other covered place, in which the people can take refuge during a shower: and this in the climate of England!

Where they do take refuge on a wet day the publican knows but too well; as he knows also where thousands of the lower classes, simply for want of any other place to be in, save their own sordid dwellings, spend as much as they are permitted of the Sabbath day. Let us put down "Sunday drinking" by all means, if we can. But let us remember that by closing the public-house on Sunday, we prevent no man or woman from carrying home

as much poison as they choose on Saturday night, to brutalise themselves therewith, perhaps for eight-and-forty hours. And let us see—in the name of Him who said that He had made the Sabbath for man, and not man for the Sabbath—let us see, I say, if we cannot do something to prevent the townsman's Sabbath being, not a day of rest, but a day of mere idleness; the day of most temptation, because of most dulness, of the whole seven.

And here, perhaps, some sweet soul may look up reprovingly and say—He talks of rest. Does he forget, and would he have the working man forget, that all these outward palliatives will never touch the seat of the disease, the unrest of the soul within? Does he forget, and would he have the working man forget, who it was who said—who only has the right to say—"Come unto Me, all ye who are weary and heavy laden, and I will give you rest"? Ah no, sweet soul. I know your words are true. I know that what we all want is inward rest; rest of heart and brain; the calm, strong, self-contained, self-denying character; which needs no stimulants, for it has no fits of depression; which needs no narcotics, for it has no fits of excitement; which needs no ascetic restraints, for it is strong enough to use God's gifts without abusing them; the character, in a word, which is truly temperate, not in drink or food merely, but in all desires, thoughts, and actions; freed from the wild lusts and ambitions to which that old Adam yielded, and, seeking for light and life by means forbidden, found thereby disease and death. Yes; I know that; and know, too, that that rest is found, only where you have already found it.

And yet: in such a world as this; governed by a Being who has made sunshine, and flowers, and green grass, and the song of birds, and happy human smiles; and who would educate by them —if we would let Him—His human children from the cradle to the grave; in such a world as this, will you grudge any particle of that education, even any harmless substitute for it, to those spirits in prison, whose surroundings too often tempt them, from the cradle to the grave, to fancy that the world is composed of bricks and iron, and governed by inspectors and policemen? Preach to those spirits in prison, as you know far better than we parsons how to preach: but let them have besides some glimpses of the splendid fact, that outside their prison-house is a world which God, not man, has made; wherein grows everywhere that tree of knowledge which is likewise the tree of life; and that they have a right to some small share of its beauty, and its wonder, and its rest, for their own health of soul and body, and for the health of their children after them.

NAUSICAA IN LONDON: OR, THE LOWER EDUCATION OF WOMAN

Fresh from the Marbles of the British Museum, I went my way through London streets. My brain was still full of fair and grand forms; the forms of men and women whose every limb and attitude betokened perfect health, and grace, and power, and a self-possession and self-restraint so habitual and complete that it had become unconscious, and undistinguishable from the native freedom of the savage. For I had been up and down the corridors of those Greek sculptures, which remain as a perpetual sermon to rich and poor, amid our artificial, unwholesome, and it may be decaying pseudo-civilisation; saying with looks more expressive than all words—Such men and women can be; for such they have been; and such you may be yet, if you will use that science of which you too often only boast. Above all, I had been pondering over the awful and yet tender beauty of the maiden figures from the Parthenon and its kindred temples. And these, or such as these, I thought to myself, were the sisters of the men who fought at Marathon and Salamis; the mothers of many a man among the ten thousand whom Xenophon led back from Babylon to the Black Sea shore; the ancestresses of many a man who conquered the East in Alexander's host, and fought with Porus in the far Punjab. And were these women mere dolls? These men mere

gladiators? Were they not the parents of philosophy, science, poetry, the plastic arts? We talk of education now. Are we more educated than were the ancient Greeks? Do we know anything about education, physical, intellectual, or æsthetic, and I may say moral likewise—religious education, of course, in our sense of the word, they had none—but do we know anything about education of which they have not taught us at least the rudiments? Are there not some branches of education which they perfected, once and for ever; leaving us northern barbarians to follow, or else not to follow, their example? To produce health, that is, harmony and sympathy, proportion and grace, in every faculty of mind and body—that was their notion of education. To produce that, the text-book of their childhood was the poetry of Homer, and not of—But I am treading on dangerous ground. It was for this that the seafaring Greek lad was taught to find his ideal in Ulysses; while his sister at home found hers, it may be, in Nausicaa. It was for this, that when perhaps the most complete and exquisite of all the Greeks, Sophocles the good, beloved by gods and men, represented on the Athenian stage his drama of Nausicaa, and, as usual, could not—for he had no voice—himself take a speaking part, he was content to do one thing in which he specially excelled; and dressed and masked as a girl, to play at ball amid the chorus of Nausicaa's maidens.

That drama of Nausicaa is lost; and if I dare say so of any play of Sophocles', I scarce regret it. It is well, perhaps, that we have no second conception of the scene, to interfere with

the simplicity, so grand, and yet so tender, of Homer's idyllic episode.

Nausicaa, it must be remembered, is the daughter of a king. But not of a king in the exclusive modern European or old Eastern sense. Her father, Alcinous, is simply "primus inter pares" among a community of merchants, who are called "kings" likewise; and Mayor for life—so to speak—of a new trading city, a nascent Genoa or Venice, on the shore of the Mediterranean. But the girl Nausicaa, as she sleeps in her "carved chamber," is "like the immortals in form and face;" and two handmaidens who sleep on each side of the polished door "have beauty from the Graces."

To her there enters, in the shape of some maiden friend, none less than Pallas Athené herself, intent on saving worthily her favourite, the shipwrecked Ulysses; and bids her in a dream go forth—and wash the clothes.[2]

> "Nausicaa, wherefore doth thy mother bear
> Child so forgetful? This long time doth rest,
> Like lumber in the house, much raiment fair.
> Soon must thou wed, and be thyself well-drest,
> And find thy bridegroom raiment of the best.
> These are the things whence good repute is born,
> And praises that make glad a parent's breast.
> Come, let us both go washing with the morn;

[2] I quote from the translation of the late lamented Philip Stanhope Worsley, of Corpus Christi College, Oxford.

So shalt thou have clothes becoming to be worn.

"Know that thy maidenhood is not for long,
Whom the Phœacian chiefs already woo,
Lords of the land whence thou thyself art sprung.
Soon as the shining dawn comes forth anew,
For wain and mules thy noble father sue,
Which to the place of washing shall convey
Girdles and shawls and rugs of splendid hue.
This for thyself were better than essay
Thither to walk: the place is distant a long way."

Startled by her dream, Nausicaa awakes, and goes to find her parents—

"One by the hearth sat, with the maids around,
And on the skeins of yarn, sea-purpled, spent
Her morning toil. Him to the council bound,
Called by the honoured kings, just going forth she found."

And calling him, as she might now, "Pappa phile," Dear Papa, asks for the mule waggon: but it is her father's and her five brothers' clothes she fain would wash,—

"Ashamed to name her marriage to her father dear."

But he understood all—and she goes forth in the mule waggon, with the clothes, after her mother has put in "a chest of all kinds

of delicate food, and meat, and wine in a goatskin;" and last but not least, the indispensable cruse of oil for anointing after the bath, to which both Jews, Greeks, and Romans owed so much health and beauty. And then we read in the simple verse of a poet too refined, like the rest of his race, to see anything mean or ridiculous in that which was not ugly and unnatural, how she and her maids got into the "polished waggon," "with good wheels," and she "took the whip and the studded reins," and "beat them till they started;" and how the mules "rattled" away, and "pulled against each other," till

> "When they came to the fair flowing river
> Which feeds good lavatories all the year,
> Fitted to cleanse all sullied robes soever,
> They from the wain the mules unharnessed there,
> And chased them free, to crop their juicy fare
> By the swift river, on the margin green;
> Then to the waters dashed the clothes they bare
> And in the stream-filled trenches stamped them clean.
>
> "Which, having washed and cleansed, they spread before
> The sunbeams, on the beach, where most did lie
> Thick pebbles, by the sea-wave washed ashore.
> So, having left them in the heat to dry,
> They to the bath went down, and by-and-by,
> Rubbed with rich oil, their midday meal essay,
> Couched in green turf, the river rolling nigh.
> Then, throwing off their veils, at ball they play,

While the white-armed Nausicaa leads the choral lay."

The mere beauty of this scene all will feel, who have the sense of beauty in them. Yet it is not on that aspect which I wish to dwell, but on its healthfulness. Exercise is taken, in measured time, to the sound of song, as a duty almost, as well as an amusement. For this game of ball, which is here mentioned for the first time in human literature, nearly three thousand years ago, was held by the Greeks and by the Romans after them, to be an almost necessary part of a liberal education; principally, doubtless, from the development which it produced in the upper half of the body, not merely to the arms, but to the chest, by raising and expanding the ribs, and to all the muscles of the torso, whether perpendicular or oblique. The elasticity and grace which it was believed to give were so much prized, that a room for ball-play, and a teacher of the art, were integral parts of every gymnasium; and the Athenians went so far as to bestow on one famous ballplayer, Aristonicus of Carystia, a statue and the rights of citizenship. The rough and hardy young Spartans, when passing from boyhood into manhood, received the title of ball-players, seemingly from the game which it was then their special duty to learn. In the case of Nausicaa and her maidens, the game would just bring into their right places all that is liable to be contracted and weakened in women, so many of whose occupations must needs be sedentary and stooping; while the song which accompanied the game at once filled the

lungs regularly and rhythmically, and prevented violent motion, or unseemly attitude. We, the civilised, need physiologists to remind us of these simple facts, and even then do not act on them. Those old half-barbarous Greeks had found them out for themselves, and, moreover, acted on them.

But fair Nausicaa must have been—some will say—surely a mere child of nature, and an uncultivated person?

So far from it, that her whole demeanour and speech show culture of the very highest sort, full of "sweetness and light."—Intelligent and fearless, quick to perceive the bearings of her strange and sudden adventure, quick to perceive the character of Ulysses, quick to answer his lofty and refined pleading by words as lofty and refined, and pious withal;—for it is she who speaks to her handmaids the once so famous words:

> "Strangers and poor men all are sent from Zeus;
> And alms, though small, are sweet"

Clear of intellect, prompt of action, modest of demeanour, shrinking from the slightest breath of scandal; while she is not ashamed, when Ulysses, bathed and dressed, looks himself again, to whisper to her maidens her wish that the Gods might send her such a spouse.—This is Nausicaa as Homer draws her; and as many a scholar and poet since Homer has accepted her for the ideal of noble maidenhood. I ask my readers to study for themselves her interview with Ulysses, in Mr. Worsley's

translation, or rather in the grand simplicity of the original Greek,[3] and judge whether Nausicaa is not as perfect a lady as the poet who imagined her—or, it may be, drew her from life—must have been a perfect gentleman; both complete in those "manners" which, says the old proverb, "make the man:" but which are the woman herself; because with her—who acts more by emotion than by calculation—manners are the outward and visible tokens of her inward and spiritual grace, or disgrace; and flow instinctively, whether good or bad, from the instincts of her inner nature.

True, Nausicaa could neither read nor write. No more, most probably, could the author of the Odyssey. No more, for that matter, could Abraham, Isaac, and Jacob, though they were plainly, both in mind and manners, most highly-cultivated men. Reading and writing, of course, have now become necessaries of humanity; and are to be given to every human being, that he may start fair in the race of life. But I am not aware that Greek women improved much, either in manners, morals, or happiness, by acquiring them in after centuries. A wise man would sooner see his daughter a Nausicaa than a Sappho, an Aspasia, a Cleopatra, or even an Hypatia.

Full of such thoughts, I went through London streets, among the Nausicaas of the present day; the girls of the period; the daughters and hereafter mothers of our future rulers, the great Demos or commercial middle class of the greatest mercantile

[3] Odyssey, book vi. 127-315; vol. i. pp. 143-150 of Mr. Worsley's translation.

city in the world: and noted what I had noted with fear and sorrow, many a day, for many a year; a type, and an increasing type, of young women who certainly had not had the "advantages," "educational" and other, of that Greek Nausicaa of old.

Of course, in such a city as London, to which the best of everything, physical and other, gravitates, I could not but pass, now and then, beautiful persons, who made me proud of those "grandes Anglaises aux joues rouges," whom the Parisiennes ridicule—and envy. But I could not help suspecting that their looks showed them to be either country-bred, or born of country parents; and this suspicion was strengthened by the fact, that when compared with their mothers, the mother's physique was, in the majority of cases, superior to the daughters'. Painful it was, to one accustomed to the ruddy well-grown peasant girl, stalwart, even when, as often, squat and plain, to remark the exceedingly small size of the average young woman; by which I do not mean mere want of height—that is a little matter—but want of breadth likewise; a general want of those large frames, which indicate usually a power of keeping strong and healthy not merely the muscles, but the brain itself.

Poor little things. I passed hundreds—I pass hundreds every day—trying to hide their littleness by the nasty mass of false hair—or what does duty for it; and by the ugly and useless hat which is stuck upon it, making the head thereby look ridiculously large and heavy; and by the high heels on which they totter onward,

having forgotten, or never learnt, the simple art of walking; their bodies tilted forward in that ungraceful attitude which is called —why that name of all others?—a "Grecian bend;" seemingly kept on their feet, and kept together at all, in that strange attitude, by tight stays which prevented all graceful and healthy motion of the hips or sides; their raiment, meanwhile, being purposely misshapen in this direction and in that, to hide—it must be presumed—deficiencies of form. If that chignon and those heels had been taken off, the figure which would have remained would have been that too often of a puny girl of sixteen. And yet there was no doubt that these women were not only full grown, but some of them, alas! wives and mothers.

Poor little things.—And this they have gained by so-called civilisation: the power of aping the "fashions" by which the worn-out Parisienne hides her own personal defects; and of making themselves, by innate want of that taste which the Parisienne possesses, only the cause of something like a sneer from many a cultivated man; and of something like a sneer, too, from yonder gipsy woman who passes by, with bold bright face, and swinging hip, and footstep stately and elastic; far better dressed, according to all true canons of taste, than most town-girls; and thanking her fate that she and her "Rom" are no house-dwellers and gaslight-sightseers, but fatten on free air upon the open moor.

But the face which is beneath that chignon and that hat? Well —it is sometimes pretty: but how seldom handsome, which is a higher quality by far. It is not, strange to say, a well-fed face.

Plenty of money, and perhaps too much, is spent on those fine clothes. It had been better, to judge from the complexion, if some of that money had been spent in solid wholesome food.

She looks as if she lived—as she too often does, I hear—on tea and bread-and-butter, or rather on bread with the minimum of butter. For as the want of bone indicates a deficiency of phosphatic food, so does the want of flesh about the cheeks indicate a deficiency of hydrocarbon. Poor little Nausicaa:—that is not her fault. Our boasted civilisation has not even taught her what to eat, as it certainly has not increased her appetite; and she knows not—what every country fellow knows—that without plenty of butter and other fatty matters, she is not likely to keep even warm. Better to eat nasty fat bacon now, than to supply the want of it some few years hence by nastier cod-liver oil. But there is no one yet to tell her that, and a dozen other equally simple facts, for her own sake, and for the sake of that coming Demos which she is to bring into the world; a Demos which, if we can only keep it healthy in body and brain, has before it so splendid a future: but which, if body and brain degrade beneath the influence of modern barbarism, is but too likely to follow the Demos of ancient Byzantium, or of modern Paris.

Ay, but her intellect. She is so clever, and she reads so much, and she is going to be taught to read so much more.

Ah, well—there was once a science called physiognomy. The Greeks, from what I can learn, knew more of it than any people since: though the Italian painters and sculptors must have known

much; far more than we. In a more scientific civilisation there will be such a science once more: but its laws, though still in the empiric stage, are not altogether forgotten by some. Little children have often a fine and clear instinct of them. Many cultivated and experienced women have a fine and clear instinct of them likewise. And some such would tell us that there is intellect in plenty in the modern Nausicaa: but not of the quality which they desire for their country's future good. Self-consciousness, eagerness, volubility, petulance, in countenance, in gesture, and in voice—which last is too often most harsh and artificial, the breath being sent forth through the closed teeth, and almost entirely at the corners of the mouth—and, with all this, a weariness often about the wrinkling forehead and the drooping lids;—all these, which are growing too common, not among the Demos only, nor only in the towns, are signs, they think, of the unrest of unhealth, physical, intellectual, spiritual. At least they are as different as two types of physiognomy in the same race can be, from the expression both of face and gesture, in those old Greek sculptures, and in the old Italian painters; and, it must be said, in the portraits of Reynolds, and Gainsborough, Copley, and Romney. Not such, one thinks, must have been the mothers of Britain during the latter half of the last century and the beginning of the present; when their sons, at times, were holding half the world at bay.

And if Nausicaa has become such in town: what is she when she goes to the seaside, not to wash the clothes in fresh-water,

but herself in salt—the very salt-water, laden with decaying organisms, from which, though not polluted further by a dozen sewers, Ulysses had to cleanse himself, anointing, too, with oil, ere he was fit to appear in the company of Nausicaa of Greece?

She dirties herself with the dirty salt-water; and probably chills and tires herself by walking thither and back, and staying in too long; and then flaunts on the pier, bedizened in garments which, for monstrosity of form and disharmony of colours, would have set that Greek Nausicaa's teeth on edge, or those of any average Hindoo woman now. Or, even sadder still, she sits on chairs and benches all the weary afternoon, her head drooped on her chest, over some novel from the "Library;" and then returns to tea and shrimps, and lodgings of which the fragrance is not unsuggestive, sometimes not unproductive, of typhoid fever. Ah, poor Nausicaa of England! That is a sad sight to some who think about the present, and have read about the past. It is not a sad sight to see your old father—tradesman, or clerk, or what not—who has done good work in his day, and hopes to do some more, sitting by your old mother, who has done good work in her day—among the rest, that heaviest work of all, the bringing you into the world and keeping you in it till now—honest, kindly, cheerful folk enough, and not inefficient in their own calling; though an average Northumbrian, or Highlander, or Irish Easterling, beside carrying a brain of five times the intellectual force, could drive five such men over the cliff with his bare hands. It is not a sad sight, I say, to see them sitting about upon those seaside

benches, looking out listlessly at the water, and the ships, and the sunlight, and enjoying, like so many flies upon a wall, the novel act of doing nothing. It is not the old for whom wise men are sad: but for you. Where is your vitality? Where is your "Lebensglückseligkeit," your enjoyment of superfluous life and power? Why can you not even dance and sing, till now and then, at night, perhaps, when you ought to be safe in bed, but when the weak brain, after receiving the day's nourishment, has roused itself a second time into a false excitement of gaslight pleasure?

What there is left of it is all going into that foolish book, which the womanly element in you, still healthy and alive, delights in; because it places you in fancy in situations in which you will never stand, and inspires you with emotions, some of which, it may be, you had better never feel. Poor Nausicaa—old, some men think, before you have been ever young.

And now they are going to "develop" you; and let you have your share in "the higher education of women," by making you read more books, and do more sums, and pass examinations, and stoop over desks at night after stooping over some other employment all day; and to teach you Latin, and even Greek.

Well, we will gladly teach you Greek, if you learn thereby to read the history of Nausicaa of old, and what manner of maiden she was, and what was her education. You will admire her, doubtless. But do not let your admiration limit itself to drawing a meagre half-mediævalized design of her—as she never looked.

Copy in your own person; and even if you do not descend as

low—or rise as high—as washing the household clothes, at least learn to play at ball; and sing, in the open air and sunshine, not in theatres and concert-rooms by gaslight; and take decent care of your own health; and dress not like a "Parisienne"—nor, of course, like Nausicaa of old, for that is to ask too much:—but somewhat more like an average Highland lassie; and try to look like her, and be like her, of whom Wordsworth sang—

"A mien and face
In which full plainly I can trace
Benignity and home-bred sense,
Ripening in perfect innocence.
Here scattered, like a random seed,
Remote from men, thou dost not need
The embarrassed look of shy distress
And maidenly shamefacedness.
Thou wear'st upon thy forehead clear
The freedom of a mountaineer.
A face with gladness overspread,
Soft smiles, by human kindness bred,
And seemliness complete, that sways
Thy courtesies, about thee plays.
With no restraint, save such as springs
From quick and eager visitings
Of thoughts that lie beyond the reach
Of thy few words of English speech.
A bondage sweetly brooked, a strife
That gives thy gestures grace and life."

Ah, yet unspoilt Nausicaa of the North; descendant of the dark tender-hearted Celtic girl, and the fair deep-hearted Scandinavian Viking, thank God for thy heather and fresh air, and the kine thou tendest, and the wool thou spinnest; and come not to seek thy fortune, child, in wicked London town; nor import, as they tell me thou art doing fast, the ugly fashions of that London town, clumsy copies of Parisian cockneydom, into thy Highland home; nor give up the healthful and graceful, free and modest dress of thy mother and thy mother's mother, to disfigure the little kirk on Sabbath days with crinoline and corset, high-heeled boots, and other women's hair.

It is proposed, just now, to assimilate the education of girls more and more to that of boys. If that means that girls are merely to learn more lessons, and to study what their brothers are taught, in addition to what their mothers were taught; then it is to be hoped, at least by physiologists and patriots, that the scheme will sink into that limbo whither, in a free and tolerably rational country, all imperfect and ill-considered schemes are sure to gravitate. But if the proposal be a bonâ fide one: then it must be borne in mind that in the public schools of England, and in all private schools, I presume, which take their tone from them, cricket and football are more or less compulsory, being considered integral parts of an Englishman's education; and that they are likely to remain so, in spite of all reclamations: because masters and boys alike know that games do not, in the long

run, interfere with a boy's work; that the same boy will very often excel in both; that the games keep him in health for his work; that the spirit with which he takes to his games when in the lower school, is a fair test of the spirit with which he will take to his work when he rises into the higher school; and that nothing is worse for a boy than to fall into that loafing, tuck-shop-haunting set, who neither play hard nor work hard, and are usually extravagant, and often vicious. Moreover, they know well that games conduce, not merely to physical, but to moral health; that in the playing-field boys acquire virtues which no books can give them; not merely daring and endurance, but, better still, temper, self-restraint, fairness, honour, unenvious approbation of another's success, and all that "give and take" of life which stand a man in such good stead when he goes forth into the world, and without which, indeed, his success is always maimed and partial.

Now: if the promoters of higher education for women will compel girls to any training analogous to our public school games; if, for instance, they will insist on that most natural and wholesome of all exercises, dancing, in order to develop the lower half of the body; on singing, to expand the lungs and regulate the breath; and on some games—ball or what not—which will ensure that raised chest, and upright carriage, and general strength of the upper torso, without which full oxygenation of the blood, and therefore general health, is impossible; if they will sternly forbid tight stays, high heels, and all which interferes with free growth

and free motion; if they will consider carefully all which has been written on the "half-time system" by Mr. Chadwick and others; and accept the certain physical law that, in order to renovate the brain day by day, the growing creature must have plenty of fresh air and play, and that the child who learns for four hours and plays for four hours, will learn more, and learn it more easily, than the child who learns for the whole eight hours; if, in short, they will teach girls not merely to understand the Greek tongue, but to copy somewhat of the Greek physical training, of that "music and gymnastic" which helped to make the cleverest race of the old world the ablest race likewise: then they will earn the gratitude of the patriot and the physiologist, by doing their best to stay the downward tendencies of the physique, and therefore ultimately of the morale, in the coming generation of English women.

I am sorry to say that, as yet, I hear of but one movement in this direction among the promoters of the "higher education of women."[4] I trust that the subject will be taken up methodically by those gifted ladies; who have acquainted themselves, and are labouring to acquaint other women, with the first principles of health; and that they may avail to prevent the coming generations,

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[4] Since this essay was written, I have been sincerely delighted to find that my wishes had been anticipated at Girton College, near Cambridge, and previously at Hitchin, whence the college was removed: and that the wise ladies who superintend that establishment propose also that most excellent institution—a swimming bath. A paper, moreover, read before the London Association of Schoolmistresses in 1866, on "Physical Exercises and Recreation for Girls," deserves all attention. May those who promote such things prosper as they deserve.

under the unwholesome stimulant of competitive examinations, and so forth, from “developing” into so many Chinese-dwarfs—or idiots.

THE AIR-MOTHERS

"Die Natur ist die Bewegung."

Who are these who follow us softly over the moor in the autumn eve? Their wings brush and rustle in the fir-boughs, and they whisper before us and behind, as if they called gently to each other, like birds flocking homeward to their nests.

The woodpecker on the pine-stems knows them, and laughs aloud for joy as they pass. The rooks above the pasture know them, and wheel round and tumble in their play. The brown leaves on the oak trees know them, and flutter faintly, and beckon as they pass. And in the chattering of the dry leaves there is a meaning, and a cry of weary things which long for rest.

"Take us home, take us home, you soft air-mothers, now our fathers the sunbeams are grown dull. Our green summer beauty is all draggled, and our faces are grown wan and wan; and the buds, the children whom we nourished, thrust us off, ungrateful, from our seats. Waft us down, you soft air-mothers, upon your wings to the quiet earth, that we may go to our home, as all things go, and become air and sunlight once again."

And the bold young fir-seeds know them, and rattle impatient in their cones. "Blow stronger, blow fiercer, slow air-mothers, and shake us from our prisons of dead wood, that we may fly

and spin away north-eastward, each on his horny wing. Help us but to touch the moorland yonder, and we will take good care of ourselves henceforth; we will dive like arrows through the heather, and drive our sharp beaks into the soil, and rise again as green trees toward the sunlight, and spread out lusty boughs."

They never think, bold fools, of what is coming, to bring them low in the midst of their pride; of the reckless axe which will fell them, and the saw which will shape them into logs; and the trains which will roar and rattle over them, as they lie buried in the gravel of the way, till they are ground and rotted into powder, and dug up and flung upon the fire, that they too may return home, like all things, and become air and sunlight once again.

And the air-mothers hear their prayers, and do their bidding: but faintly; for they themselves are tired and sad.

Tired and sad are the air-mothers, and their garments rent and wan. Look at them as they stream over the black forest, before the dim south-western sun; long lines and wreaths of melancholy grey, stained with dull yellow or dead dun. They have come far across the seas, and done many a wild deed upon their way; and now that they have reached the land, like shipwrecked sailors, they will lie down and weep till they can weep no more.

Ah, how different were those soft air-mothers when, invisible to mortal eyes, they started on their long sky-journey, five thousand miles across the sea! Out of the blazing caldron which lies between the two New Worlds, they leapt up when the great sun called them, in whirls and spouts of clear hot steam;

and rushed of their own passion to the northward, while the whirling earth-ball whirled them east. So north-eastward they rushed aloft, across the gay West Indian isles, leaving below the glitter of the flying-fish, and the sidelong eyes of cruel sharks; above the cane-fields and the plaintain-gardens, and the cocoa-groves which fringe the shores; above the rocks which throbbed with earthquakes, and the peaks of old volcanoes, cinder-strewn; while, far beneath, the ghosts of their dead sisters hurried home upon the north-east breeze.

Wild deeds they did as they rushed onward, and struggled and fought among themselves, up and down, and round and backward, in the fury of their blind hot youth. They heeded not the tree as they snapped it, nor the ship as they whelmed it in the waves; nor the cry of the sinking sailor, nor the need of his little ones on shore; hasty and selfish even as children, and, like children, tamed by their own rage. For they tired themselves by struggling with each other, and by tearing the heavy water into waves; and their wings grew clogged with sea-spray, and soaked more and more with steam. But at last the sea grew cold beneath them, and their clear steam shrank to mist; and they saw themselves and each other wrapped in dull rain-laden clouds.

They then drew their white cloud-garments round them, and veiled themselves for very shame; and said, "We have been wild and wayward: and, alas! our pure bright youth is gone. But we will do one good deed yet ere we die, and so we shall not have lived in vain. We will glide onward to the land, and weep there;

and refresh all things with soft warm rain; and make the grass grow, the buds burst; quench the thirst of man and beast, and wash the soiled world clean."

So they are wandering past us, the air-mothers, to weep the leaves into their graves; to weep the seeds into their seed-beds, and weep the soil into the plains; to get the rich earth ready for the winter, and then creep northward to the ice-world, and there die.

Weary, and still more weary, slowly, and more slowly still, they will journey on far northward, across fast-chilling seas. For a doom is laid upon them, never to be still again, till they rest at the North Pole itself, the still axle of the spinning world; and sink in death around it, and become white snow-clad ghosts.

But will they live again, those chilled air-mothers? Yes, they must live again. For all things move for ever; and not even ghosts can rest. So the corpses of their sisters, piling on them from above, press them outward, press them southward toward the sun once more; across the floes and round the icebergs, weeping tears of snow and sleet, while men hate their wild harsh voices, and shrink before their bitter breath. They know not that the cold bleak snow-storms, as they hurtle from the black north-east, bear back the ghosts of the soft air-mothers, as penitents, to their father, the great sun.

But as they fly southwards, warm life thrills them, and they drop their loads of sleet and snow; and meet their young live sisters from the south, and greet them with flash and thunder-peal. And, please God, before many weeks are over, as we run

Westward Ho, we shall overtake the ghosts of these air-mothers, hurrying back toward their father, the great sun. Fresh and bright under the fresh bright heaven, they will race with us toward our home, to gain new heat, new life, new power, and set forth about their work once more. Men call them the south-west wind, those air-mothers; and their ghosts the north-east trade; and value them, and rightly, because they bear the traders out and home across the sea. But wise men, and little children, should look on them with more seeing eyes; and say, "May not these winds be living creatures? They, too, are thoughts of God, to whom all live."

For is not our life like their life? Do we not come and go as they? Out of God's boundless bosom, the fount of life, we came; through selfish, stormy youth, and contrite tears—just not too late; through manhood not altogether useless; through slow and chill old age, we return from Whence we came; to the Bosom of God once more—to go forth again, it may be, with fresh knowledge, and fresh powers, to nobler work. Amen.

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Such was the prophecy which I learnt, or seemed to learn, from the south-western wind off the Atlantic, on a certain delectable evening. And it was fulfilled at night, as far as the gentle air-mothers could fulfil it, for foolish man.

"There was a roaring in the woods all night;
The rain came heavily and fell in floods;
But now the sun is rising calm and bright,
The birds are singing in the distant woods;
Over his own sweet voice the stock-dove broods,
The jay makes answer as the magpie chatters,
And all the air is filled with pleasant noise of waters"

But was I a gloomy and distempered man, if, upon such a morn as that, I stood on the little bridge across a certain brook, and watched the water run, with something of a sigh? Or if, when the schoolboy beside me lamented that the floods would surely be out, and his day's fishing spoiled, I said to him—"Ah, my boy, that is a little matter. Look at what you are seeing now, and understand what barbarism and waste mean. Look at all that beautiful water which God has sent us hither off the Atlantic, without trouble or expense to us. Thousands, and tens of thousands, of gallons will run under this bridge to-day; and what shall we do with it? Nothing. And yet: think only of the mills which that water would have turned. Think how it might have kept up health and cleanliness in poor creatures packed away in the back streets of the nearest town, or even in London itself. Think even how country folk, in many parts of England, in three months' time, may be crying out for rain, and afraid of short crops, and fever, and scarlatina, and cattle-plague, for want of the very water which we are now letting run back, wasted, into the sea from whence it came. And yet we call ourselves a

civilised people."

It is not wise, I know, to preach to boys. And yet, sometimes, a man must speak his heart; even, like Midas' slave, to the reeds by the river side. And I had so often, fishing up and down full many a stream, whispered my story to those same river-reeds; and told them that my Lord the Sovereign Demos had, like old Midas, asses' ears in spite of all his gold, that I thought I might for once tell it the boy likewise, in hope that he might help his generation to mend that which my own generation does not seem like to mend.

I might have said more to him: but did not. For it is not well to destroy too early the child's illusion, that people must be wise because they are grown up, and have votes, and rule—or think they rule—the world. The child will find out how true that is soon enough for himself. If the truth be forced on him by the hot words of those with whom he lives, it is apt to breed in him that contempt, stormful and therefore barren, which makes revolutions; and not that pity, calm and therefore helpful, which makes reforms.

So I might have said to him, but did not—

And then men pray for rain:

My boy, did you ever hear the old Eastern legend about the Gipsies? How they were such good musicians, that some great Indian Sultan sent for the whole tribe, and planted them near his palace, and gave them land, and ploughs to break it up, and seed to sow it, that they might dwell there, and play and sing to him.

But when the winter arrived, the Gipsies all came to the Sultan, and cried that they were starving. "But what have you done with the seed-corn which I gave you?" "O Light of the Age, we ate it in the summer." "And what have you done with the ploughs which I gave you?" "O Glory of the Universe, we burnt them to bake the corn withal."

Then said that great Sultan—"Like the butterflies you have lived; and like the butterflies you shall wander." So he drove them out. And that is how the Gipsies came hither from the East.

Now suppose that the Sultan of all Sultans, who sends the rain, should make a like answer to us foolish human beings, when we prayed for rain: "But what have you done with the rain which I gave you six months since?" "We have let it run into the sea." "Then, ere you ask for more rain, make places wherein you can keep it when you have it." "But that would be, in most cases, too expensive. We can employ our capital more profitably in other directions."

It is not for me to say what answer might be made to such an excuse. I think a child's still unsophisticated sense of right and wrong would soon supply one; and probably one—considering the complexity, and difficulty, and novelty, of the whole question—somewhat too harsh; as children's judgments are wont to be.

But would it not be well if our children, without being taught to blame anyone for what is past, were taught something about what ought to be done now, what must be done soon, with the rainfall of these islands; and about other and kindred health-questions, on

the solution of which depends, and will depend more and more, the life of millions? One would have thought that those public schools and colleges which desire to monopolise the education of the owners of the soil; of the great employers of labour; of the clergy; and of all, indeed, who ought to be acquainted with the duties of property, the conditions of public health, and, in a word, with the general laws of what is now called Social Science—one would have thought, I say, that these public schools and colleges would have taught their scholars somewhat at least about such matters, that they might go forth into life with at least some rough notions of the causes which make people healthy or unhealthy, rich or poor, comfortable or wretched, useful or dangerous to the State. But as long as our great educational institutions, safe, or fancying themselves safe, in some enchanted castle, shut out by ancient magic from the living world, put a premium on Latin and Greek verses: a wise father will, during the holidays, talk now and then, I hope, somewhat after this fashion:—

You must understand, my boy, that all the water in the country comes out of the sky, and from nowhere else; and that, therefore, to save and store the water when it falls is a question of life and death to crops, and man, and beast; for with or without water is life or death. If I took, for instance, the water from the moors above and turned it over yonder field, I could double, and more than double, the crops in that field henceforth.

Then why do I not do it?

Only because the field lies higher than the house; and if—

now here is one thing which you and every civilised man should know—if you have water-meadows, or any "irrigated" land, as it is called, above a house, or even on a level with it, it is certain to breed not merely cold and damp, but fever or ague. Our forefathers did not understand this; and they built their houses, as this is built, in the lowest places they could find: sometimes because they wished to be near ponds, from whence they could get fish in Lent; but more often, I think, because they wanted to be sheltered from the wind. They had no glass, as we have, in their windows; or, at least, only latticed casements, which let in the wind and cold; and they shrank from high and exposed, and therefore really healthy, spots. But now that we have good glass, and sash windows, and doors that will shut tight, we can build warm houses where we like. And if you ever have to do with the building of cottages, remember that it is your duty to the people who will live in them, and therefore to the State, to see that they stand high and dry, where no water can drain down into their foundations, and where fog, and the poisonous gases which are given out by rotting vegetables, cannot drain down either. You will learn more about all that when you learn, as every civilised lad should in these days, something about chemistry, and the laws of fluids and gases. But you know already that flowers are cut off by frost in the low grounds sooner than in the high; and that the fog at night always lies along the brooks; and that the sour moor-smell which warns us to shut our windows at sunset, comes down from the hill, and not up from the valley. Now all these things

are caused by one and the same law; that cold air is heavier than warm; and, therefore, like so much water, must run down hill.

But what about the rainfall?

Well, I have wandered a little from the rainfall: though not as far as you fancy; for fever and ague and rheumatism usually mean —rain in the wrong place. But if you knew how much illness, and torturing pain, and death, and sorrow arise, even to this very day, from ignorance of these simple laws, then you would bear them carefully in mind, and wish to know more about them. But now for water being life to the beasts. Do you remember—though you are hardly old enough—the cattle-plague? How the beasts died, or had to be killed and buried, by tens of thousands; and how misery and ruin fell on hundreds of honest men and women over many of the richest counties of England: but how we in this vale had no cattle-plague; and how there was none—as far as I recollect—in the uplands of Devon and Cornwall, nor of Wales, nor of the Scotch Highlands? Now, do you know why that was? Simply because we here, like those other uplanders, are in such a country as Palestine was before the foolish Jews cut down all their timber, and so destroyed their own rainfall—a "land of brooks of water, of fountains and depths that spring out of valleys and hills." There is hardly a field here that has not, thank God, its running brook, or its sweet spring, from which our cattle were drinking their health and life, while in the clay-lands of Cheshire, and in the Cambridgeshire fens—which were drained utterly dry—the poor things drank no water, too often,

save that of the very same putrid ponds in which they had been standing all day long, to cool themselves, and to keep off the flies.

I do not say, of course, that bad water caused the cattle-plague. It came by infection from the East of Europe. But I say that bad water made the cattle ready to take it, and made it spread over the country; and when you are old enough I will give you plenty of proof—some from the herds of your own kinsmen—that what I say is true.

Конец ознакомительного фрагмента.