

KNIIEPP LINENS.

THE LATEST IDEAS ON HYGIENIC CLOTHING.

By DORA DE BLAQUIÈRE.

It is now a number of years since the preachers of "wool only" as a covering for the body arose in our midst, and I am sure no other idea concerning clothes was ever so widely taken up, and so extended to all nations and countries. We find absolute "woolites," who wear nothing but wool, and the half-and-half practitioners, who are contented to wear wool next the skin, and partly as petticoats, etc., but who prefer to look and dress like others as to their outer clothing, especially when pretty light summer frocks are in vogue. This summer has been a specially woolly summer, for everybody of almost all ages has donned the jacket and skirt of serge, with the cotton or silk blouse under it, which is a most sensible costume for our wet and changeable climate. The agitation on the wool question has unquestionably done good in all ways, if it has made us more sensible on the general subject of clothes than we were of old.

The Germans are the only people amongst whom the scientific men have given prolonged and careful attention to the question of dress materials, and their values as covering for the body in heat or cold, damp or dry weather, and as factors in retaining its heat, and in enabling it to part with heat in warmer weather—freely, yet without chill. The proper management of the heat of our bodies is of great importance to us all; but we have acquired much one-sided information, and a good many false impressions on the subject. By the heat produced by one person during the twenty-four hours seven and a third gallons of water could be raised from freezing to boiling—namely, from 32° Fahr. to 212° Fahr. You will see from this the wonderful chemical processes going on within us, as well as the heat the living organism has to manage, one of the conditions for the right performance of these processes being a definite temperature, which does not vary in the tropics, nor in the Polar regions, but is always 99½° Fahr. Above or below this means disease or death.

We are, in fact, warm and humid bodies placed within a cooler atmosphere, and by clothes, food, and exercise we have to acquire and preserve this uniform temperature. Your body loses its heat in three different ways—by radiation, evaporation, and conduction. You will understand radiation if I remind you that if you sit next a person on a sofa or a form, you will feel warmer on the side near to your neighbour than on the other side, which is exposed to the air of the room. This shows you how much radiated heat escapes from your body. The same fact is shown by your sensations in an overcrowded room or omnibus, even when the air is comparatively cool.

Indeed, 50 per cent. of our heat-loss goes by radiation.

The hygienic department of the University of Munich has a great apparatus for studying the process of respiration, which was a gift from the late King of Bavaria, Maximilian II.; and here the professors have studied the question of the evaporation of men, and of animals too. Men at rest evaporate, through the lungs and skin, about two pounds in the twenty-four hours. On a day of hard work this rises to four and a quarter pounds. I need not remind you of what a powerful agent it is when you remember the violent perspirations induced by hot weather or exercise.

Conduction is the third method by which we give out heat to the air. As long as our body is warmer than the air which surrounds it, we part with our heat on every side, the air becoming lighter and warmer, and being replaced by colder air continually. Thus you will see that you give off more heat by conduction in the open air, while in a room you would give off heat by radiation, and evaporation in proportion.

Now I must try to explain to you that the clothes we wear are really our most important protection in our struggle for existence, and they are quite indispensable for our health and well-being. Their office is to control the transit of the heat we radiate, and to keep it longer in the immediate vicinity of our bodies, so that we may dwell under an artificial surface in a stratum of air continually warmed to an even degree. In the cold of winter we should, if properly clothed, lose our bodily heat without discomfort or a feeling of cold, because, as Pettenkofer says: "We have removed the place of exchange between the temperature of our warm blood and the cold winter air from our sensitive skin-surface to a substance without life or sensation." Our dress monopolises the cold for us; and thus we follow the example of the birds and animals, whose feathers and hair are without nerves or feeling. But our clothing must allow of a continual ventilation and constant free passage of air; and those materials which are most permeable to the air keep us the warmest; for by our radiation of heat we warm the air, and thus dwell in a summer temperature.

One of the undecided questions in this matter of clothing is, how far we ought to hand over the regulation of our heat-loss to them; or, how far it should be left to our own organism, and its power of self-help in transferring more or less heat from the centres to the surface of the body. This self-help of the natural organism, and the readiness for it resulting from a frequent exercise of the function, is what we call "hardening" ourselves;

the contrary is making ourselves tender and soft. There must be a certain amount of the former, and our learned men have not quite enough knowledge to say how far it should go. Now this is exactly where our new exponent of healthful clothes appears to join issue; for he asserts that wool and flannel next the skin tend to render it susceptible and delicate, while the great aim should be to invigorate by gradual, gentle means.

Herr Sebastian Kniepp is the village pastor, the "Herr Pfarrer," of the little village called Vörisshofen, near Augsburg, in the Bavarian province of Swabia. More than fifty years ago he was so ill that the doctors told him he would never recover. So he set about studying the question, and invented for himself a method of treatment which he has passed his life in perfecting; with the result that the little village is crowded with people who come from far and near to take his advice, including members of the medical profession, who look up much to him; and many doctors go to Vörisshofen to study his methods. One great difference between his system and others is, that it is not a money-making one. All the people who go to Vörisshofen are treated by the "Pfarrer" or his assistant gratis—quite free of any charge save a tax of 1s. a day for the use of the Kur Anstalt, which he erected some years ago. The fixed price for *pension* is two marks a day (2s.), and in spite of the numbers of strangers the villagers remain unspoiled, primitive, and seemingly quite devoid of the love of money. Vörisshofen lies in a valley, the village being surrounded with the greenest of meadows, where the patients may practise the great means of hardening and invigorating the body adopted by Herr Kniepp, viz., walking and running barefoot in the wet grass, at first for five minutes only, and then by gradual increases up to half an hour.

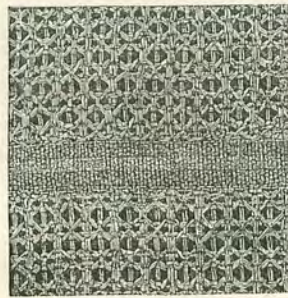
I must not forget to tell you that the pastor himself is a wonderful man for his seventy-odd years, being as fresh and lively in body and mind as a young man; and he lives by the rules of life he teaches to others, and believes he derives all his sound health from them. He is not a vegetarian, but approves of bread, fruit, and vegetables, with milk, as the best possible dietary, and he thinks "sauerkraut" the finest thing in the world! Many people may know the name of "sauerkraut," and not exactly know what it is; so I must mention that it is made of many white cabbages, cut up finely, and placed in a small cask, mixed with salt, packed in, and rammed down, and lastly, covered with a lid pressed down with a heavy weight. In Canada, where they have many dishes of Dutch and German origin, the "sauerkraut"

cask stands behind the cooking-stove during the winter, to keep it from freezing, and also to allow it to ferment, thus producing that sour taste and smell which are its greatest attributes and apparent attractions. The smell of "sauerkraut" frying is not so bad as that of Guernsey cabbage-soup, but there is a general resemblance and a common origin.

I have said that Herr Kniepp does not approve of wearing wool or flannel next the skin; but he quite thinks it advisable for out-of-door apparel, and for our gowns, coats, and trousers. He goes back to forty years ago, and declares that to his knowledge the health of the peasantry was far better than it is at present, since they have followed the fashion of covering the whole body with garments of wool. Being of peasant origin himself, he declares he has deeply studied the welfare of his class, and he speaks of what personal experience and long observation have taught him. He says that he has been visited by hundreds of persons suffering from rheumatism and cramp, from the soles of their feet to the crown of their heads, and that all of these people declared to him that they wore wool next the body. This was specially the case with people who suffered from congestion of the head. Amongst all the patients he has received he has never had one who said she had always worn a linen garment next the skin; therefore he thinks that woollen garments may be a determining cause of these complaints, and gives his reasons as follows:—The woollen material which touches the skin develops more heat than the linen would, and this heat is produced at the expense of the organism, Nature having thus to furnish means for an extravagant and needless waste of her stores of caloric; and in producing it she renders the body more sensible to cold, and it is weakened in proportion. Rheumatism easily results in the transition from the outside air into a hot room, and *vice versa*. But he does not recommend the wearing of fine linen, which, he declares, acts as a kind of wall in retaining heat and in preventing the entrance of cold. Fine linen, also, gets wet very easily and dries very slowly. He advocates the wearing of a coarse linen in preference, as it does not retain the evaporations, and has all the effect of a flesh-brush in exciting the action of the skin. There are several kinds of these "Kniepp linens" made in Munich and Stuttgart, and they may be purchased in many places in Germany, made with the approval of the pastor. They are very coarse and open in texture, and are woven in a peculiar way—almost what we should call a "basket-twist." They are slightly rough, and are intended to be made up into chemises, drawers, and night-gowns for women, and shirts and night-shirts for men. The prices

seem to run from 1 fr. 50c. to 3 fr. and 4 fr. the mètre; while, made up into garments, the range is, for chemises, from 6 fr. to 7 fr.; night-gowns, 8 fr.; and men's shirts and night-shirts, about 7 fr. 50c.

The pastor thinks that one great advantage of linen consists in its superior cleanliness, and says "he is almost convinced that it is impossible to clean a woollen shirt or chemise completely." He also reminds us that, in their composition, the linen and the woollen garments are essentially different, and that the linen is prepared from the plant that has grown in the fresh air, and been shone on by the sun, and washed by the rain; whereas the wool has grown on the back of an animal, and owes its origin to its fat, and may share, as well, its diseases and the germs of its maladies. *A propos* of this question, he says he never heard of a surgeon wanting woollen bandages, or woollen "charpie," and says that linen is chosen for its purity and cleanliness, and from the unlikelihood of its harbouring germs of any



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kind. But all fine and closely-woven materials he utterly abhors, whether they be of linen or wool. Everything worn next to the skin must be coarse and open enough to let the air through it, to invigorate and harden the skin, while the roughness stimulates it, and the perspiration passes through it quickly. He does not approve of three or four petticoats, and seems to think that one is enough; and he joins the generality of reformers in abusing the corset, to which he adds the over-warmth given to the throat in the winter by the use of too many wrappings.

As a conclusion to the subject of undergarments, he gives the experience of all his patients. He says it has invariably been that, having worn two or three woollen garments, one over the other, for the sake of more warmth in winter, they found that the body's heat diminished in due proportion—the more they put on the less warmth they obtained.

And now I think I must cease translating

from my French copy of the original book, which was written in German, as written by the good "Herr Pfarrer" to describe his method of alleviating the ills of our poor flesh. My interest is chiefly with the dress portion of it, of course; and probably we shall hear in the future much discussion on the relative merits of the two materials. Naturally, everyone will have her own methods of explaining the undoubted fact that our grandmothers and great-grandmothers were all, apparently, stronger than we are. They did much more physically, perhaps, but not of brain-work, and they certainly wore less. Woollen underclothing was quite unknown, and linen reigned in its stead; but, alas! it was of the finest make possible. Our "Herr Pfarrer," however, is speaking of the peasantry, who wear linen spun by their own hands—coarsely woven and generally unbleached, save for the bleaching of the sun and wind as it lies on the green grass in far-off Germany and Italy.

In England we have already exponents of this theory, viz., the wearing next the skin of a porous material, through which the perspiration can readily pass; while the open meshes of the cloth contain a layer of non-conducting air, which defends the body from sudden changes of temperature. The materials differ; but I find that so long as the cloth is woven in a proper manner, the material is not of very great consequence; and the Cellular Clothing Company has the cloth now made in several ways. Besides in cotton, it is manufactured in silk and cotton-silk, silk and wool, natural or white merino, natural wool, and white Lisle thread. The weaving of the "Cellular Cloth" is intended to reproduce, on a larger scale, the construction of the pores of the skin. The two sides of the cloth are not alike, the side that is worn next the skin being openwork, while the other is partially closed by fine threads; and thus the body is surrounded by cells of non-conducting air. I have seen several people who were making use of this cloth, and they all appeared to speak highly of its good qualities—of its warmth in winter, and its porous characteristic in summer—affirming, likewise, that it washes beautifully. Some of the materials are woven with narrow stripes of coloured silk; and these would make into extremely pretty articles of underwear. The price is moderate, the cheapest of the cellular materials in cotton being only 1s. the yard.

And I must end, as I have often before done, with the remark that clothing is a matter for careful personal consideration and study; and we must wear what will best conduce to our health; for only with health and strength shall we be of use in that state on earth to which we have severally been called by the mercy of God.



TO THE GIRLS.

By M. HEDDERWICK BROWNE.

BE natural, dear girls! 'Tis better far
To be at all times what we really are;
For what is affectation but deceit—
A passing off as real what's counterfeit?

Be natural! A girl's chief charm should be
Ingenuousness and simplicity;
The studied attitude, the languid air,
The little artful, artless ways, beware!

Be natural! A healthy life and mind
The best cosmetics are, you'll surely find;
The beauty of expression, *that* will last
And charm, when all your other charms are past.

Be natural! God made you as you are,
And His creation you insult and mar
By being other—keeping this in view,
That Nature cannot be improved by you.