

The dress reform problem : a chapter for women / by E. Ward & Co.

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E. Ward & Co.

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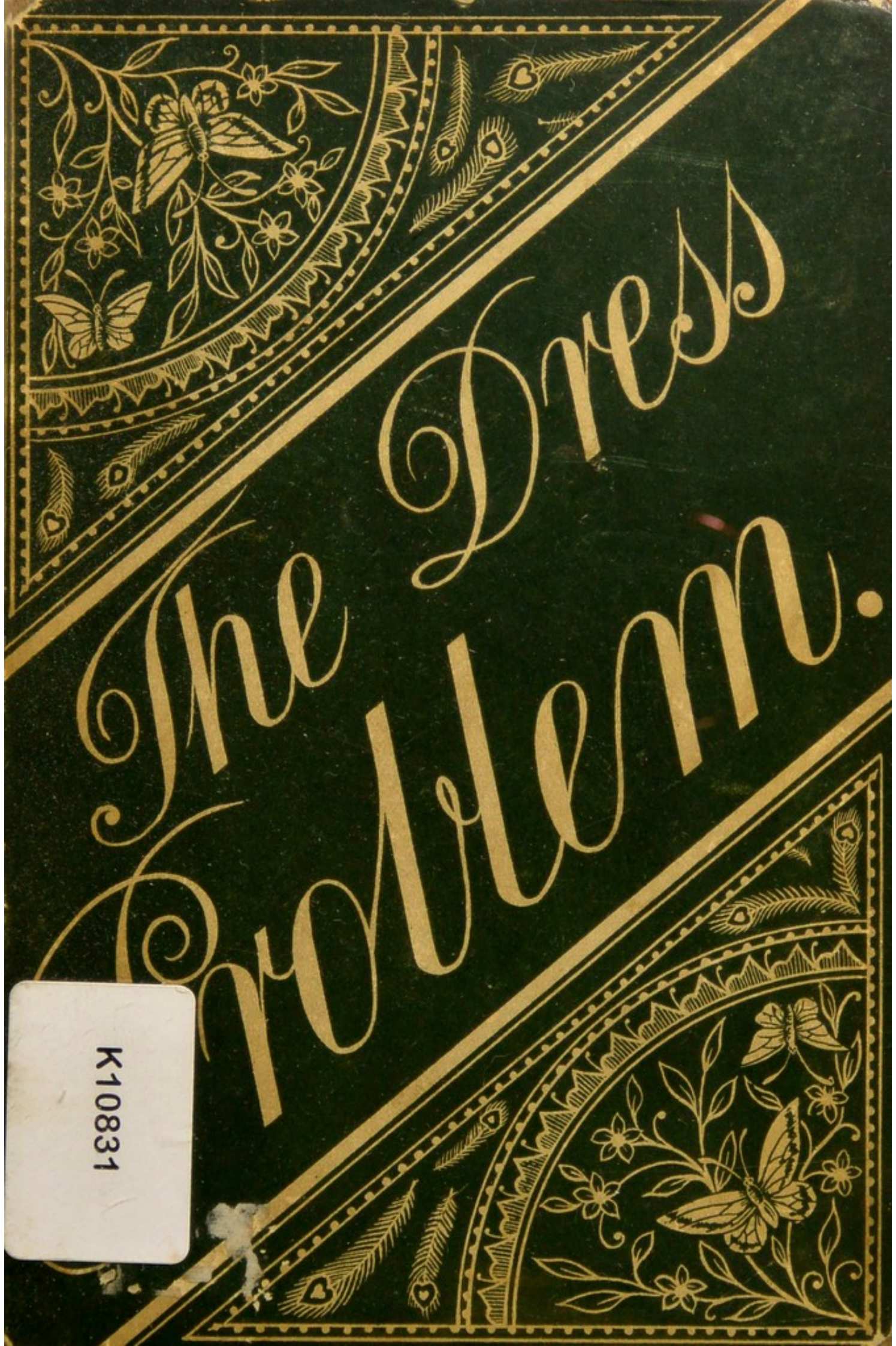
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THE
Dress Reform Problem.

A CHAPTER FOR WOMEN.

BY

E. LWARD & CO.,

BRADFORD.

“Non est vivere, sed valere, vita.”

London:—

HAMILTON, ADAMS & CO.

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The Dress Reform Problem.

I.

So much has been written of late upon the subject of reform in dress, it would seem anything further was superfluous; and, certainly, if all that has been written, and all that has been urged, with respect to this important matter, were to bear fruit, nothing more would be needed. But, although great advances have been made, and much interest awakened amongst an educated few, this movement in a right direction is in its infancy, and it is only by wearisome repetition, and a determined resolve to keep the principles of our Reformed Dress Bill before the feminine public, that we shall achieve the *Ultima Thule* of our ambition—the enfranchisement of our sex from the pernicious influence of the dress and corset maker.

We glance over the long list of preventable ills to which our flesh seems inured, and we feel whoever can lighten this heavy burden, no matter in how limited a direction, is sowing good seed for future generations to reap. But when we take into consideration opposing factors—the staunch conservatism with which women cling to pre-conceived ideas; the opposition of costumiers; the influence of the fashion plate; and, above and beyond all, the ignorance which exists respecting the anatomy and physiology of our own bodies—we sadly feel such urgently needed reforms are so far off that their realisation appears almost Utopian.

Well, "Rome was not built in a day," and the patient endurance for centuries of things unsanitary and uncomfortable in the matter of clothing, is not to be overcome in a moment; so we take heart and proceed to a fresh attack.

The writer has no intention, in this little treatise, of attempting to rival those who have already written so ably upon this subject; nevertheless, as a member of a firm devoting special attention to it, she has thought it desirable, for several reasons, to state the views held by the firm.

Ladies who, sensible of its advantages, resolve to adopt a reformed style of dress, are continually hampered by difficulties in having their ideas carried out. In fact, we who are in the trade, are probably even more alive than they, to the indifference of the trade in general, to any such movement originating outside its pale. There are several reasons to account for this dislike to innovation, into which it is not necessary to enter; we content ourselves with admitting the fact. However, being sensible from our own experience, and from the experience of our customers, that the opposition is a serious one, we think the suggestions of a firm of outfitters, who, for the past ten years, have personally worn and advocated hygienic clothing, who possess some knowledge of physiology, and who, as a matter of business, are continually brought into contact with the experiences of many, may be of use.

All new ideas possess a certain admixture of crudity. It is a matter of almost daily occurrence for us, in our business relationships, to find it advisable to tone down some scheme which is laid before us by a client. Many of these are excellent in theory, but have no stamina for the exigencies of every day wear and tear. What a lady requires when

she wishes to adopt a style of dress which shall be in every respect a sanitary one, is the assurance that the tradesperson, to whom she entrusts her order, will either carry it out in its entirety, or be able, from a long personal experience, to suggest rational and desirable alterations.

The ultimate success of the great work which lies before us will not, we think, depend so much upon the multiplicity of attacks directed against prevailing fashions in dress, as in the diffusion of physiological knowledge through the strata of society.

We must, by dint of constant reiteration, drill some notion of what is inside our bodies into the careless pates of our growing girls; the stupid, ignorant idea that it is not decent for a young girl to be acquainted with the beautiful mechanism of her vital organs must be exploded.

To a child of fourteen or sixteen, in possession of some hazy belief that—as was once told the writer—“her insides are a kind of hollow into which her dinner goes”—to such a child it is waste of words to preach the doctrine of “loose corsets,” or “no corsets,” for there has been nothing in her training which would tend to discountenance the natural wish “to look as others look.” Put the same girl into possession of the most elementary knowledge of her frame—give her a model of the human trunk to dissect and build up again, let her see for herself there is no waste room, and that no pressure can, by any possibility, be maintained without distortion and injury as resultants, and it will be strange if such a girl, left to the exercise of her own free will, should feel the least inclination towards the inartistic, supreme folly and ugliness of a pinched waist.

Custom inures babies, girls, and women to discomfort. In fact, being absolutely ignorant of what comfort is, their sense of discomfort is undeveloped, and will remain a hidden factor of their natures until the fetters of pernicious fashions are broken, and our sex adopts a style of garmentation which shall be really and truly a hygienic dress.

If it was possible for this to be a case "where ignorance is bliss," one would gladly let the matter rest. Alas! The blissfulness of ignorance in this matter of sanitary clothing is fearfully chimerical; and the long array of evils accruing to our sex from both the shape and texture of our clothing is, when tabulated, most alarming. How few of us possess perfect health! How few of us fail to be initiated into "the stern mysteries of pain," even in our girlhood's days! It is wonderful what an amount of physical uneasiness, debility, suffering we women endure, and endure cheerfully, because we think we *must*. As Huxley says—"Women are fearfully weighted in the race of life." But, taxed as we are, weighed down with pains and penalties, burdened with the pangs of childbirth, we are still plucky enough to enter the arena with men, and to say what a man can do with brain-power or business capabilities, a woman can likewise accomplish; and despite our pains and our penalties, and our potential motherhood, we do that which we set ourselves to do; albeit with a saddening waste of life-force, intellectual and physical, that might have been healthfully turned into other channels, instead of being hopelessly spoiled and lost to ourselves and to a future generation!

A sound mind must be in a sound body; a large

intellect must have a large brain to nourish it; a large brain needs a well-built strong body from whence to draw its resources. You may point to illustration after illustration of the fallacy of the assumption—to those weak and puny in body whose intellects have been gigantic—you may show how frequently the great successes of mind over matter are won by the feeble and the sickly. We know it all, but hold to our dictum—"Nature's old salique law will not be repealed." In the long run, the stalwart frames of healthy men carry the day; and where feebler frames of either sex achieve the like result, it can be done only by drawing upon vital forces which ought to be religiously conserved to do battle with the natural ills of advancing old age. Yes; we "women are fearfully weighted in the race of life," and if we desire to do a man's work in the world—by that phrase we mean not a man's work proper, but the accomplishment of the same amount of work, be it mental or bodily—then it becomes imperative that we hasten to liberate ourselves from the weight of physical disabilities under which we have laboured and groaned for centuries. The burden of life must be made less heavy for us. We must have common sense to see there should be no more reason for the bearing of children to be a source of danger and of dread to the civilised woman than it is to the savage, who retires from the family circle for a short hour or so, and then calmly returns to cook the next meal with her new-born baby slung upon her back.

It is both instructive and saddening to ponder over the list of preventable diseases to which any one of us, at any moment, may fall a victim from sheer ignorance or

carelessness on the part of others. Cholera, typhoid, scarlet fever—of what use is it for us to barricade our houses against the entrance of these and kindred foes, when the unthinking folly of our next door neighbour may be the means of destroying our barriers?

Added to this is the portentous list of sufferings which are daily and hourly, like avenging harpies, devouring mankind. How are these wrongs, brought upon us by ages of ignorance, to be redressed?

Individually perhaps we can do little, and even collectively, the men and women of scientific training, who are alive to the pitiable waste of human strength which goes on in this fair world of ours, are powerless, for the present, to accomplish any really radical change in the existing selfish order of things; but the forces arrayed on the side of true humanity are surely powerful enough to begin to move Kingsley's lever of discontent:—"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.

. Therefore I would make men 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 them discontented with the fashion of their garments, and still more 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, and unwholesome.”—Rev. C. Kingsley, “Health and Education.”—p. 22.

There is a notion abroad that hygienic dress is but a synonym for ugliness ; and, to a very great extent, our Reformers are responsible for it. Sometimes by the zeal of their re-action ; sometimes because they have not had the artistic training which is requisite for the designing of an elegant costume ; and sometimes because they really “don't care for looks”—by the style of their dress they proclaim to the whole world—“health is everything, beauty is nothing ;” and they stride on their way in what is doubtless a comfortable and sanitary garb, but which is condemned by every educated eye as wanting in the harmonious details of a perfect dress. So far from impressing the general public with a desire for imitation, such a garb never fails to bring upon the wearer the contemptuous epithet—“Ridiculous old guy !”

Is it not surprising under what deep delusions women lie as to the effect their toilettes produce upon the beholder?

In the highest circles of society the anachronisms of attire are not so apparent. The woman of refinement, whose surroundings are delicate and beautiful, instinctively shrinks from a monstrosity of fashion ; hence her dress

is marked by the many almost indefinable combinations which evidence the cultured taste. Take, however, the bulk of our fashionable people, the women of our great middle classes. How rarely do we meet with one who can be said to be well-dressed from sanitary and artistic stand-points. In our streets and parks, where women most do congregate, it is painful to mark the incongruities of colour and form; the absurd anomalies which are displayed in such reckless profusion in the name of fashion; and, perhaps the most painful sight of all is to note the genuine enjoyment which the deluded ones take in the utter disfigurement of every natural beauty with which beneficent Nature would so gladly have endowed them. Look at the mincing gait; the tiny feet tottering along upon high heels; the pinched waist; the numberless falsities of figure; the entire lack of graceful symmetry in the *tout ensemble*.

No doubt about it—our dress is radically wrong, and each changeful fashion leaves it still wrong, for the roots of the evil are never reached.

Foremost in any reform must be placed the demand for a higher education of our sex, which will educe an honest craving in our souls to become all that we might be—all that God means us to be. If it is right and necessary for women now-a-days to be Senior Wranglers, B.A.'s., M.A.'s., etc., etc., *ad infinitum*, surely it is fitting and requisite that they, the mothers of the race, should be educated to reject the false, and accept the true; surely they should be taught that the Almighty Maker fashioned our bodies upon a plan of perfect beauty and grace, upon which they cannot, if they would, improve.

We are not condemning all fashions, or fashionable changes in attire. Much of the prosperity of our country depends upon the continual whirling of the wheels of Fashion, which brings the grist of wealth to the national mill. What we are censuring is the blind acceptance of fashions which are pernicious, either in shape or texture.

Why should a nation of women who possess such priceless heirlooms of perfect human symmetry as the Greek sculptures of the British Museum, consent to be the slaves of dress? Compare the figure of a modern belle with the maiden figures of ancient Greece, and you will soon discover how much of elasticity and grace our more than nineteen centuries of civilisation have lost. The girls of Hellas, clad in raiment which followed and accentuated the lovely curves of their forms, remain among us to this day examples of what women have been, and therefore of what they may be again when they grow wise enough to rebel against the devices of dressmakers who turn their bodies into dummies for the display of eccentricities.

Tight dressing was introduced, we are told, in the 14th century; and it has continued, with one short period of relaxation, up to the present. Five hundred years is a long time for a persistent evil to exist; it is, in fact, almost long enough for some of its results to become permanent types. During this time our feet have grown distorted by unequal pressure and their arch weakened; the knees thrown out of gear; the spinal column enfeebled by repeated vibrations of the high heel; the pliable ribs have been constantly imprisoned in a steel and whalebone mould which has lifted the shoulders, bulged out the hips, (to

say nothing of more serious internal disarrangements,) and limited the movements of the trunk to one angular bend at the waist. Ought we to be surprised that these centuries have obliterated the elastic, stately tread, the many graceful undulations of the torso, the free swing of the hip, which, their statues show us, were the healthful heritage of an Hellenic maiden ?

A natural sequence to the development of tightness in dress is the evolution of the belief that smallness of frame, not only in height but in breadth, is a symbol of gentility. This belief is the outcome of so many generations of tightly laced and shod women, that, more than any other, it is the most potent factor of resistance to the efforts of reform. Our corsets, dresses, gloves, boots and shoes, are all made with a fixed idea of being smaller than nature would have them to be.

Incongruous and absurd as much of our dress appears to be to those who have cast off the trammels imposed by custom, we must not forget the eye becomes familiarised even with deformities ; and, that what receives the sanction of custom, very soon loses its ugliness and is thought beautiful. It is a fact that not only women themselves, but many men, admire a feminine figure tilted forward on high heels, with a weasel waist and large hips ; and, strangest phase of all the many freaks of fashion, is the admiration for the display of what Carlyle, in grim satire, terms " monstrous tuberosities." At one period called a bustle ; at another a chignon ; now a dress improver ; and, more frequently, a bust ; these false excrescences are never long absent from some portion of attire. But let us get in the thin end of the wedge — by our Science and

Art Schools, our Gymnasium Classes—let us develop in our growing girls a sincere love for truthfulness in nature and in art; and then, we may reasonably hope, a more steady re-action will set in.

II.

A *Perfect Dress* may be defined as one which satisfies every canon of good taste and good health.

Our own special work in connection with the dress reform movement is confined to the under dress; therefore we now leave æsthetic considerations and turn our attention to hygienic ones, merely saying, *en passant*, that, if the underclothing satisfies sanitary requirements, the outer robe is almost sure to follow.

The principles of a sanitary dress are reducible to four heads. (*a*) By the shape and quality of the clothing an even temperature must be maintained over the entire body, arms, and legs. (*b*) The clothing must be of such construction that the vital organs have unrestricted action. (*c*) Its weight must be minimised and the bulk of it supported from the shoulders. (*d*) The texture of the clothing must allow of free ventilation of the skin.

It can be proved, satisfactorily, that the undergarments of women and children are lamentably deficient in qualities which would render them auxiliaries in the maintenance of the above requisites. However, before passing censure upon them, it behoves us to discover the connection between a sanitary clothes philosophy and the great struggle for existence which the forces within us are unconsciously waging, by day and by night, against the more powerful opposing forces of nature.

In the long run nature gets the pull over us. Ever alert, taking advantage of each trivial accident of life, she obtains here a little and there a little, until finally, exhausted vitality fails.

First, in order, comes the consideration of bodily temperature as affected by clothing. The familiar illustration which compares the body to a steam engine is the best for our purpose. We may liken the stomach and digestive system to the engine, and the food placed in it to the fuel; for, just as coal generates heat in the engine boiler, so does the disintegration of our food, and the general waste and repair of the system, produce heat, which is necessary for the continuance of life. Heat is life; absence of heat, or cold, is death.

It is to be borne in mind that, whether our bodies are actively working, when excess of heat is generated; or at rest, when the fires burn low and less heat is produced; whether we are in tropical countries, with a temperature of 104° ; or in Arctic zones with the thermometer registering many degrees below zero; in opposition to a multiplicity of varying causes for its increase or diminution, vital warmth remains in all conditions of life and climate practically the same. Compare, for the sake of illustration, the difference in temperature of a human body and a piece of marble after both have been exposed to the heated atmosphere of an oven. While the marble rapidly becomes burning hot the internal heat of the body is but slightly affected. We find that conditions of temperature which overcharge an inanimate substance with heat are, by the living organism, used, not for the accumulation of an injurious store of heat, but for changes

in the economy of the body. Excess is passed off in perspiration and other chemical processes; and hence it is that the normal temperature of the blood is neither increased nor diminished, to any appreciable extent, by differences in the conditions of atmospheric heat or cold. Obviously the amount of heat produced in any human body by its natural chemical processes will be a fluctuating quantity; affected by bodily exercise, quality and amount of food, conditions of health, etc. Vital heat may be defined as a resultant of bodily wear and tear—of that waste which is a necessary product of healthy life; and which is varied by the requirements of the system. Up to a certain point a perfectly healthy human body regulates its supply of natural warmth; but there are limits beyond which the bodily forces cannot exert control. Disturbances of the balance, between demand and supply, are continually trenching upon the vital powers of resistance; and among these disturbing influences, which are external to the body, there are four that demand attention, inasmuch as they are closely connected with the subject of rational dress.

They are 1, Radiation; 2, Evaporation; 3, Conduction; 4, Convection.

Radiation.—It is by radiation that a hot body heats a colder one at a distance from it. Radiation is always going on where there is any difference of temperature between two contiguous bodies; and, the greater the difference, the greater the amount of radiant heat thrown off by the one and absorbed by the other.

We hold our hands at some distance from a glowing fire and are immediately conscious of warmth. How is it

we ask that, although no contact has taken place between us and the fire, yet we are warmed? Imagination will aid us here; for we are required to see with the mind the working of forces which are invisible to the unassisted eye. We must conceive every solid substance to be built up of an immense number of molecules, each molecule held in its place by the force of cohesion; yet able to vibrate, within certain limits, without destroying the cohesion of the masses of molecules as a whole. A solid body, in this case a lump of coal, becomes heated. And now we have to imagine the molecules of the coal oscillating to and fro. One molecule catches up the motion and, swinging pendulum-wise, passes it on to the next; and so on until the whole mass is quivering with movement. The coal is still black, but to the touch it is warm. Faster and faster swing the molecules and now the coal glows; faster still faster and it bursts into flame. Everywhere surrounding us is the ocean of ether; filling all space and penetrating all substances. We now conceive these rhythmic vibrations of molecules imparting their rhythm to the investing ether; starting it off in pulsations or waves. Away the waves travel, keeping time to the impulses played upon them, until they break upon the first imposing object—our hands. As the vibrations follow with increasing velocity, we experience first genial warmth, then heat, then burning. The sensation therefore to which we give the name Heat is, in the heated object, nothing but motion.

This description, though meagre enough, may suffice for our purpose to explain that we are always giving off to other objects, and receiving from them, the movements of

radiant heat. If the amount given out is greater than that received we are sensible of loss; we are chilled. On the other hand if we receive more motion than we send forth we become warmed.

Evaporation—takes place when a liquid is changed into gas or vapour. Whether we are sensible of the loss or not, we are continually giving off heat by this process. It has been calculated that, in 24 hours of rest, a man loses about 2 lbs. weight of water, by invisible evaporation through lungs and skin; while in the same period of hard work he would lose quite $4\frac{1}{2}$ lbs. of water through the same channels. These amounts, lost to the system, represent an enormously larger quantity of heat abstracted during the process of evaporation and passed into the atmosphere; for aqueous vapour is most energetic in its power of absorption.

Conduction—is the communication of heat by motion from molecule to molecule of any heated body. A good conductor is a substance which “has the power of transmitting the motion of heat rapidly through its mass.”* Nearly all the metals, linen, cotton, etc., may be taken as examples of good conductors. Bad conductors are defined as those whose molecules “are so hampered or entangled, that they are incompetent to pass the motion freely from one to another.”* Wood, silk, wool, feathers, fur, are examples of substances with feeble conducting powers.

Again, “the good conductor of heat is the good conductor of electricity, and the bad conductor of heat is the bad conductor of electricity. Thus we may infer that the same physical quality which interferes with the transmission of heat, interferes, in a proportionate degree, with

* “Heat considered as a mode of motion.”—TYNDALL.

the transmission of electricity."* This parallel between the conductivity of heat and electricity is extremely interesting; throwing, as it does, some light upon the disturbance of electrical conditions which non-conducting clothing, such as silk, or wool, exerts upon certain nervous subjects.

Convection—is the distribution of heat by transfer of heated masses of air or liquids from one place to another. When a vessel containing water is placed over the fire it becomes heated—not by the passage of motion through its molecules as is the case in conduction—but by actual change of the position of its particles. The heat applied, underneath the vessel, causes the lower stratum of water to leave the bottom and ascend; while the heavy cold water above naturally sinks through the ascending lighter water; and this process is repeated until the whole is made hot. We live in an atmosphere always charged with impalpable aqueous vapour; which, as noticed under evaporation, manifests extraordinary energy in the absorption of heat. Now, when the atmosphere is in any degree colder than our bodies, we at once, commence to radiate our heat into it. The air around us acts in precisely the same manner as water over a fire. The warmed, light particles ascend, and cold heavier ones descend to take their place in robbing us of vital heat. This process explains why one so easily takes cold when lying down without being warmly covered, even in a room where the temperature is comfortable for sitting or standing. When the body is erect the warmed air, from feet and limbs, rises and surrounds it; but, when it is recumbent, the radiant heat passes at once away into space.

* "Heat considered as a mode of motion."--TYNDALL.

Our purpose, in drawing attention to these four heat-abstracting agents, is to bring into prominence the relationship which a knowledge of their action holds to the carrying out of the rules, for a sanitary dress, which were given under heads (*a*) and (*d*).

Living as we do, under continually changing conditions of climate, a proper appreciation of the clothes philosophy, as a direct means of maintaining the bodily temperature of health, is of paramount importance. Clothing, in itself, has no property of heat; it can neither give nor impart, but acts as a medium of conduction between ourselves and our surroundings. Its protective function is to prevent a too rapid dispersion of bodily heat into a colder atmosphere, or sudden accessions from without. Obviously those substances used for clothing which offer the most resistance to the transmission of heat vibrations will be the most useful.

A very popular error, which we find requires combating, is the belief that clothing, to be warm, must be heavy, especially in the matter of bed clothing. This is a serious scientific blunder. Look at nature's winter garments. Are they not all, like the down of the bird that swims in the ice-cold waters of the North, buoyant and light? To be clad scientifically, we must carry out in our dress, the principles upon which Nature clothes her children. The fur of the animal and the down of the bird, in addition to their non-conductibility, are cages for the imprisonment of layers of warm atmospheric air. Now heat being motion, anything that upsets the free passage of the molecular vibration must delay its transmission. Feathers, fur and wool have large quantities of

air imprisoned in their meshes; and their powers of transmission are but feeble. In these cases the heat, to propagate itself, has to pass along the fibres of badly-conducting solid substances to the intervening air, and again to the solid substances; so that a disturbance of continuity renders transmission still more imperfect.

A peculiar feature—to English eyes—in American city summer life, is the early morning round of the ice carts. At the call of “Ice; Ice!” out the maids rush, blankets in hand to wrap up the precious blocks before the sun has time to melt them. Here is an exemplification of the non-conductibility which renders flannel the most suitable fabric for both summer and winter wear.

Every one knows that flannel wrapped round ice keeps the cold in and prevents it from melting; in other words, the same substance that hinders the passing of heat from within outwards, hinders its passage from without to within.

The idea of uninterrupted ventilation of the skin is one very contrary to many preconceived notions; nevertheless it is of paramount importance. Any texture which interferes with the passage of air to and from the skin, is an unpleasant, and may become a dangerous article of wear. Kid, patent-leather, and waterproof fabrics, may be enumerated as examples of substances which are thus impermeable. The addition of several layers of the same material, in no way hinders its ventilating properties. Two, three, or more flannel garments will ventilate as readily as one thickness of the same; and, moreover, if the coverings are sufficiently loose, they will enclose strata of warm atmospheric air. The advan-

tage of multiplying the layers of our dress, in cold weather, is the possibility that each will contain a stratum of air, which can be utilised by the body. Here we have a cogent reason against tightness in dress. Every material, when stretched, allows more heat to escape through it than when it is loose; consequently a tight garment not only dispenses with the ventilating current, but excludes the air between the layers of material. People, who fasten their clothing tightly round the body, require more coverings to defend them from cold than those whose clothes are comfortably loose; in fact, the small amount of clothing worn by persons who adopt a sanitary dress, and who are warm and comfortable during the most trying variations of weather, is a constant matter for surprise to the uninitiated. By the term "loose" we wish to convey the idea of a garment with from one-third to half-an-inch to spare, over and above the full chest and waist measures. This space, though small compared with the circumference, is ample for every requirement of comfort and health.

Another feature to be noticed is the effect of water upon materials of dress. Linen, cotton and silk goods, when damped or wetted, become air-tight; increase their conductivity and lose their ventilating properties; while it requires a long soaking in water to render flannel in any degree air-tight. This explains why we are so readily chilled when wearing linen or cotton undergarments, when they have become damped with perspiration; and why it is so necessary to thoroughly air these materials before wearing them.

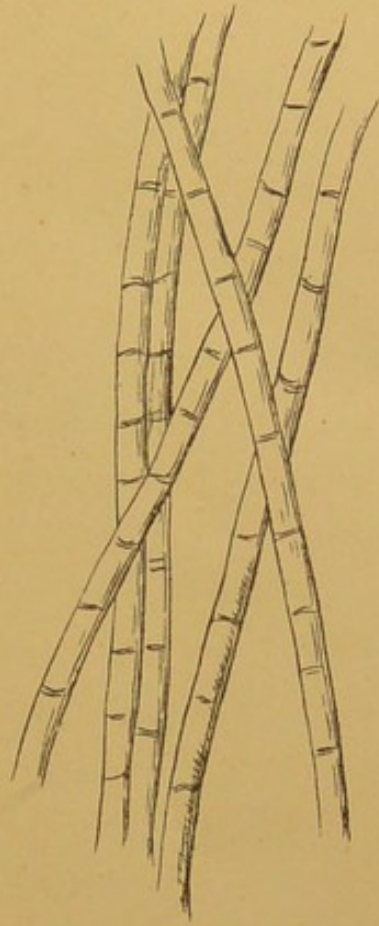
The accompanying sketches illustrate the differences

presented by the fibres of silk, linen, cotton, and wool, as shown under a high magnifying power. Silk and linen, it will be seen, differ from the others in the smoothness of their surface; the cotton being twisted, or bent upon itself, and the wool being covered with uneven, rough serratures. These, apparently accidental, peculiarities of structure—which are so minute as to escape detection until they are revealed by the microscope—are worthy of note, for upon them exclusively depend the nature of the material into which it is possible to weave the fibres, and the uses to which it can be applied.

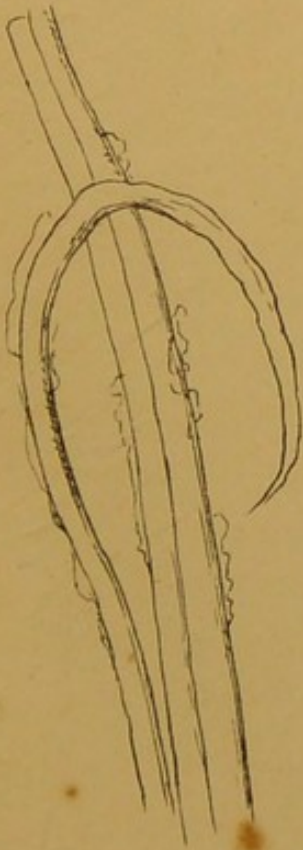
Linen fibre, being round, soft, and pliable, forms a most agreeable covering to come next the skin; but linen is an excellent conductor of heat, and has such an affinity for moisture, that, in wear, it is always cold; for it absorbs perspiration from the skin, and aqueous moisture from the atmosphere; in which damp condition it is not only airtight, but robs the body of very large stores of heat. These qualities render linen specially unsafe for summer wear, when the natural moisture of the skin, and the increase of external temperature, make it imperative that for comfort, as well as health, the body should be covered with a good ventilating substance. Linen, however, possesses a freshness that recommends it to a sensitive skin. A comparison of its structure, with that of cotton and wool, explains this advantage which linen holds over its rivals. Cotton has a flat fibre with a sharp edge, and, at intervals, a permanent little twist, given to the fibre during its growth. It is these sharp edges and twists which make cotton harsher in wear than linen; they occasion the irritation felt when cotton rags are applied to



COTTON.



LINEN.



SILK.



WOOL.



wound or inflamed surface. The twisting of the cotton fibre upon itself gives to it the capacity of uniting with like fibres, and allows of its being spun into threads strong enough for weaving. There are cotton grasses with hairs as long, and, to all appearance, as strong as the cottons of commerce, but which possess smooth surfaces, and it has been found that none of these will bear the twisting which takes place while spinning fibres into threads that can be woven into textile fabrics. How true it is that, in nature, nothing is insignificant, or too small, to play a part in the world's work! Is it not a veritable "Romance of Trade" that the vast industries of Lancashire and the cotton plantations of the Southern States and of our Colonies, with all the wealth of Cottondom, should depend entirely upon microscopical irregularities formed by a peculiarity in the hairs which are found only within the fruit and upon the surface of the seeds of a particular plant—a peculiarity not to be found in other portions of the same plant? Cotton is a worse conductor than linen; and does not absorb moisture to anything like the same amount; therefore it ranks higher as a warmth-communicating substance; although, in these indispensable qualities, it cannot be compared in value with pure woollen fabrics.

Wool, as its magnified representation shows, is an irritating substance. The distinguishing feature of a wool hair is its serrations. These appendages are epidermal scales, quite as characteristic as those of a fish or snake; only the scales of wool are not disposed along the surface of the hair with the exact regularity of arrangement we notice in the fish or serpent. These scales, or serratures, are of the greatest importance in manufactures; for the

processes of making felt and cloth depend entirely upon the action of the numberless serrations, which, during the powerful hammering of felting or fulling, are inextricably entangled one in another, so that the filaments of the wool become one firm, compacted mass. The commercial value of wool depends largely upon the number and size of the imbrications in the fibre; Saxony wool has been calculated to contain 2,720 to the inch; and it is from wool with the finest serrations that the best cloth is made. This peculiarity of formation, combined with the resistance which, as a non-conductor, it offers to the passage of electricity, makes flannel so intensely irritating to sensitive skins that its use has, sometimes, to be abandoned. Fortunately, we seldom meet with cases where it is not possible for the softer kinds of wool to be worn; and we judge, from noting its effects upon the skins of very many people, that, even when it is at first disagreeable, by perseverance in its wear, the sense of discomfort is soon lost, while the slight irritation is a healthy stimulus for the skin.

So far as our present knowledge goes, wool is, *par excellence*, the material which, in a changing climate like ours, should cover the entire body. Its leading qualities are—imperfect conductibility, elasticity, lightness and resistance of moisture, whilst its meshes, imprisoning a quantity of air, provide unimpeded ventilation of the skin. Therefore, for all-the-year-round, summer and winter wear, we have no fabric that equals the value of wool.

A serious objection to the use of all-wool is its liability to shrink. To prevent this the manufacturer frequently introduces a mixture of cotton into the warps,

as in merino goods. Customers are always asking for some *bona-fide* remedy; and, not infrequently, the blame of shrunken garments is laid to the charge of the innocent tradesman who has supplied them. After over twenty-five years successful superintendence of the washing of woollens, we feel competent to offer advice. The peculiar construction of the wool fibre predisposes it to shrink, from the rubbing of washing, which entangles the scales, in a small way, in exactly the same manner that the hammers do, more thoroughly, in felting; in fact a well-shrunk woollen garment presents much the appearance of a felted article. Long soaking, too, in water causes the fibres to shrink, and the serrations being thus brought into closer contact, to cling together. The grand secret of successful flannel washing is this—be quick about it; let the water be hot, as hot as the hand can bear (cold or luke-warm water is a fatal mistake) have the soap previously melted; wash as rapidly and rub as little as possible; never wring by hand, for the twisting process is a felting one; instead run the garment through the wringer with little pressure on; shake the water lightly off and dry quickly. Pressure, wringing, cool water and delay are to be avoided. Ordinary flannels will wash in this manner as long as the material will wear; but softer goods, such as woven combinations, present more difficulty. They *will* shrink to a certain extent, and it is always judicious to buy them fully large in order to allow for inevitable shrinking.

All woollen goods advertised as “unshrinkable” must not be accepted as literally so, for careless washing, or copious perspiration, will shrink any and every woollen

garment. "Unshrinkable" applied to pure wool goods, is a term signifying the manufacturer has, before offering them for sale, subjected them to a severe shrinking process, and rendered them less liable to shrink further. The process of dyeing, the peculiarities of manufacture, the selections of certain kinds of wool have a direct influence upon the shrinking capacity of any given material, but these are considerations for the manufacturer rather than the wearer.

This matter of washing cannot be left without reference to a strange misconception which exists—especially amongst the poor—with respect to frequency, or infrequency of flannel washing. Refined and cleanly people will hardly credit us when we affirm that the benefits of soap and water are, in many quarters misunderstood, when wool garments are in question. From somewhere a doctrine has been promulgated that, with the adoption of woollen clothes, very much less washing both of person and raiment is necessary. Wool appears to be credited with antiseptic properties which neutralise bodily emanations, and one hears that woollen clothes are not dirty until they appear so to the eye; that coloured garments are preferable to white because the latter so soon *look* dirty; and that the length of time, during which a garment can be worn without washing, is to be tested by its freedom from offensive odour.

It is perfectly true that woollen fabrics do not so readily become unpleasant from the presence of animal refuse matter as do linen or cotton, but this constitutes a danger rather than a safeguard; for, when impurities make themselves openly recognised by their effluvia, they

are bad indeed! Certainly, the nose forms a test for impurities to be safely acted upon; its appreciation of delicious odours and disgust for harmful ones is rarely, in the cultivated organ, at fault; and, where the nose utters a warning, it may be taken for granted that danger is near. Still, the germs of dirt and disease are often too subtle to be detected by this sentinel, for they exist when we cannot smell them. Who would suffer from the diseases produced by sewer gas if the foul sulphuretted hydrogen proclaimed itself boldly to the sense of smell? This demon of the drain pipe is far too offensive to be permitted to invade our dwellings openly; it creeps into them diffused through the air, and so diluted that it is unrecognisable by smell.

From the pores of the skin we are hourly exuding water, salts and animal matters. After the water has evaporated, these animal matters, with oil from the oil glands and epidermal scales from the skin, are retained in the clothing; consequently our clothes are the receptacles for dead and decaying matter which rapidly becomes putrid.

If cotton and linen give off the loathsome effluvia of putrefaction sooner than wool, the reason is not far to seek—where there is an acquaintance with the laws which favour the rapid disintegration of animal refuse. In the preparation of manures for the soil the agriculturalist depends upon two agents—heat and moisture—for effecting his purpose. Now, the analogy between the action of these agents in the farm yard, and in our clothing, after a few days' wear, though decidedly unpleasant to contemplate, is strictly correct. Cotton and linen, by their affinity for

moisture and conductivity of heat, may decompose animal matters deposited upon them more rapidly than wool would; but, even if they do, wool, by its structure, can retain and hold in its substance any quantity of such excreta; and, if decomposition should be delayed by a few hours, in the very nature of things it must go on while clothes are worn over a moist, warm body. Therefore we say, whether our clothing is linen, cotton or wool, if we would have it pure and wholesome, we ought to pay as much attention to its cleanliness as to the cleanliness of our bodies. No article of underclothing, especially that next the skin, should be worn for more than a few days, and everything worn during the day time should be taken off at night and hung up to dry and cool.

We have so frequently had our attention drawn to the difficulty experienced in keeping warm in flannel garments at night, that we pause to show the *raison d'être*. Flannel is a non-conductor; therefore, upon the same principle that it retains warmth, it will keep us cold. We get up in the morning into a winter atmosphere, put on our flannel coverings and, bustling briskly about, by the activity of our exertions, develop sufficient heat to warm the strata of air which, if our clothing is sufficiently loose, lie in its meshes and between its layers. But at night every natural process is reversed. Tired with the day's work, our vital functions are lowered; circulation is slower and less heat is evolved. We undress in a cold room, pouring volumes of bodily warmth into the air; over chilled feet we draw our woollen socks and get into a cold bed, under a weight of four or five blankets and a heavy counterpane. Under such circumstances it is

impossible, as many a one has found, to keep warm. The continuous lift of the dead weight of clothes by the lungs in every respiration, seriously interferes with comfortable breathing; the minimised amount of heat given off by the body is rapidly absorbed by the sheets, and we pass from a stage of uncomfortable chilliness to one of positive cold. Unfortunately we have not yet acquired the much-to-be-desired art of constructing an open bedroom fireplace upon such slow-combustion principles that a small fire will burn, without attention, through the night. Wanting this, those who suffer from cold, will find their remedy lies in removing all weighty covers from the bed. Linen sheets are not permissible at any season, being oppressive in summer and most chilling in winter; all-wool ones are very desirable in certain cases—rheumatic or neuralgic—though their cost, added to the difficulty of frequently washing and drying such large woollen articles, will always interfere with their general adoption; besides, many persons with thin, sensitive skins, who wear woollen during the daytime, experience a refreshing feeling of comfort from the contact of a smooth cotton sheet, more pleasing than the somewhat irritating sensation of a woollen one. Soft twill is the warmest and best cotton material for sheeting; its peculiar make fitting it for the retention of air between the warp and weft. One good blanket and an eiderdown form quite sufficient covering for most people even in the depth of winter; but we strongly advise everyone to wear a flannel jacket over the cotton nightdress all the year round; for few persons sleep so quietly that they do not, sometimes, turn over or throw the arms out of bed, either uncovering the shoulders,

or disarranging the bedclothes, so that a draught of cold air plays round the neck, shoulders, and upper part of chest; therefore it is wisdom to seek the protection of a flannel jacket which cannot be thrown off like the bedclothes.

Children, who are proverbially restless sleepers, should be most carefully guarded against the risk of cold. When a sleeping child becomes over-warm, it is surprising with what rapid dexterity arms and legs will be uplifted, and the bedclothes indignantly flung off, leaving a perspiring little figure, often with nightdress pulled up to its arms, to be a victim to the cold night air. An ordinary nightdress is most unsuitable, in every way, for a young child, and we would urge mothers to use, instead, the sensible and comfortable American sleeping suit; a bifurcated, flannel garment which covers the body from neck to wrists, and feet—the face and hands being the only parts exposed; for convenience it is made with a back flap fastening at the sides after the manner of a pair of closed drawers.

Those who suffer from cold at night should get thoroughly warmed before going into the bedroom; not partly, but *thoroughly* from head to foot; let undressing operations be as rapid as possible; do not remove the garments in contact with the skin until the very last moment; then, as hastily as possible, replace them with nightdress, sleeping jacket and socks, and jump into, if possible, a warmed bed. This energy in undressing adds so considerably to bodily warmth that, unless the circulation is very deficient, it generally suffices to keep one comfortable for the night. The practice of not changing

all the day clothes at night will also help to keep one cold. During the day the clothing becomes saturated with excretions from the body; and to continue to wear it while sleeping simply loads the fabric still further with refuse matter, causing it to lose its power of retaining heat to a very considerable degree.

III.

Whatever motives may influence us in the selection of our outer dress or robe, surely those which should be considered, when we arrange our under-garments, are health, warmth and comfort. No one can deny that the average woman wears quite sufficient for warmth as far as quantity is concerned; but its distribution is altogether wrong; arranged, as one writer tersely puts it, "to have as many zones as the planet we inhabit." Around the waist, just where we do not want it, about the pelvis and kidneys we have a torrid zone occasioned by a multiplication of bands, folds, and gathers; above this, reaching to the shoulders, is a temperate region—occasionally this may be extended to the neck, but as often as not, low-necked chemises and bodices limit its latitude to the shoulders—below the abdomen, and also along the neck and arms, a woman encounters the blighting effects of frigid zones; open garments acting as blast-furnace funnels for the inrush of cold air up to the over-heated torrid latitudes of the waist.

Let us pass the garments of female habitual wear in review. First,—in some cases, not all—there is the vest—merino, wool or silk, according to the inclination of the wearer—reaching to a little below the waist;

generally with low neck and short sleeves ; and this is the only non-conducting covering which, in the vast majority of cases, comes in direct contact with the skin. Then come stockings—then a pair of calico drawers ; loose, open, draught-producing articles—the one covering for the thighs in winter and summer. Now comes the chemise, endeared to the sex by its respectable antiquity—at once the most useless and most crude garment of civilised days. The remote ancestor of the 19th century chemise would, we fancy, be found adorning the dusky body of some primeval savage, for its primitive and rude construction point to a civilisation such as we may meet to-day among the Zuni Indians of New Mexico. Neither shall we be far wrong in stating that, in all probability, the original would be a square of cloth, with a hole cut in the middle through which the head could protrude. The aboriginal, who strutted about in his elaborately adorned square, could point to one feature of utility—that it was, for him, a garment of decency ; but of its modern representative we have not even that to say.

Somewhere about the 8th century the shift was introduced into Europe by the Saracens ; for centuries it was a garment common to both sexes ; but, in female hands, it has undergone such a clipping, that it is now necessary to say—masculine “shirt ;” feminine “chemise.”

There is, happily, good reason to believe the days of this ancient and historic garment are numbered, and that, in both its male and female varieties, it will, ere many years have rolled over our heads, have become a relic of the past, and taken its place, along with its iron namesake,

—the shirt of mail—amongst the treasures of antiquarian museums. In its present condition, shorn of its neck and sleeves—which were necessary for our Anglo-Saxon fore-mothers—it is a useless encumbrance which must, in time, give place to the comfortable combination garment.

Next come corsets, upon which we will descant presently; then follow the flannel and other petticoats. Here we have drawers, chemise, and three, four, or more petticoats combining to produce inequalities in temperature, providing no cover for neck and arms; all of them open, exposing the most delicate organs of the system to a constant interchange of heat and cold. When the wearer is sitting down the exaggerated fulness of these articles causes an injurious overheating of the abdomen; the instant she stands, or moves about, there is a violent rush of cold outer air to these super-heated parts. Anything more barbarous and unreasoning, anything more harmful than an open dress, in such a changeful climate as ours, cannot be imagined. And yet we have been assured, upon most reliable authority, it is not so many years since old family doctors advised no drawers should be worn; thus taking away even the flimsy covering which custom has allowed for the protection of the thighs. As there is generally a reason for everything the writer has long tried to solve this, but no solution comes except, perhaps, the Spanish proverb,

“When the wind blows through a hole,
Make your will and mind your soul.”

Possibly these last-generation doctors, (who, we'll hope, were few and far between), thought it would be less injurious for the cold up-draught to play over a large

surface than to be concentrated upon the parts exposed by the smaller openings of the drawers. Desperate cases evidently require desperate remedies.

It has been suggested that the objection to the drawers—which still exists among the lower classes, where we must always look for survivals of ancient habits—was based upon the desirability of getting rid of some of the superfluous folds about the waist; but this we cannot entertain, for the drawers are not such offenders as either chemise or petticoats; the amount of gathers in a pair of drawers being much less than the fulness of either of the other garments. In order to make clear the risks which a woman encounters by dressing in such a manner that, from her waist downwards, her body is exposed to every possible variation of temperature, we have to consider the physiological effects of chills and draughts upon any portion of the body usually covered by clothing. A first effect of a rush of cold air, in other words, of a draught to an uncovered surface is the reduction of its warmth; the portion of the skin played upon by the atmosphere giving up its reserve store of heat first, and then calling upon the adjacent covered parts to contribute their quota towards balancing this loss of vitality from the system. Everyone can corroborate this personally; for the diagnosis of nearly all illness from this cause is “I felt a chill go right through me.” In this way colds are taken from sitting in draughts, from wrapping up one part of the body more warmly than another, from cold or wet feet, etc. A lowered tone of vitality extends over the whole system from the application of cold to any one part for even a short period.

It is an almost universal mistake to suppose that checked perspiration alone is the cause of the troubles which follow upon a chill. People are very cautious, and rightly so, to protect the perspiring body from the possibility of rapid evaporation; while they are utterly indifferent to, or ignorant of, the baneful effects of local exposure whether they are perspiring or not. Extraction of heat is one of the results of a chill; a second is the suspension of the chemical actions of nutrition, thereby stopping the healthful oxidation of the blood; *i.e.*, the combination of oxygen and carbon upon which union the carrying on of all the life forces depends; a third is the contraction of the capillary blood-vessels of the skin. This application of cold, or, to speak with scientific exactness, the cessation of the movements of heat in any object, causes it to shrink and become less in volume; and living bodies are no exception to this universal rule. A boot that is too tight, when the foot is warm, will fit loosely when the foot is cold.

The mechanical contraction of the cutaneous vessels, occasioned by cold, empties them of blood which is driven inwards upon the heart, brain and other organs; a fruitful cause of congestion. What happens? The "weak spot" is found out. In one person it is the lungs, a cough follows; in another the kidneys, bringing on inflammation; in another the stomach, a bilious attack. Need we extend the long list through rheumatism, neuralgia, sore throat? No: put your finger upon your own "weak spot" and be assured every recurrence of chilled surface will find it out and make it weaker still. Only, remember, the pitcher goes to the well for the last time, and if, by

prudence, you can strengthen your weakness—the last time, in all probability, will be considerably retarded.

Well, now, we know just exactly what will be the reply to many of these arguments for a closed dress. We have heard it over and over again, and shall continue to hear it, for there is nothing upon which women insist with greater determination than this;—that suffering does not accrue to them individually from the wear of an open, draught-producing dress, because they are never cold and never feel a chill in that direction. Alas! Here is the root of the evil! They speak the truth; they do not feel it. Put a man into the same position; exchange his comfortable cloth trousers and woven pants for open calico drawers and several yards of petticoat materials; put a dozen folds of bands, with gatherings innumerable, round his waist; pile on flounces, bustles, improvers, and kiltings *ad lib.*; multiply the clothing to any extent about the warmest part of the body—the trunk—wrap him up with chest protector, seal-skin jacket, fur cape, and send him out, in thin soled boots, to face an east wind. Let him potter about from shop window to shop window, with the blood-curling blast inflating his skirts and flimsy drawers; be sure he rides down town and back in carriage, tram or 'bus—a brisk health-giving walk being quite *infra dig.* A woman can stand this sort of thing;—it is a bagatelle of which she takes no notice;—but, as our Yankee cousins would say, we rather guess a man would succumb to some internal inflammation.

One naturally asks—By what process of modification has it come to pass that woman, the weaker vessel physically, exhibits so much less sensibility than a man

as to be positively unconscious of changes which, to him, would be acute? Our reply is—Use is second nature; from her early girlhood she has been so accustomed to the abnormal conditions of temperature already described, that these exposed surfaces have ceased to respond to any but the most extreme variations. A woman's leg is generally pale and bloodless to the eye and cold to the touch; but she has not the faintest feeling of coldness. Cold being antiseptic, one of its effects is the deadening of sensation; a natural consequence, then, of its prolonged application to the skin, is to destroy the delicate standards by which our sensitive nerves are generally guided, and an unnatural condition of things is set up wherein the victim becomes habituated to a state of things which would be immediately apparent to a rationally-clothed person.

Whatever the victims of this pernicious system of dress may say in denial of its ill effects, Nature, in many instances, has her own tell-tale in the roughened skin of arms and legs. When heat is being extracted from the body in greater quantities than can be spared, the nerves of the skin cause the blood-vessels and various glands to contract in order that less blood may be devitalised by exposure in the chilled surface-capillaries; and thus, as we have already shown, the blood, together with the waste products of perspiration, is thrown back into the system. Any cause that checks elimination of cutaneous excreta throws additional labour upon some of the internal organs, notably on the kidneys. Without doubt the nervous system of the skin exercises considerable influence upon the regulation of the heat supply; and

the principal function of clothing, in a cold or variable climate, is to assist the skin in its endeavours to maintain the normal standard of health. When the clothing is inefficient, either in quantity or quality, or when portions of the surface of the body are left continually exposed, the limits of nerve power are, in time, reached, and then Nature does her best to give the needed protection, by hardening and thickening the cuticle, until it becomes something like a nutmeg rasper to the touch. The parts affected are the back of the arm down to the elbow and the outside of the leg in its entire length.

Those, whose position in life renders it incumbent to wear the short sleeves, or straps, of evening attire, find this rough, red and permanent "goose-skin" a very sore point. We have known young girls vainly try to obliterate the disfigurement by the application of advertised unguents and washes; persisting that it was a "skin complaint." Well; they were right, if we parody the words and call them "the complaint of the skin," for this roughened hide is Nature's revenge for neglect of her laws. From early childhood these sensitive portions are either left uncovered—witness the apology for skirts and the socks and short sleeves of little children—or with just a thin cotton garment over them. The limbs are a long way from the centre of heat, and the legs especially are exposed to the currents of cold air which always play along the floor. Now the correct rule, for the regulation of temperature by dress, is that the clothing should increase in direct ratio to the distance from the lungs; instead of this the general rule is to reverse the process. There is no remedy for this rough skin but

warm, non-conducting clothing over the afflicted parts. Even when the mischief has been of twenty or thirty years' standing, we have had frequent occasion to notice the discarding of short-sleeved chemises and open cotton drawers, for the woollen combination and closed flannel knickerbockers, has soon restored the skin to its natural softness. But exposure and draughts are not the limits, there are still the questions of weight and pressure to be considered. Nearly every woman carries a cumbersome load of clothing about with her, so heavy that nothing but the uninterrupted habit of gradually accustoming the muscles to the burden, could have made it supportable. Two-and-a-quarter to two-and-a-half pounds in weight is an ample average for warm winter underclothing to cover every part of the body. We should be afraid to say how much in excess the weight of women's clothing actually is; while its absurd arrangement makes it even more oppressive; for, as a rule, the whole is dragging on the soft muscular walls of the abdomen. The abdomen, kidneys, lower part of the spine and pelvis receive an injurious excess of clothing; for there seems to be a fixed idea, in the female mind, that about these regions, which ought to be kept at a very moderate temperature, nearly every article of clothing should quadruple itself and form a nice hot-bed for the before-mentioned draughts up the open skirts. There is chemise with, certainly, two thicknesses of folds round the waist; drawers—two folds of band with gathers; flannel petticoat—ditto; other petticoats—ditto; dress skirt—ditto; vest, one layer of material; corsets, two; bodice, one; dress bodice, two—all wrapped round the poor waist. Is it any wonder that

women suffer from chronic inflammations? And then the dragging—How is it borne? Several pounds weight daily pulling at the muscles!

We should like to see every woman in possession of a good diagram of her internal arrangements, with physiological foot notes. How many mothers are there who are aware that, even in the earliest years of a girl's life, pressure or weight will so weaken the muscular attachments of the undeveloped pelvic bones that distortion easily results? and yet, we think, most women are aware of what distortion entails in a confinement. Women ought to know that the uterus, in its normal condition, is a small bag, hanging within the pelvis, from ligaments that connect it, on each side of the body, to the abdominal walls of the groin—that, lying above it, are twenty-five or twenty-six feet of loosely packed intestines that bladder and rectum lie, one to the front, one to the back, below the uterus; they ought to know there is no organ of the body more easily misplaced than this uterus or womb. The pressure of corsets, tight bands, and the downward pull of heavy skirts, push the yielding bowels upon it; and, in its turn, it presses upon the bladder and rectum. The mischief is of slow growth, and the pressure may never be so excessive as to make itself felt at the time; but it is constant through all the waking hours of girlhood and womanhood. Its minor effects are shown in the very general constipation, painful menstruation and irregularities of girls and women. Constipation, too, is the forerunner of hemorrhoids, and they in their turn,—for one mischief breeds another,—lead to congestion, inflammation and ulceration. Where the pressure is

more severe, or where there is constitutional weakness, the supporting ligaments of the uterus become so strained that prolapsus, or falling occurs. The effects of prolapsus, bad though they are, are not always confined to the one organ, as the uterus frequently presses upon either bladder or rectum, giving rise to most distressing complaints. We speak plainly, for the knowledge of these things wants ventilating amongst our sex. It is our firm belief that even doctors are unaware of the far-reaching extent of peculiarly female complaints. Depend upon it for every one patient the doctor secures for this class of disease, there are a dozen of whom he never hears. A woman, with proper delicacy of feeling, hesitates long before she will carry the tale of certain complaints to a man ; and it is not until matters are complicated, perhaps serious, that the doctor is consulted. We know that this is so ; we meet with almost daily instances of this natural reluctance on the part of women to speak of these things, except to their own sex. What years of untold, patient suffering, what misery for the afflicted, and for those near to them, will be averted when the woman-doctor becomes a power in the land ! When there is a fully qualified lady doctor in every town, trained to a special knowledge of female complaints, a millennium for suffering women will be dawning. There is urgent need and plenty of work for them. That there is still prejudice against the doctress we are aware, but we count it as a drop in a bucket, knowing well that any innovation upon the endeared conservatism of venerable custom, is sure to be smothered at first, with bushels of anathemas.

In reading, from time to time, the publications relating to healthful dressing that have come under our notice, we have been struck with the advantage the Americans have over us in respect to the number and position of their female doctors. Their words carry weight ;—they are “medical authorities,” “leading female physicians.” Here,—“she does nicely for the children’s little ailments you know ; her charges are so moderate ; but for anything serious we should, of course, call in the old doctor.” It rests with the women who make medicine their profession to alter these views.

How can a man, who has never worn corsets and petticoats, know just exactly where, and how, the shoe pinches ? He may be sure of much ; he may guess still more ; but here the fact remains—he has never worn them. And here is another item that seriously hinders our work of reform. We preach and preach, and are, perhaps, just congratulating ourselves upon the acquisition of a convert, when we are turned upon with—“It’s all very well to talk ; but the doctors are the ones to know what is wrong. They don’t tell us that our corsets are too tight and our skirts too heavy.” Don’t let us malign our doctors ; we owe them too much not to recognise, with gratitude, their self-denying labours for suffering humanity ; and there are some of the most clever and honoured in their ranks who have both spoken and written with clear emphasis upon this burning subject ; but still, the majority have been, and are, silent ; and not one of them could come to us with the authority of the woman doctor, who says—“I know, for I am fashioned like yourselves, and I have worn these things.”

Now comes the vexed question of the corset. After the many fulminations directed against this obnoxious article, its days ought to be numbered. Not so ; its hold upon the affections of womankind is so tenacious that a deaf ear is turned to all remonstrance.

The sufferings and distortions, distinctly traceable, by the physiologist, to the continuous wear of unyielding, falsely-shaped, and always badly-fitting corsets, are pooh poohed by the sufferers, or set down to other causes ; for pinched waists and large hips being considered signs of gentility, they must be secured, no matter at what cost. The natural average waist of a woman is twenty-seven inches ; in shape it is flattened before and behind, and is slightly broader from side to side. We incline strongly to the belief that no error was committed in the original plan. Whatever scientific researches may do, in upsetting Mosaic cosmogony, they indubitably strengthen our belief in the unerring truthfulness of the pregnant repetition, "and God saw that it was good." Nevertheless, women have decided—upon what grounds who will venture to say?—that, concerning their own bodies, the plan of the Creator was *not* good ; that so far from being a "perfect woman, nobly planned," she is a poor deficient creature, requiring a further development of a bony framework OUTSIDE the body. Women have one word—a sort of fetich—upon which they pivot their complaint of the inefficiency of their muscles to discharge the duties laid upon them. The mystic word is "*support.*" A woman is such a fragile piece of mechanism, that, by no possibility can she hold herself together by means of the bones and ligaments which nature has provided for that purpose ;

therefore she buckles on an ingenious article, constructed to be several inches smaller than the body it surrounds, and by its means, she forms the trunk into two pyramids, one standing on its base, and the other, by some occult law of architecture, on its apex.

The accompanying figures accurately depict, first, a naturally-shaped body with its internal organs in situ.—N.B. This body can support itself.—The second gives the outlines of a figure improved by corsets!—the line of juncture of the apices of the pyramids, it will be seen, is at the narrowest part.—N.B. This body cannot support itself. No lady will deny that the second is a correct outline of a modern belle; but it is difficult to detect by what ingenuity the insides of the first figure can be packed into the second! Upon the completion of the process the figure will, without doubt, require the support designed for it, for nothing but the stiffest pressure will prevent the squeezed portions from oozing out somewhere.

What is our higher education doing for us if it cannot teach us the simple fact that Nature is more likely to be a true guide to correctness of form than a corsétier, who neither knows nor cares for the beneficent reasons that have shaped a woman as she is?

At an early age the corset is fastened round the body of the growing girl, and it does its work so slowly that pain, or even discomfort, are rarely felt; the pliant ribs and muscles yield, little by little, until, by the time she reaches maturity, the summit of ambition is reached; the waist-circumference is from three to four or five inches below the average; the cribbed, cabined, and confined muscles, with no work to do, have dwindled into sickly

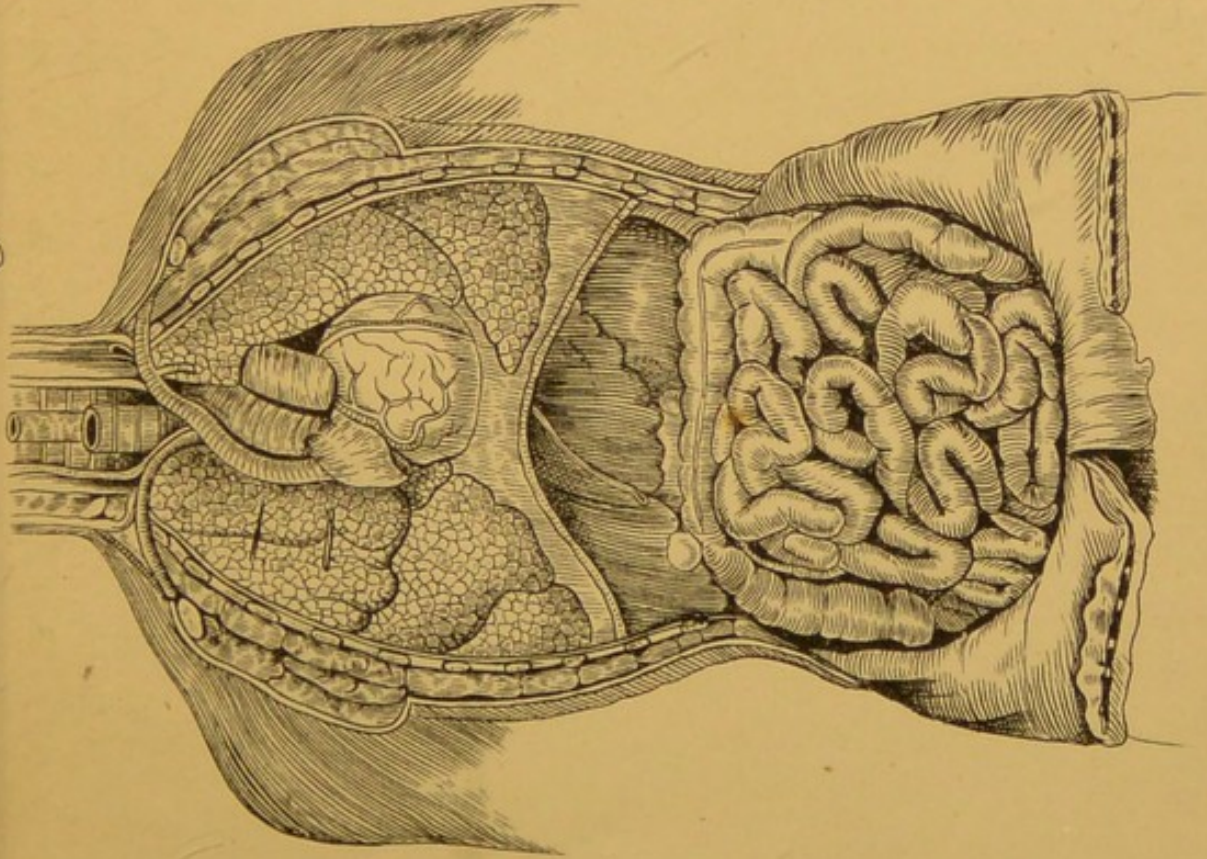


FIG. 9. NATURAL FIGURE WITH INTERNAL ORGANS IN SITU.

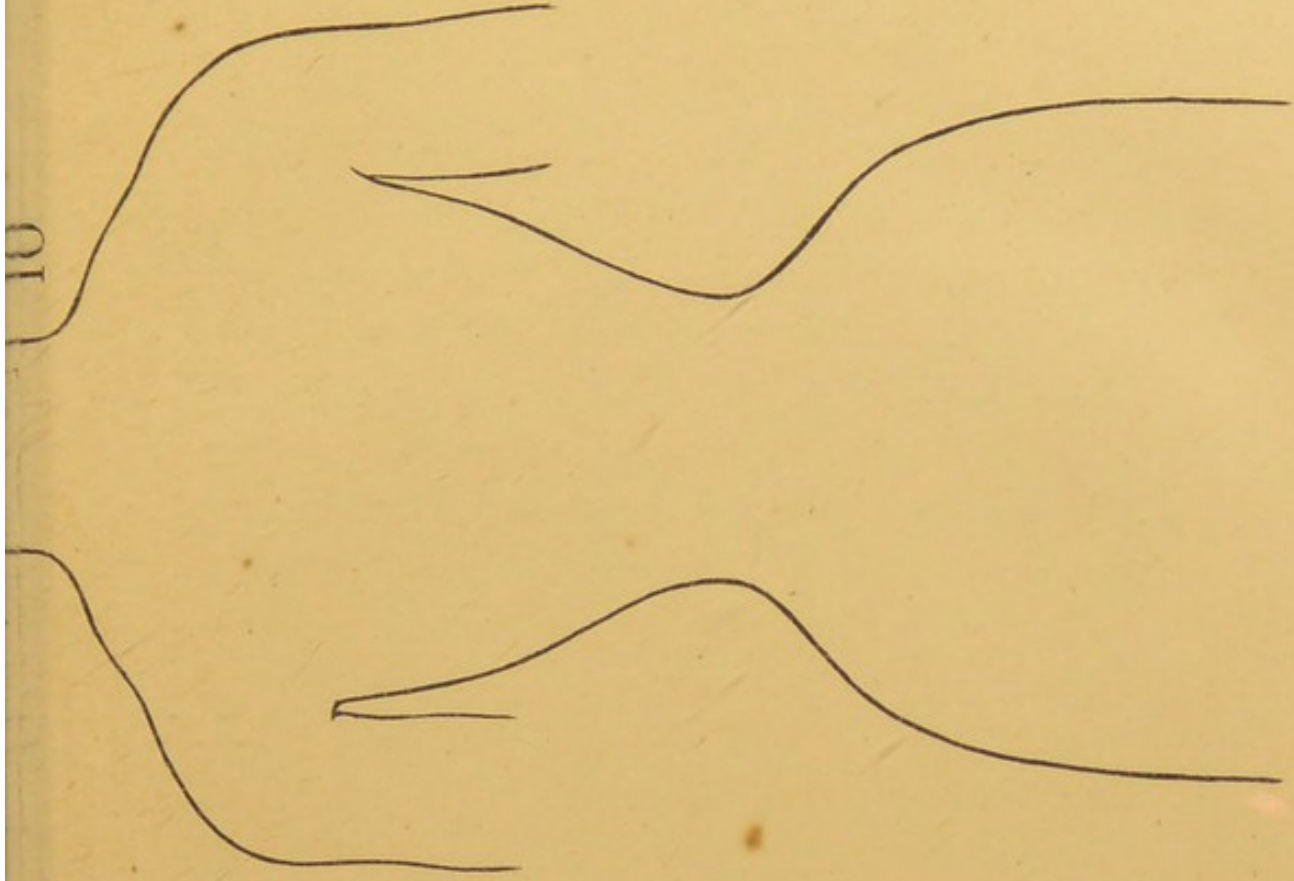
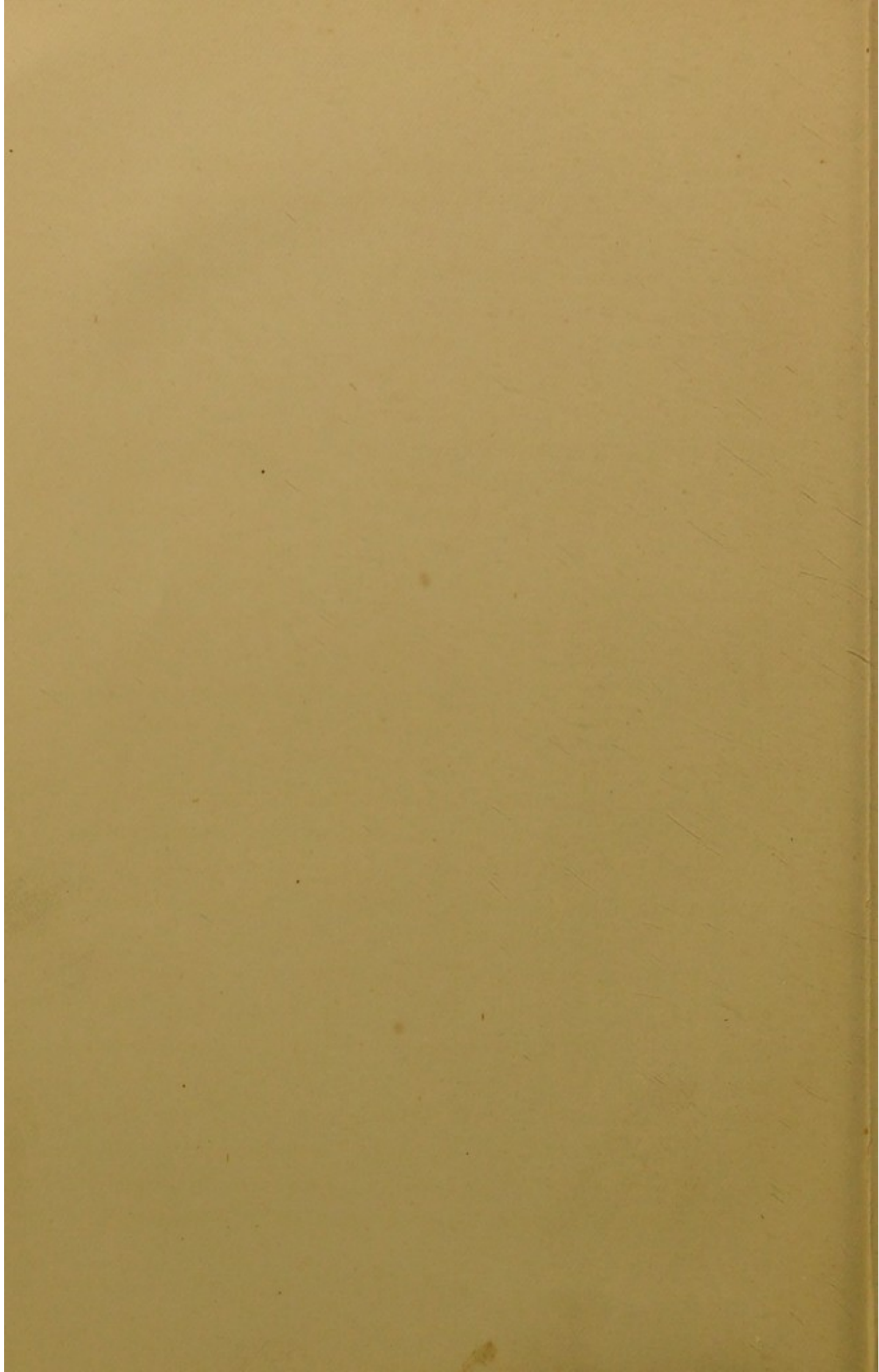


FIG. 10. OUTLINE OF THE SAME SIZE FIGURE COMPRESSED BY CORSETS.



life; the double-pyramid-build of figure is complete; and the girl, now a woman, is really and truly in want of "support."

Now, let us consider whether the game is worth the candle. In what does it profit a woman to be tightly laced? Positively nothing, to quote Mr. Godwin's energetic phrase, but "the veneer of respectability." A passing admiration, it may be, from a few ignorant ones of the other sex; a feeling of envy from those of her own sex whose larger build precludes any possibility of attaining the like diminutive proportions. The veneer cannot be hidden; every observing eye can see that the rules of proportion are destroyed; the sharp side line is altogether out of the refined curve of beauty; in artistic language, the figure is debased. The only genuine admirer the deluded woman has is the dressmaker, who declares, with rapture, "Your figure is just perfect! It's a real pleasure to fit you!" Granted that the meed of praise bestowed upon a tightly-laced figure, is a matter of profound satisfaction to the recipient—we have yet to turn from profit to loss and strike the balance. What does a woman lose by thus habituating herself to the pressure of stiff corsets? This debit side is a very heavy one.

There is, first, the loss of possible movement—involving much of convenience and gracefulness. A woman, whose bodily muscles are well-developed, possesses ease and strength for lifting, carrying, and bending, of which the corsetted female—whose body moves "all of a piece"—knows nothing. Next, by continuous pressure, the muscles become atrophied,—wasted, undeveloped, weak—they are not able to do their appointed work; in

consequence there is deficient circulation, cold extremities, and weak backs. The yielding ribs, gradually pushing inwards, where there is not one inch of spare room, cause the important organs of the trunk to endeavour to find accommodation by the baneful process of encroaching upon each other. In this way lungs, stomach, and liver are disarranged; all suffer more or less, and, if one is naturally weak, an incurable disease may be the unsuspected result. The displacement takes place from above downwards. Compression lessens the chest capacity by interfering with the movements of the ribs and diaphragm, which, when not fettered, can enlarge the chest, in every direction, at each inspiration; for some of the ribs—the upper—are raised, others—the lower—drawn backwards; while the diaphragm—the arched partition separating the digestive organs from the respiratory—is pressed down upon the abdominal viscera. By this method of expansion the capacity of the chest is most increased at the lower part of the cavity, where two-thirds of the lungs are situated; hence compression of this part, by diminishing the air supply of such large masses of lung, is more injurious than it would be if applied to the upper ribs. The downward pressure, upon stomach and liver, forces them upon the intestines; until, with pressure from above, and dragging of the weighty skirts, the strong ligaments that direct the weight of the abdomen upon the pelvic bones, become weakened and relaxed, permitting it to fall into the pelvic cavity. It is here that the combined force of pressure from corsets, bands, and skirts culminates with results such as we have already mentioned. Possibly only tradespeople, like ourselves, who supply various appliances for the

relief of suffering women, are aware of the large and increasing numbers to whom these appliances are necessary. Life is, to many, a recurrence of seasons of misery and suffering; and for why? That woman may have the infinitesimal satisfaction of knowing she has a small, round waist! Again, we ask—Is the game worth the candle? Does it pay to be bankrupt in the buoyant health that makes life, not only a pleasure to the individual, but a charm to the beholder? No; emphatically, no! It never has, and it never can pay, to be weak and sickly; to be the mother of feeble children; to be obliged to ask—Is life worth living? to drag on existence doing about one quarter, or, perhaps, one half the work that ought to be done, and what a healthy woman would accomplish with ease. Still, if individual women reckon the doubtful game is worth the cost, we do not see what is to prevent them. If they choose to suffer—and the follies of dress have made “sufferance the badge of all our tribe,”—no laws can be passed to hinder it; but let them be well assured, though Nature is accommodating and puts up with much that offends her for the time being, she is, in truth, inexorable; she never forgets and she never forgives; her punishments may be long delayed, but they come with certainty and no offender can escape.

But cannot something be done for the children who have no intelligent voice in the matter? It is the refinement of cruelty for a girl to be laced into the fashionable mould just at the very age when the physical changes, in her form and constitution, demand she should have the utmost freedom. The little health of women is bad enough; do not let us add to it the little health of growing girls. We

do not intend to lay the entire blame of weak muscles, bad digestion, and the generally-undeveloped frames of girls, to corsets; the mischief wrought by them is very great, but it is aided and abetted by many other unwise things in the up-bringing. Want of regular, daily, active exercise is ruinous to the health of multitudes. Where is there a girl in her teens who is a good runner, skipper, jumper, or even a really good walker? What incentive has our average girl, in the midst of the high educational pressure now brought to bear upon her, to build up a frame of health, strength and physical beauty? Always ambitious to earn approbation, she studies with determined will, in school and out of school. But, amongst her many well-trained teachers, are there none who perceive the one-sidedness of this higher education? which is rearing a race of women with a predominance of nerve tissue and lack of muscular development; sure forerunners of headache, neuralgia, spinal weakness, and the morbidness of hysteria. Occasionally they play at calisthenics; frequently badly taught, and badly learned. There is little doubt that the curriculum, for the middle-class girl, is absolutely deficient in any well-organised scheme for healthful, physical development. A girl tingling with the delicious, joyous, glow of vivacious health, should be aided, not checked, in her natural efforts to preserve Nature's most precious gift to her. Shouting, dancing, voice-training, the skipping rope, hoop, the lost art of running, judicious muscular exercise—these her well-being and the well-being of a future generation ask for,—but——“Tomboy;” “Hoydon;” “Unladylike;” are dinned into her ears until she succumbs to the pressure;

and, stifling every God-given longing for the untrammelled exercise of her exuberant nature, she advances to womanhood unprepared for its physical demands. Emerson's aphorism, "The first wealth is health," should be engraven upon the minds of every mother and teacher. Can anything proclaim more loudly there is something wrong than the large numbers of absentees from school by reason of—well, not exactly bad health but, little health? Enervating headaches, toothaches, neuralgia, backaches; trivial, passing annoyances we think them. Forgetting that little health in the young means wretched health in the adult, we give them no chance of anything better. The "ladylike" girl in her teens, carefully clothed like her mother, in confining corsets, clinging, weighty skirts, narrow shoes with lifted heels and pointed toes, has little prospect of becoming a physically beautiful woman. Cramped in lung and muscle, with a steel busk in front forcibly pressing the pelvis down, every time she stoops over her desk—Is it likely that she can enter upon the duties of wife and motherhood without the certainty of additional suffering?

Apart from the question of tight-lacing there are other charges to bring against the corset. There is no absolute need for it to be hurtfully tight; every lady is at liberty to let out the laces, if she so chooses, and many do so. Be that as it may, the corset is altogether wrongly planned. No human being is shaped like an hour glass. The curves of every natural body are not loudly pronounced, but softly undulating. Aided by a complex system of gores it is so shaped that it is not comfortable, and the dress does not set properly, unless it is worn too tight. The assumption

of its designers is that the relative proportions of hip and bust measurement, compared with the waist, are to be much greater than they ever are in the natural figure; consequently, if a corset is bought with a waist measurement suitable for such a figure, the hips and bust are so enormously large as to be out of all proportion. Then, too, an article of such stiff nature and shape, intended to be kept in place wholly by its own pressure, is bound to settle down upon the hips by the simple plan of diminishing the waist limits. Ladies who do not analyse the processes of corset adaptation will hardly be prepared to realise this; but, if they will intelligently think the matter over, they will see it is inevitable.

It is not every one who is guilty of deliberately pulling in her ribs for the express purpose of reducing her size; indeed, we think, the majority of corset-wearers are quite innocent of any such folly; their only reasons for wearing them are to secure a smoothly-fitting dress, support for the bust, and relief from the dead-weight drag of petticoats, which is positively unendurable without the intervening protection of the corset. Do not take this, though, as an argument for corsets. The figure can be held in place, and the dresses fit perfectly without their intervention; while it is a deep delusion and a snare to believe, for one moment, they are a protection from the injury caused by weight, suspended from the waist. What they really do is to crowd and squeeze the insides so closely together that distinct internal movements are not possible; circulation is impeded everywhere, with the result of a general numbness of the parts.

A string tied tightly round any part soon causes

insupportable pain; but if a limb is firmly bound up and splintered, in its entire length, pain and discomfort are not felt, although the limb may become so wasted from inanition, as to be useless when the bandages are removed. This is the exact position into which supporting corsets force a woman. Take them off—give her lungs room to breathe; let the diaphragm be able to rise and fall; the liver and stomach to attain their full dimensions; the abdominal viscera to rise into their proper place; let circulation be free; lessen the chances of congestions, inflammations and dangerous maternity; and—What then? Using her own forcible language, the woman will tumble to pieces; she will collapse; sink into nothing; her muscles will not hold her together or keep her upright without her “support.” Are we then to own she is wrongly put together; that, after all, something was left out when civilised woman came into existence? Hardly so. That craving for support is the sure sign she has had too much of it. Allow her to grow up without it—and firmly knit, lithe muscles will, with ease, support a well-shaped figure imparting to it a dignity and grace of mien which it is now incapable of acquiring.

Ladies need labour under no apprehension that setting free their muscles will give them the appearance of being larger. Induced smallness of waist, so far from conveying the idea of slenderness, actually makes the figure look larger, because it is out of proportion. No one can pull in the waist without bulging some other part. The abdomen, bust and hips swell out with sharply defined lines—exactly as though they had been moulded into spheroidal shape away from the body and then fastened

to it; there is none of the insensible blending of line with line, that obtains in the unlaced figure, and which takes away the appearance of size; the eye falls, not upon the waist-indentation, but upon a bulge made unduly prominent.

The enlargement of all figures from the wear of corsets has received our notice for some years, and we have taken pains to corroborate it from our business statistics. Following the abandonment of stiff stays, high heels and transfer of weight of petticoats from the waist to the shoulders, is a sensible decrease in the size of the hips and abdomen; whilst the measures of those who have never worn corsets, or who have, for some time adopted a reform dress, present very marked differences from corresponding measures of corsetted, band-encircled women. Our opportunities for the compilation of these statistics—in sufficient numbers to render them reliable—are, perhaps, unique amongst dress reformers. Having always strongly advocated the importance of correct fit for every hygienic garment, we discountenance the almost universal adoption of ready-made underclothing. No doubt it is a saving of trouble and expense, both to the tradesperson and the wearer, to have these garments cut out from some hazy notion of shape in such a manner that they can be worn by anybody and everybody. To the tradesperson it means that skilled labour—so difficult to procure in the feminine market—and, when procured, so expensive—can be dispensed with, and the articles sold at much cheaper rate, and for greater profit than corresponding ones carefully cut and made to measures by experienced hands;—to the purchaser it means no

trouble in the shape of measurements and fittings on, and the gratification of the craze for cheapness which, at the present moment, absorbs the female mind, and is an important element in the unsatisfactory condition of trade throughout the country.

The initial step in Dress Reform, we take it, is not to hang a set of baggy garments upon any part of the body, but to invest trunk and limbs in snugly-fitting raiment so arranged that draught, dragging, friction, needless looseness and fulness—both of which occasion dragging—over-heating or chilling, of any or every part, are impossible. As we shall presently show, what really fits one natural figure is not at all likely to fit another; and very slight differences occasion discomfort.

The rule is to make the reformed combinations, divided skirts, and what not, so loose that they will hang on any figure; and we have seen plenty of examples to convince us that these sloppy things—in which we should be miserable—are not felt to be uncomfortable to the wearers; possibly because they are really a great step forward on the road towards evolving the sensation of comfort in a woman's system; they are much more comfortable than her barbaric chemises and petticoats, though they come inconceivably short of imparting the perfect freedom that is given by what we may term the comfort of the masculine system of attire.

Being engaged, continuously, in making corsets and underclothing from measures, we have hundreds of forms carefully filed for reference, which may be taken as honestly representative in their character, for they belong to no particular district or class, but are sent to us from

every part of the kingdom. From them we gather that, given any number of measures, dividing them into sets,—one representing the wearers of hygienically-constructed raiment, another the wearers of the usual feminine dress,—there will be constant variations, between the two sets of figures, in the size of hips and abdomen. In natural figures the differences between waist and hip circumference range, for every conceivable size, from seven to ten inches. The second set, on the other hand, will give the range of difference from ten to seventeen inches. We have one case where it reached to eighteen inches; the waist measure being twenty-six, and hip forty-four; this, though, is an exceptional case of deliberate, and openly-acknowledged, tight lacing.

Viewed solely from an artistic standpoint, leaving health quite out of the question, our measures help to prove that the natural figure has an immense advantage over one still in the thralldom of corsets and skirtage. But they also tell us something else. Gathered from north, south, east and west; representing every age and condition; little women and big women; stout women and thin women; women who lace and women who don't; we are constrained, in fairness to our sex, to say that many statements made as to the extent to which lacing is carried on are somewhat wide of the mark. Fifteen, sixteen, and seventeen inch waists are glibly chattered about, as though they were common enough. An inch is such an elastic term that one or two, more or less, do not seem to make much difference; and yet, in reality, a couple of inches gained will transform many a pinched figure into a natural one. We question whether it is a

physical possibility for women to reduce their actual waist measure below seventeen or eighteen inches. The minimum upon our files are twenty inches; of these several, to our certain knowledge, belong to remarkably slender and *petite* figures.

A distinction should be made between *actual* and *corset* measures, because stays, as ordinarily worn, do not meet at the back. Young girls, especially, derive intense satisfaction from proclaiming the diminutive size of their corsets. Many purchase eighteen and nineteen inch stays, who must leave them open two, three, and four inches. Matters are bad enough, in all conscience—there are thousands of women to-day, in every civilised land, of twenty, twenty-two, and twenty-four inch waists, who ought, for health and beauty, to measure from twenty-six to twenty-nine inches; still, dress-reformers will accomplish nothing by making things worse than they really are.

A further factor for evil in the corset is its stiffness. By means of bones, canes, steels, cords, gum, and starch it is formed into such an unyielding cuirass that movements of the spine and ribs are impossible; though it is upon the breast that the pressure of this stiffness effects the most injury. Mothers cannot be warned too forcibly of the penalties that threaten young, married women from arrested development of breast and nipple,—caused mainly by the pressure of the board-like material of the stays; and, what is perhaps worse, the unequal pressure of the bones and cords which run up over the breast gussets. Although ample allowance is generally given, in the breast portion of the corset, for growth, no consideration is bestowed upon the inevitable consequences of the pressure

of stiffness, bones, and cords on the soft bust during its years of development. Stiffness is so incorporated in our minds with the idea of a corset, that it is not easy to disabuse ourselves of the delusion. Even in, so-called, hygienic stays it is perpetuated ; bones may be removed from the bust, but stiff coutille and cords remain, and these, we think, are more objectionable than bones when they—the bones—are of genuine whalebone, shaved quite thin ; they lie flatter, give to the figure, and become thoroughly pliant with the moisture of the body ; whereas the thicker, round cords are harsh and cutting.

The hard bust is responsible for many a gathered breast ; also for the want of nursing power so increasingly prevalent. Lately we have remarked what, to us, is a new phase in disease—"Breast Neuralgia." Whether this results from pressure or not, we are not prepared to say, but we do know that the sufferers seem unable to bear the aggravation of their complaint that stiff stays engender.

The practice of wearing the corsets open, with lacings at the back, is also to be condemned. The habit will have arisen from the impossibility of securing an exact fit in a ready-made article. If we select a score of figures with a waist-circumference of twenty-four inches, we shall find no two that are exactly alike in every other measurement ; and these lacings, undoubtedly, give facility for letting out in one direction and pulling up in another. Again ; the ready-made corset being always stiffened, looses this in wear and the softened material readily gives or stretches. when the laces are brought into requisition for the purpose of tightening. At best this is a clumsy method of attaining the end. Let

us suppose a dress waist made too large in front;— Would any dressmaker, however ignorant, remedy the fault by taking up the back seam?—thus pulling every other seam out of place. It may be taken for granted that only a very small per-centage of corset-wearers will be able to close the corset down its entire length; therefore the sensitive track of the spinal cord, the sympathetic nervous system, the large masses of the lungs, which are situated at the lower and back part of the thorax, are left more unprotected from changes in temperature than the other portions of the trunk. Not infrequently persons who pile a quantity of padding and covering over the chest as protection from chance of cold, have nothing over the three or four inches of spine left exposed by the open stays, but a cotton chemise and the dress waist.

BANDS.—Recently the question of bands, *versus* shoulder-support, appears to have again come to the fore and to be perplexing not a few who are undecided in their minds which plan to adopt. Like all matters which crop up for discussion, there are arguments for and arguments against; but, we are obliged to say, those against the employment of bands by far outweigh, in authority and number, those for them. In America—where the importance of reform in dress has been recognised for a longer period than with us—no authority, medical or lay, can be found to advocate the custom of hanging any weight whatever from the hips. Those who advise the use of the band suggest that it should be lowered from the waist, its present position, to the hip bones. The idea has probably originated from noticing the prominence to which the hips

have attained in the modern female ; and, if it could be insured that they would always be large, and the abdomen small, the risks attending this method of suspension would perhaps be averted. Of one thing we are very certain—the modern female is not, in figure, a natural female, and we have not only to deal with her as she presents herself to us in her deformed state, but as she will be when reformed. Indications, presented to us by our numerous measurements, convince us that, in the natural figure—which rational dress will speedily restore—there will be few hip prominences sufficiently pronounced to serve as pegs whereon to hang anything. Sometimes large hips will be seen ; we are not all built alike, and nature will forever amuse herself with occasional freaks—but every succeeding year of our work tends to the accumulation of evidence that the now, almost universal, large size of women's hips is a distortion brought on by pressure, as it so rapidly decreases in the individual when the waist is allowed to expand. Almost invariably we find a second set of reformed garments requires to be cut smaller over abdomen and hips than the first set.

Whether, however, the hips are naturally so prominent as to give comfortable support for garments suspended below them or not, we unhesitatingly condemn the use of a band. Like every single article, little and big, of female attire, the band has come into existence with a shape that has no reference to the shape of the part it encircles. Removed from the waist, and placed to hang upon the pelvic bones, its aimlessness of construction becomes still more apparent. Look carefully at the upright, unclothed figure of a woman—just where we are told to place the

bands ; study it as the draughtsman studies his model. There is an abdominal swell subsiding towards the haunch bones ; there is another swell round the hips ; then a comparatively level stretch across the back of the thighs—though in some figures there is a decided swell here also—and then comes the drop inwards towards the centre of the back. How a circle is to fit these inequalities of surface, without dragging upon the most prominent, we fail to see. A band is cut, sometimes gored, with an outer and inner circle ; this—in the charmingly vague language of dressmaking literature—is called “shaping !” Shaping,—to what?—we should like to know. The weight is sewn to the outer circle ; in consequence, unless the hips are very large, the drag, passing from the greater on to the lesser circle, causes the edge of it to cut inwards upon the soft flesh. Every garment, that serves as a petticoat and ends at the waist, should have the upper part—band, we will call it, though what we recommend is in no sense a band—draughted, and cut, to individual shape, exactly as the tailor cuts the nether garments. This principle, which we apply to knickerbockers of every shape, to divided skirts, cycling trousers, &c., reduces the upper part of these garments to a copy of the parts they cover ; it is rounded to fit over the hips, run up behind to cover the small of the back, and sloped down the front seam in exact proportion to the size of the figure. Where the hips are prominent, a garment correctly shaped in this manner, will fit comfortably, without any dragging whatever ; but, for slight figures, it is always advisable to transfer some of the weight to the strong arch of the shoulder bone by means of the brace.

Many object to the brace—with good reason if they are only acquainted with the worthless articles generally sold under the title “Ladies’ Brace”—made of webbing not much more than an inch wide, with safety pins as their means of attachment. Webbing has a particularly sharp edge that must leave its mark upon the flesh if it has any pull upon it; therefore its use is quite inadmissible in sanitary dress. And yet, some form of brace is almost a necessity; for even where the underclothing is made entirely in one, or where skirts, etc., are buttoned to bodices, there remains the dress skirt which fashion, more often than not, decrees is to be worn separate from the basque. It is not possible to put this into a deep band; nor is it always desirable to multiply the body coverings by securing it to an under-bodice; the simplest plan is to carry the weight up to the shoulder by means of a broad, soft brace or suspender.

Great attention ought to be given to the proper adjustment of the brace; unless it is made exactly right for each figure it is sure to be uncomfortable. The cross band, sometimes used to connect the two parts of the brace between the shoulders, is bad, because hardly any two figures will take it at precisely the same height or width, and a fraction makes all the difference between comfort and discomfort. Instead, if the two portions are separated and simply crossed over at the back, the one from the right shoulder buttoned to the left button and *vice versa*, the cross will come just where it is comfortable to the back and will effectually prevent slipping at the shoulder. The chief mistake in wearing braces is bringing them down over the bust to fasten the front ends; for, as the bust is

more prominent than shoulder or waist, by this arrangement a great part of the drag is expended upon it. We have personally worn, for seven or eight years, a soft, woven brace, three and a quarter inches wide. This crossed over at the back, brought down in front well to the side of the bust, and fastened almost under the arm is a most comfortable and convenient mode of attachment for knickerbockers, divided skirts, petticoats or dress skirts. Its width ensures that it rests well on the shoulder arch, nor does it interfere with the lift of the arm. A wide brace, properly placed, cannot possibly hinder clavicular breathing; it is the mis-shapen garments, hanging loosely from the shoulders, that do this. Besides, as we free ourselves from weight and pressure, we shall find diaphragm breathing quite as possible for a woman as for a man or child. We can point to several instances of women who, having dressed themselves in a rational manner, no longer lift the chest except for deep inspirations. One furnished us with an amusing illustration of the difference that tight-dressing has engendered between the breathing of the sexes. A young lady, dressed upon strictly hygienic principles, suddenly woke to the conviction that she was not breathing like other women. She watched carefully—and noticed that lift of chest, above the breast, was the chief, almost the only movement of respiration. She tried imitation—without success; in ordinary inspiration her chest refused to lift to any visible extent; though inferior costal—lower rib—breathing was most marked. Then she concluded something must be wrong with her lungs, and had a rather bad time in consequence, until some casual allusion, in conversation

with the writer, brought the subject forward. She was advised to try, for experiment only, the effect of a tight, broad band around her waist, and lower ribs. Of course this instantly enabled her to emulate the method of breathing peculiar to her sex, and with a hearty laugh the "lung disease" was, we trust, dismissed forever.

But, *revenons à nos moutons*—otherwise braces. If a sensibly-contrived brace should occasion a feeling of dragging from the shoulder, the fault lies, not with the brace, but either with the position of the fastenings or with the weight of the attachment. A heavy dress of five pounds or more will certainly occasion the drag and pressure censured by some reformers; but then, no heavy garment is a sanitary one. When our clothing is properly cut and of proper quantity, weight is distributed so equally over the entire body, that the question of detrimental dragging from any one part is too trivial to call for special attention.

BELTS.—Abdominal belts hardly come under the category of articles of dress, although such frequent adjuncts that they cannot be entirely passed over. Surgical belts, for special cases, such as rupture or prolapsus, ought never to be put on without definite instruction from the doctor as to the kind required. Our reference now is solely to cases where there is no actual disease, but where a slight, steady support is a necessity or a relief.

Dress reformers sometimes strenuously condemn belts of any kind; arguing that the muscles ought to be allowed to do their own work, and that they weaken instead of strengthening. Their arguments are certainly weighty in one sense; but, as before intimated, we have to do with women as they are *now*, and not, as we trust, they

will be in the happy future, when sanitation in dress, and in life, has reformed us. The present physical conformation of many women makes it highly desirable that, to prevent possible injury and suffering, belts should be worn for active exercises, such as riding or cycling, where there is likelihood of a strain; and also to relieve the intense "bearing down" so frequent in menstruation.

Strong, healthy women are much better without them; it is only for the delicate that they are really wanted. We would caution against the use of a belt, that becomes, from its depth, stiffness, or quantity of elastic, a surgical instrument. Nothing of this kind is requisite for any ordinary purpose of support. What is needed is a belt so shaped to the figure in front, by sloped seams, that no pressure is exerted upon the abdomen—only an upward pull directed entirely from the bottom slope of the belt. Contrary to the usual plan, we would advise ladies who wear a supporting belt to have it made in two parts—front and back—fastening with elastic straps over each hip. The most suitable materials for this, or indeed for every kind of belt, are flannel or all-wool lasting which, permitting of free transpiration, do not chill when the body cools after exertion. The objects of such a belt are twofold—1st, to give support to the abdominal walls by a gentle, upward lift; 2nd, to relieve "the eternal pain in the back," that dull aching across the lumbar regions—by a firm pressure resembling the manual pressure so often resorted to by the sufferer. Its greatest depth, back and front, should be from four to five inches, narrowing towards the hips to about two inches in the elastic straps. A few pieces of thin bone, or finely-tempered belt steel, can be

used to keep it from creasing. It is also advisable to make the belt to lace in front by eyelets ; not for tightening, but for letting out to a greater extent than the elastics allow, when the body swells, as the part covered by the belt is apt to do. This shaped belt will be found much more comfortable, in ordinary cases of pregnancy, than the deep heavy ones now in wear, many of which are made almost, or entirely of elastic, and give support as much, or more, by squeezing in, than by lifting up, besides being excessively heating. The chief object to be attained from wearing a belt during pregnancy is a support for the burdened abdominal muscles, applied as low down as it is possible, along the groin and across the lower part of the abdomen. When it embraces the body nearly, or quite, up to the waist, it is evident it must be acting by constringing force, and it literally becomes a corset for the bowels, weakening the muscles, and thus preventing, instead of aiding, proper retraction after parturition. Numbers who wear a supporting belt have the idea that their efficacy is measured by the amount of compression they afford ; and many belts seem to be designed upon no other plan than that of constriction all round the body ; any degree of " lift " they may give being neutralised by their great depth, which brings them up over the swell of the abdomen ; and, being firmly fastened round the body, they push down quite as much as they lift. Ladies would do well to remember that the object of a simple belt is *support* not *pressure*. If properly shaped it ought to keep in place and give enough support without being so tightly fastened. If it does not, better far to discard it, for tightness, instead of preventing, will aid the mischief the belt

should remedy. Where there is any weakness of the muscles, etc., a belt is required for every kind of active exercise—especially for horse riding and gymnastics. For cycling the risk of a strain is not nearly so great as in riding, for the position upon the saddle of the iron steed is a much easier one, and there is, compared with equestrian exercise, an infinitely smoother motion. It is only in continuous hill-work, or in cases where there are predisposing causes, that there is the slightest danger of a strain for a careful rider mounted on a reliable machine. We emphasise our opinion, as riders of long standing, because the tricycle has given to women an invigorating exercise, eminently fitted to counterbalance the mischiefs of a sedentary life, and it would be a great pity if any were dissuaded from taking to it by a false idea that it might be injurious. There is no exercise freer from dangers of every sort than this. The increased health and vigour of a woman, who takes to a tricycle, are often noticed in the cycling world. The easy, gliding motion ; the rapid change of scene ; the inrush of fresh air through the lungs ; the work of propulsion—all combine to brace flaccid nerve and muscle ; to make heart and lungs work freely and to banish that lethargy and weariness of which women are so sensible. Ladies, who suffer from weakness, would be wise to adopt an all-wool belt when riding over stiff roads and for long journeys.

But the women to whom a belt would bring untold comfort are just those who can rarely be brought to make use of such a means of relief. Multitudes of them, who stand behind our counters for ten hours—and longer—out of the twenty-four ; who are constantly engaged in

lifting heavy weights—often from a height above their heads—together with those who ply sewing machines for the same long hours, are in absolute need, periodically, of a support that would be a real boon. Many of them have no conception that mitigation of their sufferings can be so easily obtained; others are careless and indifferent; whilst the majority are really in ignorance of the many causes combining to produce painful results. Their symptoms are regarded as “natural to their sex;” and, if relief is sought at all, it is from anodynes and spirits; at best but temporary in their effects, as they require an addition in quantity with each successive period of use, and store up a harvest of increased suffering for the future.

Probably there is no class that would benefit more, from the general adoption of reformed dress, than the enormous number of young girls and women in our shops and workrooms. Almost universally, though, they are adherents to the worst follies of female dress; and they, who would reap the greatest advantage, are just those who are most vehemently opposed to any beneficial change.

IV.

In planning a reform that will simplify dress and render it hygienic, it is folly to run a direct tilt against the prejudices and fashions of the day. Instead of creating strong opposition to the movement by exhibiting styles of dress which are not graceful, and, in some cases, which are positively ugly, it should be our aim, by careful, scientific, artistic study of the subject, to introduce into our reforms models of good taste as well as comfort. Due consideration should be given, even in the planning of the

under-dress, to the probable style of the outer-dress of the future. As far as we see there is only one idea to work from—viz., the tight dress in its various modifications.

A perfectly loose, flowing garb, whether presented as Classic Greek or Modern Harem would be quite out of place and character upon English soil. Everything points to a long-continuance of the reign of dresses shaped and fitted to the figure. For external wear it is certain that flowing skirts and close bodices must,—for this generation, and, possibly, for others yet to come,—be admitted into the reformed scheme. This mode is endeared by long custom, by gracefulness, and by its essentially feminine character. A woman attired in Bloomer trousers and Garibaldi will be able to knock about the world with a delightful feeling of comfort; she will not pull over chairs, or catch the braid of her trailing skirts in fire irons and fenders; but, we may take it for granted, the time is not come for the universal adoption of anything noticeably *outré* in this direction. The divided skirt, though pushed with commendable zeal by its patrons, has taken no hold whatever as a dress for outside wear; although as an undergarment multitudes of women have accepted it with thankfulness, recognising a substitute for the burdensome skirts, of which they were so weary, and a first step towards providing covering for the lower limbs. Womankind owes a debt of gratitude to Lady Harberton which a future generation will not hesitate to accord.

The FIT of reformed dress is a crucial point, presenting the most serious difficulties we have to surmount. Ladies, especially those who have suffered, can often be

induced to adopt an entire system of reform in underdress ; but, when the dressmaker comes in, serious troubles commence. The ladies say "*they wont,*" we say "*they can't*" make a reasonably loose dress fit properly. A sanitary dress requires to be made so that there is room—with half-an-inch to spare—for the deepest inspiration ; and it must also fit the figure without wrinkling.

Now this the average dressmaker cannot make. Her training, her inclinations, and her fashion book are dead against it. People come to us with beautiful dresses—beautiful in design and material—literally spoiled in the making ; and this is the solution : "I told my dressmaker I would have my dresses made so that I could breathe in them, I would not be pinched anywhere ;—and here is the result ! My husband says he will not see me looking so sloppy ; he is quite ashamed of my figure. To tell the truth so am I. I shall have to go back to corsets and tightness again, for it is just useless to expect to get a respectable fit without." This is deplorable ; all the more so from its perfect truthfulness. The figures of many of our dress reform ladies are the reverse of pleasing ; not that they are ill-shapen, but because a dressmaker is all at sea when a natural figure comes under her hands. After tight corsets and bands are dispensed with, the figure alters with amazing rapidity. The waist and chest enlarge, the abdomen decreases in size, the arms have a longer and freer stretch, the hips are less prominent, every line rises and falls by gentle transitions giving tender, soft curves and the impression of unity so dear to the sculptor's artistic soul. These are not the lines upon which the dressmaker builds her model ; her's are all draughted upon the corset type.

A very good lesson may be learned by taking a pattern—any one will do—from a monthly fashion book, spreading it out before a representation of old Greek sculpture and then comparing, line by line, the false with the true. In the one there is softness in every undulation and turn; spheric undulations rising, falling, and losing themselves;—in the other nothing but the coarseness of straight lines with abrupt curves; it is the double pyramid intensified, and it is from such falsities to nature that the dressmaker receives her lessons in her art—an art debased. Her patterns are, to her, the correct thing, and if the figures of her clients do not accord with her patterns—why then they must be made to;—a little letting out here; a good deal of pulling in somewhere else, with a wholesale quantity of padding will settle the matter. Of late she has been travelling by a new route to attain the same old end. Adopting quasi-“scientific” methods she solemnly promulgates the farcical doctrine that, given half-a-dozen measures, she will get a true and unfailing model of any human form! Now, no exception would be taken to this, if she stated she would undertake to fit any figure that had been previously moulded into shape by corsets; for these draughtings, like those of corsets, are drawn out upon an undeviating principle. But Nature is not a mathematical axiom; her figures are not turned by line and rule from a lathe with only one design; and, thus it comes to pass, a woman, with a naturally developed figure, stands a wretchedly poor chance of securing a good fit from any dressmaker.

Sir James Paget has lately pointed out that no two human figures are alike. A large experience in draught-

ing and fitting corsets, and other articles of underwear, to make them delineators instead of distortors of the frame, confirms us most positively in this opinion. Not only are no two natural figures exactly alike, but one side of the same figure generally presents differences from the other. Nor is it difficult to foresee that these features of figure will become more and more speaking as the science of sanitary dressing enlarges its domains. When the muscles of women recover from their long atrophy; when women are able to respire—as a few of us happily can do now—through the entire length, breadth, and depth of the lungs; when the ugly lift of the clavicle goes out of date, and lost elasticity comes back, individuality of figure may be as recognisable as individuality of face.

The dressmaker appears to be a standing grievance to every lady desirous of having her dresses made in conformity with naturalness, to fit well and yet be comfortable.

Lady Harberton seems of opinion we have the remedy in our own hands; that the introduction of a plainer and more sensible style of dress would inaugurate moderate charges with better work and fit. Being, in a sense, behind the scenes, we are more able to penetrate the reasons for the grievances against dressmakers than ladies who are outside the great world of trade workers. The real root of the evil lies in the training; or rather, in the absence of systematic, scientific training in a special school, for a special work. Her ladyship's condemnation of fantastic styles, costly trimmings, everyone will endorse; but the entire sweeping away of these would only reveal more clearly the dressmaker's utter inability to accomplish the most difficult feat in dressmaking art—a plain dress well

made. Trimmings of every sort, pleats and gathers, are often laid on to hide the crooked fit underneath. A perfect fitting dress, stylish, yet devoid of trimming, is the highest triumph of a really skilled dressmaker.

A word too anent "extortionate charges." When competent workers are few and far between they hold the market in their hands; and this being certainly the case with dressmakers, who can blame them if their charges are so much in excess of the capacity of an ordinary purse? What one has a right to grumble at is an extortionate charge for work badly done. Again, it is not possible for the customer accurately to calculate the cost of production of a fashionable dress with its innumerable trimming devices. Unless the charge for time and labour is what many consider "frightfully extortionate," those who do the work cannot be properly remunerated. The "Song of the Shirt" need not have been written had the scale of wages balanced exclusively between employé and employer; but, when the consumer refuses to give more than 2s. for what is worth 2s. 6d., some one must suffer; and in the hard, natural course of things, it is the weak who are shoved against the wall of starvation.

To exhaustively analyse the many reasons why the dressmaker fails where the tailor succeeds, lies beyond the limits of a small pamphlet, though we may permit ourselves to touch upon them.

As thoughtful women, obliged to enter the arena of work, employers of female labour, we are daily brought face to face with the fact that women have not the same chances as men in the fierce battle for daily bread. Compared with the wages of men there is an unsatisfactory

relationship between women's work and women's pay. Where does the fault lie? Is there any valid objection to the employment of female labour? or, Is it that the work of women, in the aggregate, is inferior to that performed by a man?

Few women, of any grade in life, admit a scheme of "Thorough" into their calculations. In the overflowing ranks of young girls and women, who are forced to earn a living, the majority take to their work, be it what it may, with little or no preparation; no sense of responsibility, pride in, or love for that work; it is, to them, a detestable necessity only to be endured until marriage—Sets them free?—No; gives them some harder work to do. A lad knows if he is to swim at the top of the stream and not go struggling to the bottom, he must train himself to be the master of his work; but a girl—the girls behind our counters, in our workrooms, the governesses in our homes, the servants in our kitchens—to most of these daily work is uninteresting drudgery to be dropped on the first chance of a husband. "No chance with men!" Of course they have not! How can they have! Nothing learnt properly, nothing done well—slipshod, careless, novel-reading—our towns and cities are filling fast with hundreds and thousands of young girls launched upon the world with no educational provision whatever for the contingency that they may have to earn their own living. We do not say all women who labour will rise to the surface of comfortable independency, any more than every man can do so; but we do say that the woman who is the willing recipient of a special training for her work, who has business tact to perceive the ratio of her wages must be

proportionate to the profit she yields, whose work is characterised by skilled thoroughness, has a marketable value as high as the man.

Dressmaking is clearly woman's domain. It is not right or seemly that men should act as costumiers for our sex. Facts, however, are stubborn things; and it is a fact, although a shame to us, that men can do the work of dressmaking better than women can. The very terms, "Tailor-cut" "Tailor-fit" are synonymous with correctness; perhaps we ought to say "They have been"—for the ladies' tailors are losing somewhat of their prestige for correct ease and simple style; they are descending into the current of fashionable deformity. Ladies demand pinched waists and padded dresses, and the tailor gives them. Still the fact remains, the tailor *can* fit a dress properly because the man learns his trade thoroughly, working upon rational lines. Where is the girl nowadays content to serve a requisite apprenticeship? And, even if she does—Where is the dressmaker who has any system to teach her?

The largely advertised "systems" of one sort and another may be a small step in advance; but dressmaking—at any rate reformed dressmaking—is not a question of half-a-dozen lessons upon line and rule. These simple draughts, which a child may learn, are right enough for a bare foundation, when followed up by a long educational process of experience and study. This is just what the girl apprentice will not submit to. Learning a trade thoroughly is a storing up of provision for the future, and the girls who ply the needle want no future; their lives are wholly centered in the present. Workwomen, as a

rule, have no liking for responsibility; they do their appointed tasks without *head*; they do not cultivate, or permit others to cultivate in them, capacity for attention to detail and the minutiae of finished work.

When a woman does happen to know her trade as skilfully as a man there is nothing to debar her from competing with him upon equal terms both as to results and payments. It is a fact, well known in the trade, that no employé in a business house can command a higher salary than is given to a competent, stylish dressmaker; some of them receiving from £300 to £400 per annum. Even these high salaries do not insure correct fit under the present *no-system*. Style we do get,—but comfort! Do we not all know the utter misery of getting into a new garment? Haven't we talked till we are tired, insisting our views shall be carried out? Has any body ever made a dressmaker comprehend that twenty-seven and twenty-three inches are not interchangeable terms; and, if by painful iteration, one has contrived to get a comfortable waist-expansion—have we not been expanded away to giant dimensions somewhere else? Is'nt nearly every seam out of proportion to one's figure; sleeves dragging—armholes all wrong?

Dressmaking offers such a remunerative field for skilled and educated labour that it is a marvel such numbers choose, in preference, to swell the already overcrowded ranks of teachers. The evident reluctance on the part of educated women to take up this work has doubtless its origin in a feeling of caste; but such women would ennoble the profession; and, we imagine, their social status would be quite as good as that of a governess. Nearly

every woman, with any pretence to education, when called to depend upon herself for daily bread, drifts into the stream of governesses; even the girls of our Board Schools are turning up their noses at every other occupation. It is a mystery what is to become of the mighty array of young women who are being turned out of our training schools, fully equipped, as far as examinations—minus experience—go, as teachers. A few may, by dint of good luck, obtain situations worth £80 to £100 a year; but the aggregate will thankfully accept £30 and £40.

Now suppose some of them were to take their educated taste and refinement, as so much stock in trade, to a first-class tailor; and study the art—for it is an art—of cutting and fitting under his experienced tuition; going into it thoroughly, paying honestly for instruction received, and willing to devote a year or two to nothing but the acquirement of practical knowledge. Is it not certain they would, at least, be able to command the same salaries as the present inefficient dressmakers?—And that would be an amount unheard of amongst governesses, for payment by results is the strict governing principle of the trade market.

There is a word to be said for dressmakers called upon to fit a dress over the very peculiarly-cut reformed under-clothing that is often worn. A lady, not infrequently in middle life and inclined to embonpoint, becomes converted on the dress question. With zeal she tears off every rag of the old *régime*; corsets, high heels, chemise, drawers, skirts—all the trappings are ruthlessly flung aside; and, hastily encasing her form in some loose, no-fit attire—designed by herself and, probably put together by her

rebellious maid—she presents herself before the bewildered dressmaker demanding “a perfect fit” of a soft dress, without bones, over flabby muscles, and still more flabby clothing. The genius of Redfern would pale before the task!

A woman trained to the use of corsets, and the old cumbersome paraphernalia of attire positively cannot free herself from them at a bound; her muscles are unable to support her figure, and, when she is stout, the falling abroad that follows release from bonds is—well, not pretty. Experience has shown that the close bodice, with flowing skirt, will maintain its hold for some time; accordingly, if the reformed movement is to make headway, it will be by a wise surrendering of ideals to popular feeling. Instead of trying to thrust our particular hobbies of outside gear upon a female world united in opposition,—shall we not be wiser to direct our attacks, for the present, solely to conditions of dress which we can prove to be injurious and ugly?

Where the underdress is free from defective construction, the friction, engendered from the wear of a light, dress skirt, is really less than that from a divided skirt, which hangs with a superfluity of fulness and kilting round each leg. The friction, we acknowledge, is slight; but there is, every time the legs are moved in walking, or the wind faced, the deterrent rub of the fulness and trimmings on one leg against those on the other; and in a day's work it becomes a noticeable item. The presence of friction is evidenced by the astonishingly rapid wear of these garments.

We cannot secure snug smoothness of fit over baggy

underclothing ; there must be something more substantial underneath than soft fat and atrophied muscle ; else the poor woman will reduce her dressmaker to despair and feel she is tumbling to pieces.

Corsets are not needed for slight figures ; nor for the firm, compacted ones that have never felt their enervating pressure. If we apply common sense, instead of reforming zeal, to the question we must, perforce, admit that full figures, also those habituated to tight-lacing, compel some attention to the conditions under which they have developed. They require a bodice—or corset if this term is preferred—which will keep the figure from falling and offer an unwrinkled surface for the dress bodice to rest upon.

Our choice of fabrics for corsets, as for other garments, lies amongst those that are woven with sufficient looseness of thread not to interfere with healthful ventilation. Coutille, jean, stay-sateen are much too close in texture ; their stiffness too, though generally considered the *sine qua non* of a corset, militates against pliant movement and good fit. It will be argued that these buckram-like materials soon become limp in wear. True, but they do not lose their closeness, and they are sent to the laundry to be starched up again, in order that rigidity of outline may be preserved. Starches are inadmissible for bodily raiment on account of their ready decomposability. Mixed with perspiration, and other excreta, they form disgusting compounds unsanitary in the highest degree. Every bodice, which takes the place of a corset, should be cut by skilful cutters to fit the individual who is to wear it ; then, when a sufficient number of seams

are allowed for the natural curves of the body, the usual gores can be happily dispensed with. The bust arrangement has been a great puzzle to the makers of hygienic stays; how to secure support without pressure from cords, bones or stiff material. To inventive America we are indebted for the excellent idea of a soft, filled, bust portion with the lift carried on to the shoulder. By this means ample support is given for any figure, while the shelf-like appearance of the bust, in a stout figure, induced by the stiff, gored corset, is exchanged for one more modulated.

A correctly-cut bodice of this kind will give accurate fit without any bones, although there can be no valid objection to the employment of thin whalebone, which is flat and yielding; cords are bad; they are too thick. For stout figures bone is a necessity; none, however, can be allowed to run up over or at the side of the bust. The shoulder strap keeps the figure from falling, prevents the corset from settling down upon the hips, and with this arrangement a petticoat can be conveniently buttoned to the bottom of the corset. Elastic webbing may, with advantage, replace the side pieces; it will be some security against tightness, as, when the webbing is not too strong, it readily gives with breathing; and moreover, there is to many a sensation of support from it that does away with the desire for too many bones.

As the underdress may be regarded solely as a protective covering, the simplest plan that can be devised to afford requisite warmth all over the body will be the best. The clothing should be disencumbered of everything superfluous in the shape of fastenings, trimmings, excess of material and number of separate articles worn. Each

lady should be the judge of what is suitable for her personal wear. Our bodily needs, our occupations, our stations in life are so varied that no hard and fast rule can well be laid down; however the lines of sanitation are broad enough to permit variations for every reasonable requirement.

The fundamental principle of healthful dress—warm, light, non-conducting covering for the entire body—is best attained by using the woven combination for a foundation. No article of reformed dress has advanced so rapidly into public favour as this; it is, indeed, the only one that has become a recognised article of manufacture and trade. We are not able to fix the exact date of its introduction though it was certainly manufactured, in this country before the commencement of the century; but, until the last ten years it was, comparatively speaking, unknown. America is usually credited with being the land of its origin.

The elasticity and close fit of the woven combination make it the most suitable garment that can be worn next to the skin.

So many complaints reach us of the irritability and oppressive feeling induced by *all-wool* combinations in hot weather that we are very dubious as to the advisability of insisting upon their use under all conditions. The usual answer to such complaints is to the effect—if the combinations are woven of quite fine wool they will cease to be too warm; but it must be considered that very fine wool webbing has little wear in it, and the bulk of people cannot afford to continually replenish their wardrobes. As an alternative we would say;—for summer, either wear a moderately thick wool combination and reduce the quan-

tity and warmth of the other clothing, or, a good merino, which is more wool than cotton; cheap merinos, on the other hand, being more cotton than wool.

The Anglo-Indian gauze, a mixture of silk and wool, is delightful wear for warm weather. For such a fine material it is very durable; it does not shrink with perspiration or in washing; is warm and very light, a full-size combination high neck, long arms and legs will only weigh from five-and-a-half to six ounces.

Next to the combination should come some form of the divided skirt, which is a garment admitting of almost endless variations, to suit the fancy of the wearer, upon one central idea; viz., covering for the lower limbs. In some cases it is worn with a yard of material and a deep frill round each leg. This style, as we have before stated, occasions friction in walking, and, moreover, each leg portion is so wide that there is considerable up-draught; then the skirt—though, in reality, it is no skirt but a modified pair of trousers—is very frequently left open, arranged with a quantity of gathers round the waist, and a fulled, loose piece behind, like a short petticoat. This shape differs in no wise from the old petticoat in its harmful accumulation of heat about the loins, and its draught-producing construction. The full advantages of the divided skirt are only to be reaped when it takes the form of a loose pair of trousers, made to button at the sides, tailor cut, with no fulness at all round the top part, and not too loose in the legs; the length can be left to individual taste. This garment should always be made of some woollen material that will readily wash. For winter wear we find Yorkshire serges

much liked ; while for warmer weather fancy twills and other light flannel goods are exceedingly nice, and can be made to look very pretty by the aid of a little embroidery and kilting.

By whatever name it may be styled—divided skirt, knickerbockers, trousers, or drawers—this useful and comfortable garment—in spite of the undeserved malignity showered upon it by people who have not been prepared for, or able to see its good points—is destined to become as universal an article of underdress as the nearly obsolete chemise and drawers have been.

The wear of the corset will be optional ; but we presume that either with, or without stays, a petticoat bodice will be used, and this, with stockings, completes the underdress. A little variation, in the warmth of the two principal garments, constituting the only difference between an outfit suitable for summer and one for winter. Think of the comfort and freedom of this compact array ! No clinging petticoats, no weight, no draught, equable temperature through all vicissitudes of weather, fewer articles to wash, no starching, reduction of luggage when travelling ! Many ladies, perhaps the majority, have a deep-rooted aversion to the total abolition of petticoats ; one, at least, they must have. For thin, summer, or evening costumes, we admit, an underskirt is required ; though, when one is worn it ought to be of some smooth material—silk being preferable to any other—that will move freely over the woollen underdress.

As it appears we are doomed to wear the dress skirt for some time to come, it is specially needful that no added burden of petticoats should, in ordinary dress, be

permitted to encroach upon our freedom of movement; for a reduction of weight does not do away with the limitation of knee movement which the impedimenta of skirts, hanging down in front of the legs, occasion. Quite unconsciously to themselves the wearers of petticoats shift the natural movements of the knees to the hips, in order to relieve themselves of the difficulty experienced in throwing forward the knee for walking when a dead weight hangs from it. This induces a method of propulsion without elasticity; a stiff, ugly, wooden-leg sort of gait, that is very fatiguing. It is wiser, upon every consideration of health and comfort, to do away entirely with underskirts.

A passing word must be given to the mischief resulting from the high heels and narrow soles of boots and shoes. The foot is so far removed from the body proper, that civilised woman joins with the Chinese in concluding injury done to it has no effect upon any vital part. These appendages are worn for no other reason than that of causing the foot to appear smaller than it really is. Women who ought to know better, women of artistic knowledge, who would shudder to see the base of an architectural pillar too small and slender to form a correct support for the column above it, even such women destroy the proportionate harmony of their own figures by tilting themselves out of line upon narrow heels running under the foot.

In the erect posture, each part of the body has been designed to rest upon some bony support; weight being conducted from one part to the other through tense ligaments. In standing, the weight of the whole body falls

upon the arch of the foot ; that of the trunk is transmitted to the haunch bones, from the sacrum upon which the vertebral column rests ; the spine itself balances, by two curves ; and the head rests upon the top of the spine. Thus, while the great weights of the body are received by strong supports, the muscles are chiefly concerned in balancing the body, keeping it steady, and have but little weight thrown upon them ; and this is of importance for muscular contraction is an excessively exhausting process. By this arrangement, it is obvious, Nature's intention is to carry out the principle upon which she always works—of getting the best possible return for the least possible outlay. Perhaps the muscles of the calf which restrain the leg from falling forwards at the ankle joint, are the only examples of a heavy weight supported permanently by muscular power. The bones of the foot are united in an arched form, convex above, concave below, so as to give elasticity to the tread and transmit the weight of the body through the arch, to the ground, by means of its principal pier, the heel. When this is raised, by an artificial prop, the centre of gravity is moved forwards, and the position of the body becomes oblique from the inevitable alteration that takes place in balancing it in a false and fatiguing posture. The foot is weakened and the muscles of the leg strained. We have heard it protested this is not so ; that the raised heel, in no wise alters the natural erect carriage. But it does, and no amount of muscular exertion can prevent the body from following a mechanical law. The centre of gravity must be kept in the line of the base of support ; and when this is shifted forwards, unless the body also changes its relative position, it will fall over.

Fig. 5 shows the position of the foot bones in the natural erect posture of the body—a position that can be maintained almost without muscular effort; the conditions being that the heel is kept to the ground by the weight of the body above it. Fig. 6 gives the same foot under altered conditions—raised on tiptoe. Here the weight falls upon the ankle; the fulcrum, or support of the lever, is at the toes; and the muscles of the calf are the moving force, or power, which has to overcome the resistance offered by the weight at the ankle. Now, although this example of leverage is always represented when the body is raised upon the toes, and is the first stage in the movement of making a step forwards—it was never intended to be a fixed position, but a changing one. When, though, high heels are worn, this position becomes a permanent one, in which there is no relief whatever from the constant strain upon the contracted muscles of the calf, and no compensation for increased expenditure of bodily force. Such a state of things cannot but be provocative of serious and lasting injury, not only to the foot and calf, but to other, and more vital parts, which become involved in the disturbance of the natural relations of one part of the body with that of all the others.

Uterine troubles of every kind are induced by the oblique position of the body, which throws the pelvis forwards; and the hip prominences are greatly increased in size. There has been a happy change, of late, in the newer styles of boots; they are made broader in the sole with low heels placed well back; but there is still too great a leaning towards narrow toes and high small heels.

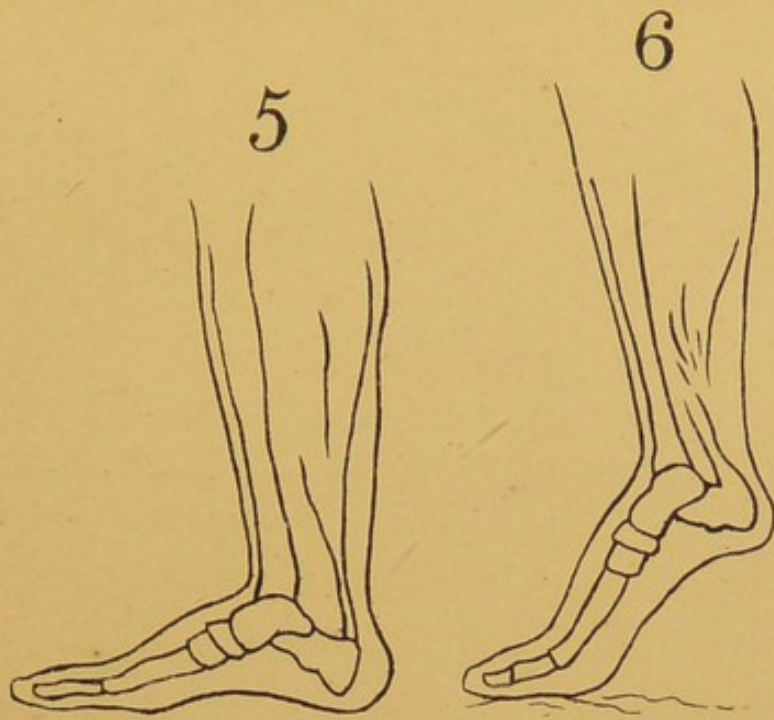


FIG. 5. DIAGRAM SHOWING THE NATURAL POSITION OF THE BONES OF THE FOOT IN STANDING.

FIG. 6. ALTERED POSITION OF THE SAME BONES WHEN THE BODY IS RAISED ON THE TOES.

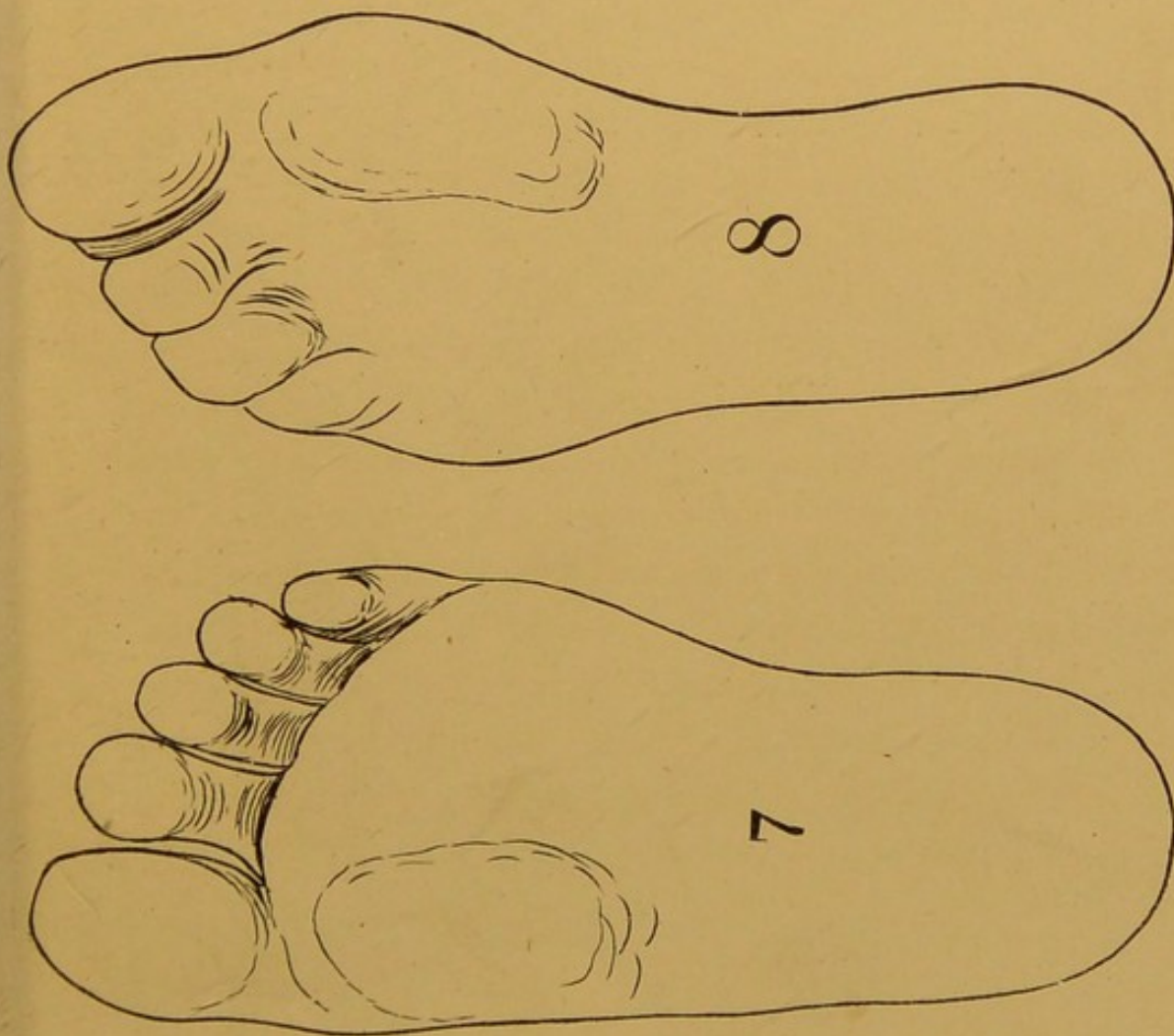


FIG 7. OUTLINE - REDUCED - OF A NATURAL FOOT.

FIG. 8. OUTLINE - REDUCED - OF A FOOT THAT HAS BEEN DEFORMED BY THE WEAR OF POINTED-TOED BOOTS WITH NARROW SOLES.



V.

It is with great pleasure we are able to record there is a slight movement towards a reformation of infants' clothing; for it is not possible to conceive anything more unsuitable, for the purpose intended, than the dress of a baby. For the mother and nurse it entails too much trouble in dressing and undressing the child, and in the "getting up" of the starched dresses and skirts. For the child it is weighty and clinging; the body is overheated and the extremities are not protected; we do not think we go too far in saying a complete change in dress, a sensible change, would do much to reduce the sad statistics of infant mortality.

Within an hour of its birth a baby commences to undergo a deforming process, which, in the case of a girl, continues through life. First a binder is rolled round its body, and tightly fastened, from a mistaken notion that tightness will prevent rupture. We regret to say there is still a demand for the linen roller, of the same stiff texture as that used for the mother. It is difficult to head a crusade against the dicta of that all-important personage, the monthly nurse. A young mother, especially, is but an infant herself in the opinion of the nurse, who treats any feeble suggestions as to the wisdom of a change in the manner of dressing the baby, with the supreme contempt of wisdom begotten of ignorance. A style of dress handed down from great-grandmother to grandmother and mother, is not one over which cavilling can be allowed.

One effect of the tight binder is to restrict the power of abdominal breathing ; it does, for the tender ribs of the child, just what the stiffer corset does for the firmer ribs of the woman—prevents free, lateral expansion. When it breathes—and breathing and crying are nearly the only active exercises it is able to indulge in for the first few weeks of its independent life—it cannot fully fill the lower and larger masses of its lungs with air. Even what nurses consider a moderate and comfortable tightness will injure an infant whose tiny muscles have not power to overcome the slightest persistent resistance. To ensure strong, healthy lungs and an undeformed pelvis for after life, the baby's body should be quite unrestricted by tight belts and binders, which are far more likely to cause than prevent hernia. The cry of a child frequently takes the form of spasmodic movements ; the breath is rapidly drawn in, and sent out, in a series of jerks, the child throwing its head back and straightening its spine intuitively, so as to enlarge the chest to its greatest capacity. In these full inspirations, besides the upward lift of the breast bone and upper ribs by muscular effort, the diaphragm is pressed down upon the abdominal viscera, causing a broad abdominal swell. Now, if the bowels of an infant are bandaged—either with a binder, or a tightly fastened diaper, or frock body of any kind—so that interference with this natural expansion takes place, either the child will be oppressed by a complete cessation of diaphragmatic breathing, or the intestines, escaping from the double pressure of the diaphragm above and the binder all round them, will be pushed into the pelvis, with, perhaps, a rupture.

When a young child, one too young to cry from temper, squares its shoulders and throws its head back to cry, it is always prudent to ascertain if there is not something too tight round the waist and bowels. The most distressing fits of crying will often cease immediately upon loosening the binder. The writer has, more than once, removed one from a screaming baby which left the tender flesh all in wrinkles. In one case, the mother, a poor woman, pointed to the reddened wrinkles in evidence—"she was sure that binder was tight enough, nobody could say she didn't take care to strap up her baby nice and comfortable!"

A marked improvement has taken place in the body band of late. The long roller or swathe is being gradually superseded by the flannel strip in one shape or another.

Some advocate a circular band,—knitted of wool,—which is to be drawn up round the body, by pulling the legs and thighs through it. Different sizes are required to replace each other as the child grows. The difficulty of putting two kicking, little legs through anything small enough to fit closely round a new-born baby's body, and the danger there would be of straining the lower part of the back in the process are so obvious, we fancy very few would be tempted to try them, and only make mention of them because this particular form of band is sometimes recommended as a hygienic article.

The best kind of binder is the simple one made of two strips of flannel, cut wide enough to cover the bowels, but not so wide that it may slip up and chafe the breasts. The two strips are sewn together in the middle, and one, the inner, is longer than the other. Occasionally the

edges are left raw, but a loose thread of wool is so irritating, that it is decidedly better to bind it, with a soft ribbon, or statute galloon, easing the binding on, when sewing, to prevent a tight edge. The ends of the longer strip of flannel are intended to wrap over the abdomen; the shorter strip, which is just long enough to tie loosely, has two pieces of ribbon on either end for the purpose. The binder should be tied, not over the navel, but at the side. For the first few days it is advisable to lay a soft piece of old linen, or cambric, over the umbilicus. In cases of soreness, protrusion of the navel, or any natural tendency to hernia, the advice of the doctor should always be taken. A shaped band, with elastic over the abdomen, is often recommended as a protection from rupture—and it may be; though we question the wisdom of using anything so nearly approaching an abdominal belt for a healthy child.

The fastenings of the binder should always be ribbons, or tapes; pins are too dangerous to be used about any portion of the baby's attire. The plan of sewing the binder on every day is, often, a sore discomfort, because there is no means of loosening it until the child is completely undressed. If its body swells during the day from a full meal, indigestion or flatulence, the baby has to bear, as best it may, the tightness of its securely sewn band.

In place of depending upon tightness, or stiffness of a binder to prevent protrusion of the bowels—and there is really little danger of this occurring except to a feeble child—it is far better, when the child cries or coughs violently, for the nurse to apply pressure of the hand;

which gives a sentient support that can be regulated to a nicety and removed when its work is done.

Next to the binder the clumsy napkin comes for notice. Do what one will this will always be an objectionable necessity, though much may be done to lessen its more serious faults. Who does not pity babies obliged to wear such a wretchedly uncomfortable thing, closely, often tightly pinned round their waists? Both by weight and pressure the napkin is weakening to the muscles and likely to promote displacements of the internal organs, and there can be no doubt this pressure upon the bladder prevents retention of the water, for babies, who are so carefully trained that they can discard the napkin at a very early age, give little trouble in regard to frequency, or irregularity, of micturation.

The evaporation, and consequent loss of vital heat carried away by a damp, or wet, cotton or linen diaper, would be appalling if the mother could see it set down in hard figures; and a baby cannot afford to lose heat even as the grown person can. The younger the child the less power it possesses of generating heat, and the more rapidly its temperature falls when the surface of its body is exposed to external chill. The greatest care is required during babyhood and childhood with regard to the maintenance of equable bodily temperature by means of suitable clothing. The erroneous notion that the constitution can be "hardened" by exposing any part of a growing child's body, or by insufficient clothing, is simply murderous. Mothers cannot too carefully remember that the feeble power of calorification possessed by babies, and young children, prevents them from withstanding changes of

temperature without the assistance of warm, non-conducting clothing all over the body, and round each limb.

In consideration of its normal condition of dampness, the diaper imperatively requires to be of some woollen material.

The hardy cricketer or rower does not dare to wear a linen or cotton shirt at exercise, on account of the increased conductivity and air-tight properties of these materials when damp. Yet, for want of a little thought, sensitive infants are exposed to the dangerous chills of linen diapers, which over-heat the body when they are dry, and carry off its heat at a fearful rate when they are wet.

Considerations of cleanliness, strange to say, do more than anything else to increase the discomfort of the napkin. Waterproof pilches are, in some cases, brought into requisition to protect the clothes and bed; in others two, and even three napkins, or thick folds of flannel are ruthlessly pinned round the unfortunate babe. If mothers would but think about the matter; if they would imagine themselves with their firm, strong thighs forcibly pushed apart by a dozen folds of material stuffed between their legs, and kept there constantly for months! Could any grown person stand the discomfort, the accumulation of heat, the state of poultice, the weight? The wonder is that so many children escape having bow-legs and other deformities. The napkin, at its best, is such a punishment to the child, that no trouble should be too great to teach it to make known its wants and be regular in its habits. Then, during the day, it may be dispensed with altogether. Out of doors and in bed it must be worn for some months, but there is no need for it to be cumbersome or weighty. Two

or three folds of old blanket laid under the child at night will protect the bed, and do away with the necessity for overloading its body.

The material for an all-wool diaper should be exceedingly fine, woven firmly for wear, and well shrunk in the manufacture. In consideration of the excoriation from which babies suffer, a single piece of thin, old linen may be laid next the skin for the purpose of preventing contact of the wool against the sensitive parts, although it will be found there is not so much liability to soreness with the use of a wool diaper. In this form the napkin will be less cumbersome, and not so weighty; also, when it cannot be changed as soon as wetted, the danger of chill striking inwards will be very much lessened.

Now as to the method of securing the diaper. Certain it is, that if it is kept on by pinning, the soft body will be drawn in round the loins, and form a depression that will serve to keep the thing in place. Here we have the first stage in the development of the ugly large hips of after life. Something ought to be devised, for every child, to remove this pinning round the bowels. Even tightly fastened, as the diaper always is, there is the continual annoyance of its slipping off; and every mother knows it is sure to be kicked to the ground just when it is most inconvenient for such an objectionable article to put in an appearance. For health, and for decency, any simple method of suspending the napkin and taking the pull off the pelvis will be an advantage. Where the hygienic dress is adopted, there is no difficulty; the napkin can be put on in the usual way, only it ought to be pinned very loosely, just to keep it together; then a band of fine

flannel, about four inches broad, which is fastened to the petticoat waist behind, can be brought between the legs and buttoned to the waist in front. The weight will then be taken by the band ; and its attachments, back and front, will pass it on to the petticoat waist, which is supported by the shoulders. Babies' drawers are also a means of supporting the diaper, though not so simple, as they require to be buttoned in three or four places to the waist body to keep them on ; they also become wet, and have to be removed every time the diaper is changed.

The errors in the infant's dress proper, its robes and skirts, are exactly the same as those which affect the child and adult. There are (1) the mechanical errors of pressure and weight ; (2) the use of materials which prevent ventilation, and the transmission of noxious emanations from the skin ; (3) errors committed by inattention to the proper amount, and distribution of the clothing.

Weight and pressure interfere with every free movement of a child's body, impeding the functions of the heart, lungs, liver, and stomach ; they arrest development, waste the muscles, and produce deformity. The consolidation of the bones, by deposition of mineral matters, is a gradual process, extending over the period of childhood up to about the eighteenth year. During the age of infancy, especially, they are so cartilaginous in composition that they are readily pliable, and it is an easy matter to change the direction of their growth with but a moderate degree of persistent pressure.

The fashion of the vestments for a new-born babe should not be regulated by caprice or custom, but by a common sense knowledge of the requirements of its being.

In order that it may thrive, it must be placed in circumstances favourable to healthy growth. Every muscle, every organ, every limb have a fair chance given to develop under advantageous conditions. But these it cannot secure until a radical change is made in its layette. Babies are so susceptible to harmful influences, that no compromise to fashion ought to weigh, for one moment, in the mind of the mother.

Looking at the general design of the dress, in its relation to the development of the frame encased within it, one cannot but see that, instead of permitting healthful, outward growth, its construction tends to promote an inward growth of the bones of the chief cavities, whereby these are lessened in size; and its weight predisposes to deformities.

Some slight idea of the misery inflicted upon a baby, by its long robes and heavy cloak, may be obtained by lying on the back upon a couch, with the bare feet just over the end; then let some one throw upon the turned-up toes, a hanging weight proportionate to the increased size and strength of the adult. There will be no desire, we are sure, either to continue or repeat the experiment.

It has always appeared to us a strange oversight that no attention is given to the probable season of the year in which a baby is expected. The same layette is provided for winter as for summer; and the only neck and arm coverings are the cold, thin body and sleeves of its monthly gowns. If its purple, little hands suggest that it may possibly feel the harshness of the new climate into which it has entered, a heavy shawl is wrapped round it, from the thoughtless mistake that weight and warmth are the same.

The child is cramped in every movement; actually weighed down and weakened by an excess of clothing, and, at the same time, only partially protected from cold.

There is no difficulty in designing a suitable dress that shall be light, warm, comfortable and, withal, pretty. The last, we are assured, is a desideratum that must be conceded to the mother's very natural pride in her little one. A hygienic outfit may offer every other inducement, but, if it is wanting in natty, tasteful trimming, it will be doomed by a consensus of maternal opinions. Those who are interested in the matter will find the simpler styles of trimmings, which are applicable to a rational layette, much more suitable and pretty for a baby, than a load of embroideries, laces, tucks and gathers that transform it into a mere bundle of clothes.

The points calling for attention in infants' dress are warmth, without weight, equable temperature for the whole body, no restriction anywhere, and an easy method of dressing and undressing. To attain these we shall have to re-model every article; to shorten the long skirts, which are not only weighty, but restrict the movements of the legs; to provide warm covering for chest, neck, and arms; to lessen the warmth about the lower part of the trunk; to do away with all garments which are passed over the head, and all sleeves set into a round, chafing armhole.

It is still a question whether the garments should be made to open down the back, or down the front. In the former case the risk of straining the arms by bending them back into the armholes is quite removed; but, on the whole, we consider the latter the better plan for every exigency. It is highly desirable that the child should not

be turned over during the dressing process, and both binder and diaper are more easily adjustable from the front ; then, too, for changing the diaper and in colic, or cramp, the advantages of skirts that can be quickly unfastened in front are evident.

Let us now proceed to show how a baby can be clothed in a simple, comfortable, and tasteful manner. We must not be tempted to theorise ; for we note, there are many suggestions abroad, which though admirable upon paper, would have serious defects in practice.

In the first place we banish the flimsy scrap of linen called, by courtesy, a shirt, and substitute a larger vest made of some soft, fine woollen fabric, such as cashmere ; it can, if wished, be high-necked, with long sleeves, though this is somewhat superfluous, when the other garments are made to the throat and wrists. The little vest, or shirt, should be just long enough to escape being damped by the diaper. This periodical state of dampness is the *bête noire* of the infant's hygienic dress. Without it we would plan, as the first garment, a soft vest that would reach from the throat to a few inches below the feet ; but, with this enevitable accompaniment, we are obliged so to design the clothes, that those liable to be wetted can be easily detached from the waists, and replaced by dry ones, without undressing the child. Therefore, we say, let the shirt come well down over the loins, but stop short of passing under the bend of the thighs. Next comes, in nursery parlance, the "long flannel ;" this will still be of flannel, made to open down its entire length, and to reach about two to four inches below the feet. The skirt, for facility in changing, is made to button to the waist, and

should either be gored, or made with very little fulness. The waist itself is high in the neck; the sleeves are long, and set, not into an armhole, but are so cut that the top part runs up to the neck between the shoulder seams. This method of sleeve setting, which makes it a part of the waist, is the only one, for a baby, that will prevent armhole chafing, and restriction of arm and shoulder movements; and, when the back is cut sufficiently wide, the arm will slip into this sleeve without the likelihood of a twist. To this waist the band for supporting the diaper is attached. There is more than one way of fastening it, but we find the most simple and convenient is to sew one end to the waist behind, and to shape the other into a triangle, staying it with a double piece of flannel as a foundation to work the button hole upon, which will fasten the band to a button in front. The white petticoat is made upon the same principle as the flannel, and when a second waist is not required, it can be buttoned to the buttons of the long flannel. The monthly gown, nightdress and the robe are cut in the same way, except that the waist and skirt are in one. As every garment opens down the front, the trimming should be arranged lengthwise. The flannel skirts can be bound with ribbon or embroidered to any extent. Nightgowns need nothing more than an edge of embroidery round neck and sleeves, and the same carried down the length of the gown in front, if liked. Monthly gowns and robes can be neatly and tastefully, or most elaborately trimmed with insertion, embroidery, and lace. As the waists are cut much wider than has been customary,—large enough for the nurse to pass her hands

under the clothes, to rub the bowels, in flatulency, etc.—a loose band, buttoned round the waist, keeps the little dresses tidily in place, and restrains the dragging round of the clothes. This band is very pretty made of insertion, trimmed on both sides with edging, and feather-stitched, or dotted with French dots.

Knitted or crotched wool stockings are worn, which should be long enough to cover the knees; this will bring them up close to the diaper; but it is no great matter to have a relay of stockings, and to put on a dry pair when they are wetted. Two tapes, sown to the long flannel waist, can be easily made to pass through a loop in the stocking to keep it from being kicked off.

Dressing a baby is shorn of its troubles with these sensible garments. All that has to be done is to open each, and lay it on the lap in its proper order, inserting the sleeves one in the other. The child is laid upon the clothes, which are rapidly fastened. Two or three minutes will suffice to finish the process; there is no turning, no pulling of the clothes into shape, no lifting to pass anything over the head; nothing to raise the ire of any baby, and we all know with what screaming indignation the discomforts of the old *modus operandi* are frequently received.

The dress just described is suitable for summer but not for cold weather, when warmer clothing must be provided. Still it will not do to increase either the bulk or the weight; therefore, instead of multiplying petticoats or outside wraps, let the cambric gown be exchanged for one of the soft, pretty, all-wool materials that are now attainable anywhere. The fabric should be thoroughly shrunk

before being made up. White woollens, embroidered, make charming little dresses, and so do figured flannels when colours are not objected to.

We have given two to four inches as the maximum length of the skirts below the feet; but, even this, which will be thought insufficient by many, is a concession to prejudice only to be allowed for the first few weeks. As soon as the baby begins to exercise its limbs, if it has not already grown down to its skirts, they should be shortened to reach to the feet, so that the child may kick, and stretch, and roll about without the least restraint. Babies, as a rule, get too much nursing; and this is, in a great measure, due to the faulty construction of their clothing. Their budding vitality urges the tiny muscles to constant movement, in order that they may gain strength to take upon themselves the balancing of the heavy portions of the frame. Watch a baby when lying, undressed, upon the lap, or, better still, upon a mattress, and note what instinct teaches it. No part of its body is at rest; arms and legs, head, eyes, lungs are all in action, gaining strength by exercise. How often, and for how long, can the fashionably-attired baby indulge its craving for these apparently aimless movements—to which it is urged by the necessities of its being, and from which its muscles gain tone and its bones firmness? Babies cry when laid down, not so much because they prefer being nursed in the arms, but because nursing gives them the relief of movement, which they are not strong enough to get for themselves when weighted by long skirts.

It is not good for infants to be so continually carried about. Their position, when in the arms, is too cramped,

and there is continual danger that the back may be strained, or the shoulders made round by the unnatural position in which they must be held. Far better, for all concerned, to place even the month-old baby upon a mattress on the floor—taking care that it is not in a draught—and let it sprawl and exercise its growing limbs to its heart's content; it will do this with delightful abandon if dressed in the suitable clothes we have described.

Treated in this rational manner the muscles do not wait—as they have for generations been forced to do—for a “shortening” process, after which they will be at liberty to set about developing; but, from the first, they are free to gain the power that comes, not with growth, but with exercise.

The perfect freedom, the endless delight of watching first one limb and then another in a new and attractive position, has such a charm for the healthy baby that it becomes speedily independent of nursing attentions. It will sit up sooner, crawl sooner, walk sooner, and with no risk of mis-shapen limbs, when it is left thus to depend upon its own instincts, and not put to sit or stand by those who can form no opinion whether the bones have become strong enough to bear the weight of the body; as it will only attempt that which it feels can be safely accomplished.

Nightgowns should be of flannel all the year round; both to protect from cold, if the child throws the bedclothes down from its chest and arms, and to reduce the quantity of the coverlets. In cases where the flannel is irritating, an undergown of fine calico can be worn. It is not uncommon for an infant to sleep in the same bed with its mother or nurse, under a load of three, sometimes four

blankets, and a counterpane, all doubled down over its chest; making, with the sheet ten or twelve folds for the delicate lungs to lift at every inspiration. Nor is this all; the weight is increased by the practice of securely tucking in the bedclothes, giving the lungs still further work in proportion to the amount of force they have to exercise in lifting against the pull of the tucked-in blankets. These customs are injurious for the lungs of the adult, and trebly so for those of the child, which ought to have nothing heavier than a light, cot blanket, with an eider-down quilt over it; the down cover imparting the warmth of two or three blankets, at one quarter the weight, an immense gain for healthful respiration.

No baby can be comfortable, for any length of time, in either a cloak or a shawl. The former is a genuine instrument of torture when the child is carried in the arms. The cape, to prevent creasing, is allowed to hang back, dragging upon the throat, while the long skirt pulls down the legs and feet. A cloak, with its attendant cape, fulfils no purpose whatever but that of showing off its broideries and trimmings. As a rather costly work of art, it may be an object to admire under a glass case, though not when exhibited upon the suffering form of an infant.

So long as the pernicious practice of carrying babies in the nurse's arms is continued, there will be the temptation to rig it out in these most unsuitable garments. Happily for babies it has been discovered that neither arms nor perambulators are fitting, out-door, resting places for them. Careful as the conscientious nurse may be of her charge, she must needs possess Herculean strength of muscle to be able to carry a baby—and its

clothes—during the hour allotted for its outing, in the only position that will not be injurious to it;—that is laid straight along her arm with her elbow bent out beyond its head to protect from the chance knock of a passer by. She will be obliged to obtain relief from fatigue by changing the position of the child; she will hold it more closely to her compressing one arm and side, and although such pressure would not in the least affect an older child, it is a serious matter for the soft, cartilaginous bones of the infant. Upon occasion she will raise it partly or quite into the sitting posture, thereby straining the back; or it may be raised until its head is level with the nurse's shoulder, its chest pressing against hers, and its head falling face down upon the shoulder, or helplessly swaying from side to side. Little, or no blame can attach to the nurse who carries the baby in these unnatural and hurtful positions, as it is only by thus shifting the weight, that she will be able to bear the strain upon her own muscles.

A walk through any of our parks, on a fine morning will furnish plenty of examples to convince the sceptic that it is not easy to exaggerate the miseries inflicted, upon both maids and infants, by this custom of sending them out for fresh air and exercise in the arms. Where the nurse is careless, or, as is too often the case, a child herself, matters are far worse. The inquiring eye will note a baby hushed to sleep, cuddling closely against the perspiring bosom of the attendant; breathing, instead of invigorating oxygen, the emanations from her body. Near by will be seen an unhappy mite of some four to six months, strapped into its perambulator,—its back bent,

its tired head vainly trying to find a resting place upon its own chest or shoulder ; the sun pouring its rays into the unprotected eyes—while the nurse, aged twelve to fourteen, madly careers with the carriage down a steep hill. Farther on, in some retired and shady corner, will be met one or more nurses engaged in deep confabulation with personal friends—male and female—their charges left alone in the back-deforming perambulators ; or, if they are carried, held in the most careless manner. Can anybody, with a knowledge of the extreme care in handling that babies require, look upon these helpless little ones without longing to give utterance to some very forcible language ? How much of suffering ; how much of deformity, in after days, is commenced in this way no one can tell ; but the sum total is heavy.

Young children, like plants, are very dependent upon sunshine, and fresh air ; they refuse to thrive when these are withdrawn from them. But no child can obtain the amount of air that it should have while the practice of carrying continues ; for the fatigue to the nurse causes her to cut down the time for out-door exercise to one short hour, or even half hour per diem. To remedy all this the cloak will be laid aside, with the long robes, and the child dressed in a light, warm jacket, reaching a little below the feet. White lamb's wool, the closer kinds of woollen canvas cloth, and white or grey furs are all suitable and pretty for babies' jackets. They can be lined with coloured satins, or with cashmeres ; and in winter, if the material is not warm enough, can be wadded. A pretty warm woollen or cashmere hood for the head, and infantees for the hands, fastened with ribbons or with a button to the jacket sleeves completes the out-door dress.

The mattress, covered with a rug, and a small pillow are placed in the carriage, and the child laid upon them as comfortably as though in its cot. On no account ought permission to be given for the nurse to raise the clothes behind, according to the usual method, to keep them from being wetted. Instead, let a pad be made, of the diaper flannel, about a foot square, with a layer of wadding between, quilted here and there to keep it in place when washed. When the baby is laid in the carriage put the pad under its clothes, next the napkin, and there will be no likelihood of wetted clothes or mattress.

A fur rug, or an ornamental wool *couvre pied* thrown over the child will keep it nicely warm, and it is always safe and comfortable upon its carriage bed. Need it be stated that the allusions to the carriage are not to the perambulator proper, with a seat and strap; but to those newer and infinitely superior berceaunette carriages made with easy springs, bicycle wheels and rubber tires, to reduce vibration. Seats are provided for older children, and an extra one fits between them to form a level floor upon which the mattress is placed.

In matters appertaining to a baby, the rule for guidance should be absolute ease and comfort even in the most minute particulars. Trifles, light as air, interfere to an extent little dreamt of by the mother, with the healthy conditions of the child. The nervous system is even more readily liable to derangement than the digestive; a fact to be accounted for by the exceedingly rapid development of the brain, which doubles its weight in the first two years of life. Anything likely to irritate the temper of the infant—such as discomfort in its clothing or position—

should be as carefully guarded against as frights or excitement.

What is the correct age for "shortening?"—is an ambiguity discussed in nearly every nursery. The term is understood to refer to a cutting off and cutting down process, whereby the long skirts are replaced by short ones; and the child's neck, chest and arms are uncovered and exposed to temperatures that the adult would shrink from facing. A more appropriate term could hardly be devised, for no one can doubt that the process is effectual in shortening the days of many children. Such a sudden change in the quantity of clothing, with the exposure of such a large amount of the surface of the body to the variable atmosphere, will be intensely trying to the sensitive nervous system. Little ailments will appear—coughs, colds, stomach derangements, etc., and fortunate the child who does not reap a harvest of more serious maladies—croup, bronchitis, inflammation, or nervous irritability from this "shortening," which generally takes place about the time for vaccination; or if it is deferred to get this trying period over, the change will be made when the system is preparing for teething.

Supposing the reform dress to be the one chosen for the first, there will be no occasion to alter the general style of the dress until the child can run alone. Warm drawers, buttoned to the undervest, should be substituted for the napkin, when this is not worn. To wrap up the body for three or four months, night and day, in a hot diaper, and then follow the universal practice of throwing it off for a few hours at a time, exposing the whole surface of the loins and thighs to every breath of wind, is little short of barbarous.

Then there are the shoes. Why should a baby, who cannot walk, have its beautiful feet compressed into a leather shoe?

We laugh at the Chinese, and—sincerest form of flattery—imitate them. That we do not emulate their extreme ideal of fashionable deformity, is by no means due to our superior civilisation, for if fashion decreed that English women and children should walk upon stumps, depend upon it, stumps would soon be the rage. The Chinese dame goes the entire length of completely obliterating the five toes and the front of the foot; the English only overlap their toes until few feet have practically more than four. The dictionary definition of a boot is “a covering for the foot;” a truthful one would be—an infernal instrument, expressly designed to cramp the foot, impede the circulation, force the great toe inwards, under the second, and sometimes to partly efface the third toe; to press all the toes permanently together; to enlarge every joint; and, by way of decoration, cover each protuberance with a knobby excrescence, either corn or bunion.

The results of wearing tight boots, as contrasted with those of a proper shape, are shewn in Figs. 7 and 8. These are sketches reduced from the outlines of two feet, and pencilled as the bare foot rested on paper. Fig. 7 is a foot that has been used to the freedom of hygienically-constructed boots. Although it is far from being that beautiful member—a perfectly natural foot—it would be a hopeless task to seek for such a one amongst civilised people—still, it has responded to the freedom given to it; each of the five toes is a supple member, dis-

tinct from its neighbours ; with independent muscular power, that has enabled its owner to throw off the cramped, mincing gait, peculiar to women, for the firm, elastic tread and undulating motion of hips and sides that, together, constitute the true art of a graceful walk. Fig. 9, on the contrary, gives a foot—also sketched from life—which has been, to some extent, distorted by the pressure of narrow toes. This foot is outlined for the express purpose of shewing how lasting is the mischief done to a child, by allowing it to wear boots that are either too tight or too short. Although years have elapsed since, in this case, a narrow-toed shoe or boot was worn, it has not been possible to repair the damage done in childhood. The toes remain pressed closely together; the second lies almost upon the great and third toes; whilst the small one is the veriest apology for a toe. The wear of rationally-made boots has done much for this poor foot and its fellow; a range of hard corns upon every joint, and a similar number of soft ones between each toe, have quite disappeared; walking has become a pleasure, and not a pain; but it will never be possible for this deformed foot to give the ease of carriage imparted by the other.

Our limits forbid enlargement upon this important branch of the reform question; so that we can only permit ourselves to speak a word for the babies because in their case we are independent of the wrongly-constructed last. The child that cannot run alone should never wear a deforming leather shoe, as it is a perfectly simple matter for the nurse to make its shoes to be models of its feet. The foot of a baby is really a very beautiful, and, is intended to be, a useful member of the body. The toes

are, to a certain extent, prehensile, for anything that comes in contact with them is grasped at, and can be held quite firmly. In some nurseries quick-witted older children amuse themselves by presenting small objects,—pencils and pieces of paper,—to the baby's toes to watch how long they will be held. Great fun is caused, amongst the juveniles, by the air of sedate gravity with which a baby, accustomed to the exercise, will grasp a thin stick of candy with the toes, pass it up to the hand and on to that omnium-gatherum, the mouth. That this faculty is inherent, but destroyed by disuse, induced by rigid and mis-shapen foot coverings, is proved by the great flexibility and prehension of the toes of savages to whom the foot is a second hand. It may be urged that in a climate such as ours, where a strong protecting covering is requisite, the prehensile power is not needed, and therefore no harm can accrue from allowing it to die out. Just so;—our civilised toes are certainly not required to grasp and carry; but they are most urgently wanted to retain the powers of flexion given them by nature in order that they may assist in the restoration of a free, graceful, firm carriage and walk that has long since gone out of date.

The contraction and paralysing of the foot begins with the first shoe into which it is thrust. Little children of two and four years, are to be found suffering all the agonies of painful corns. And no wonder! The first leather shoe is the slipper with straps; and in ninety-nine cases out of every hundred, it will be quite half-an-inch too small for the foot it covers; therefore this sensitive member must have its soft bones forcibly altered in shape until they assume the unsymmetrical mould of the leather

casing. The strap, fastening this shoe round the ankle, is also a very bad arrangement; for to be of any use in keeping on a shoe that is comfortably loose, it will button so tightly as to punish the ankles severely. When the child can run about, a shoe of this kind, made to fit, will be as useful as any; but the strap should be of softer material, and a little broader than is usual. Our own childhood's reminiscences are tinged with lively recollections of the torture inflicted upon our feet by the cutting straps fastening above a high instep. At seven years of age we had sores, of a most painful description upon both ankles, from the pressure of the hard straps and buttons. As soon as the baby begins to "feel its feet" it is time to replace the wool boot by a firmer shoe. In the first place see that the stocking fits; that it is neither too large nor too small; is long enough and wide enough not to cramp the foot, and at the same time does not fold over at the toes or heels to hurt. To make the boot, which we will call the "Infant's Sanitary Boot," the child should be held in a standing position upon a piece of white paper; the foot rather pressed down to spread out the toes. An assistant should then take a pencil and mark the outline of the foot on the paper, taking care to hold the pencil vertically to prevent the point from going under the arch of the instep. The outline thus obtained is the pattern for the sole, after another line has been drawn a quarter-inch outside the first line to allow for the thickness of the stocking. The sole is cut to pattern from firm "glove kid," to be obtained, in different shades, from any first-class working shoemaker. It is lined with flannel, single in summer, double in winter, and bound round the edge.

with ribbon. The uppers, in shape, are very like the ordinary quilted cashmere boots; being made of coloured cashmere, lined with flannel, bound with ribbon, and sewn to the binding of the sole. The toe-piece will, of course, be cut to correspond with the front half of the sole in shape; it should be wide to allow free play for the toes; and come up over the instep; and the heel piece must be cut to come round the ankle. The boot will lace by means of three eyelets on each side, or tie with ribbon.

When the child walks, and is obliged to wear a boot or shoe shaped upon a shoemaker's last difficulties begin that are not easily surmounted. We cannot make either our own or our children's shoes; and in the case of growing children the trouble and expense of ordering a fresh last every time a new boot is made, places the foot quite in the power of Fashion, which knowing that the foot is pliable enough to be squeezed into almost into any form of shoe, arrogates the right of deciding what that shape shall be. The determined stand that dress reformers have made against this enforced mutilation of the naturally symmetrical foot has resulted in the production, for adults, of boots and shoes made to follow the natural shape of the foot. But it is still a matter of extreme difficulty to obtain a properly shaped boot or shoe for a child. Instead, however, of railing against shoemakers, as though these badly-constructed boots were entirely the fault of the maker and not at all of the wearer, parents who are unwilling their children should grow up under the disadvantages of deformed feet, would do well to remember that every department of trade exists solely by permission of the public, for the supply of the public's needs. It would

be suicidal to his business for the trader in shoes to offer for sale hygienically-constructed boots while his customers were demanding the old deforming instruments. As soon as the demand for children's hygienic boots reaches a paying point, willing or unwilling, the tradesman must hasten to a reconstruction of his lasts.

Patent leather is a substance not to be tolerated in any shoe, little or big, for from being quite air-tight and damp-proof it keeps in the natural moisture of the foot, acting as an unwholesome, clammy, cold poultice.

The sanitary dress for children of a larger growth—of every age from one year to ten,—follows the rules laid down for the guidance of adults. Of boys we are not speaking; now that little Highlanders are going out of fashion, giving place to comfortable and happy Jack Tars, who “have left off baby socks” and appear in Jersey suits and sensible long hose,—they are not far wrong in the matter of dress; it is the unfortunate girls who are made to suffer all along the line of life.

The first garment for these little people is the woven combination—kilt dress is its trade name—over this is a bodice of flannel, high neck and long sleeves; to this is buttoned a divided skirt or knickerbockers made to fasten at the sides and shaped, without fulness, to the hips as recommended for ladies. The material should be of fancy flannel or serge, and the legs can be gathered into a band below the knee, finished with an embroidered frill. In winter it would be decidedly advantageous to develop the knickerbockers into Turkish trousers fastening round the ankle. No petticoats are required with this warm combination dress, unless thin prints and other summer

materials are worn, when a light, longcloth skirt, sewn to a bodice of the same will be needed. Socks are altogether discarded for stockings which are fastened by suspenders to the bodice. The dress itself should be made to the throat and wrists ; but, as the skirt is only required for appearance and not for warmth, it should be light and short not to impede the naturally energetic movements of the child ; who, clad in this sort of dress, made of suitable materials, will vie with her brothers in every active, health-imparting exercise. Healthy, happy children hail with delight a dress so easy to fasten that they are independent of nurse, or nursery-governess, so light and free that it offers no impediment to their wildest gymnastic feats, and so readily washed that fear of spoiling ceases to dog their sports.

VI.

Finally, what are the prospects of dress reform as seen, not through the roseate tinted and, perchance, magnifying lenses of the enthusiast, but viewed in the open daylight of common-place facts ? We cannot flatter ourselves any startling amount of progress has been made ; it is still the day of small things, despite a gradual decrease of scoffing opposition. Looking back, for ten years, over the history of the movement, attention is irresistibly directed to those who have formed the van in the advancing army of progress. Everywhere, we note, it is women of culture—women who have learnt the practical value of physiological knowledge—women whose larger education has taught them that we have not been predestinated to lives of helpless suffering, who have found out that the only medicine for

more than half our suffering, is knowledge of oneself; that, in the school of life, Nature is a strict-disciplinarian Head-Mistress visiting every disobedience with the sharp punishments of pain and ugliness. Women, educated in this school, have learned that "Hygeia," the city of health, is not altogether a dream, for they know that, by obedience to the rules, disease may be avoided, and health and beauty—one is synonymous with the other—gained.

It is such women who have been the pioneers of this movement. We do not say, in every case, they have rightly, or judiciously, interpreted the lessons they have first learnt themselves and, afterwards, tried to teach others. Misapplication of some of the most obvious directions would indubitably mark the period of pupilage. Blunders and incongruities are sure to attend the working out of a plan to overturn the wrongs and follies of centuries; and, in the very nature of things, such a movement of reform would progress but slowly. It is not a senseless, arbitrary change in the style of women's dress our reformers clamour for—although, we fear, it sometimes takes that appearance—but a sincere desire to improve the really burdensome conditions under which we have grown up. The health, sometimes the very lives of our households, depend upon our knowing more than we have done of the laws to which are amenable; and which, in our blind ignorance, we have been breaking for ages.

Dress is only one phase—an important one—of an agitation conducted by both women and men of scientific knowledge against any and every form of evil. The possible rate of progress centres round the diffusion of artistic and physiological instruction amongst women and girls.

While the great masses of our sex are so dead to æsthetic feelings, as not to perceive the innate vulgarity of many of the modes launched upon a London season, from the mysterious headquarters of Fashiondom ; and so ignorant of physiological knowledge, that they can trace no connection between improper clothing and female suffering—dress reform will make very slow progress. Nevertheless our borders are enlarging day by day. Cherished fads are being quietly subordinated, to bring more prominently forward the fundamental principles of the movement. Scattered, here and there, are coteries of earnest adherents, which are so many foci for the dissemination of the simple truth, that health, with its attendants—beauty, happiness and wealth, for mind and body, are not the blind gifts of the gods to a favoured few, but that their possession depends largely upon individual knowledge of the laws which govern us, coupled with our resolve to live in obedience to them ; because

“ Non est vivere, sed valere, vita ! ”

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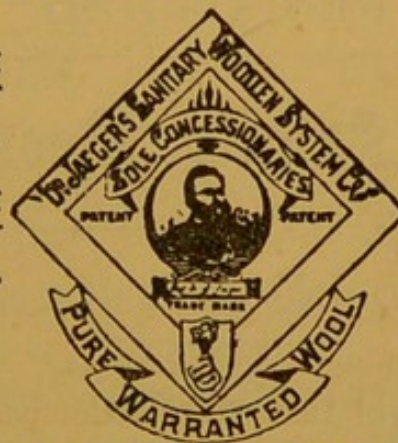
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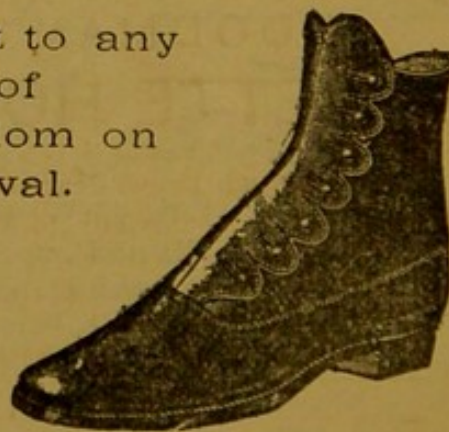
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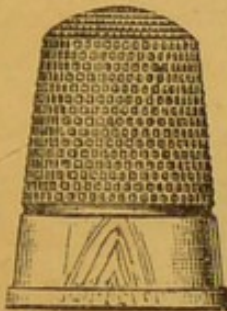
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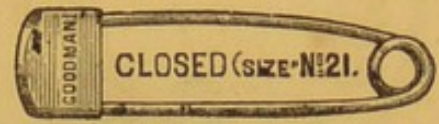
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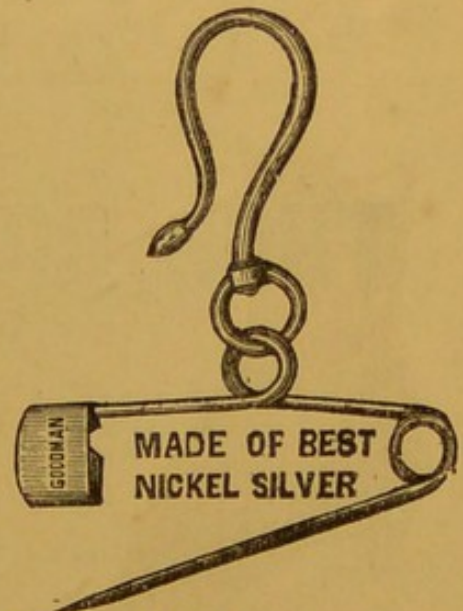
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