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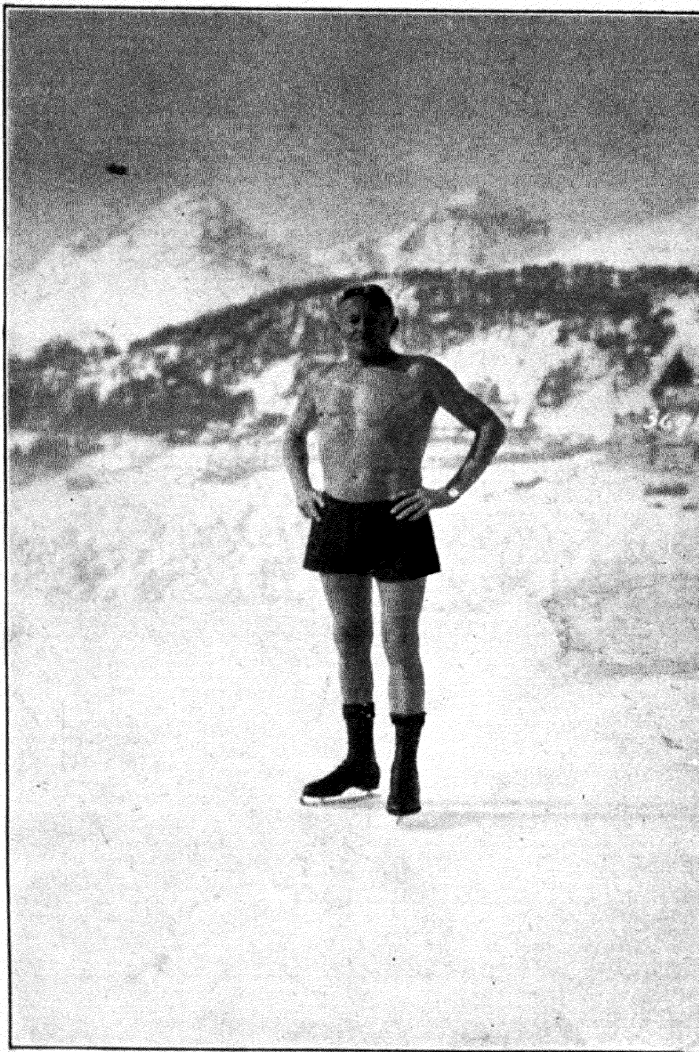
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Author MULLER. J.P.

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MY SUN-BATHING AND
FRESH-AIR SYSTEM.



The Author skating at St. Moritz.

MY SUN-BATHING AND FRESH-AIR SYSTEM

BY

J. P. MULLER

Ex-Lieutenant in the Danish Army.

Author of "My System," "My System for Ladies,"
"My System for Children," "My Breathing System,"
"My Army and Navy System," "The Daily Five Minutes,"
etc.

(Issued under the patronage of H.R.H. The Prince of Wales).

WITH 54 ILLUSTRATIONS.

LINK



HOUSE

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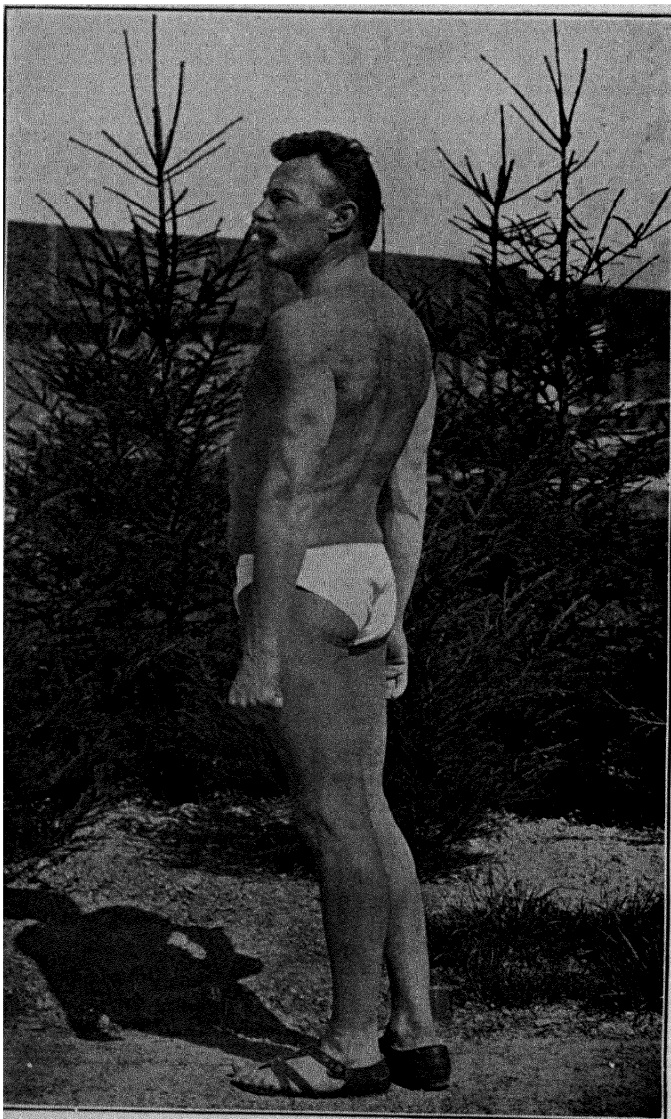
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The Author Sunbathing.

AUTHOR'S PREFACE.

THE good seed sown by my books, which have now been sold to the extent of over a million copies, has borne much fruit, and my ideas on fresh air, skin-hygiene, and a little daily home exercise have been widely adopted. The book called "My System" stated a plan of properly caring for the body to ensure health and vigour which I had evolved after many years' serious study and practice. I have had the good fortune to receive appreciation and thanks from readers of the book, men and women, young and old, in all parts of the world, who have benefited, physically and mentally, by following its teaching; and I, in my turn, thank them for their kind interest. During the greater part of my life I have studied physical culture, and have endeavoured to arouse the interest of my fellow-men in it, and especially in matters of hygiene, by the contribution of articles to the daily Press and by public demonstrations, etc. "My System" obtained the wished-for result; it caught the public ear, and I am thankful and satisfied in the knowledge that through it thousands of my fellow-men lead healthier and happier lives, that much sickness and misery have been avoided, and will, I hope, be avoided in the future.

That system, I should explain, comprises instructions regarding a few simple physical exercises (without dumb-bells or any other implements), a method of skin-massage and the use of water baths, and ample fresh air. I place the chief sources of health in the following order: (1) Fresh air and sunlight, (2) cleanliness and (3) exercise, and upon these ideas are based the principles underlying "My System." The physical exercises are framed so that all the muscles of the body are developed; the bathing and the skin-massage, especially the massage, to free the body from the waste and poisonous matter which seeks this natural outlet; and the fresh-air and sunlight treatment so that the utmost advantage may be derived from this invigorating and health-giving element by internal and *external* application. These are the main bases of "My System":—to be in the fresh air as much as you can, to make a point of exposing the naked body to the fresh air and sunlight in your bedroom if you cannot do it in the open, to wash the skin and rub it so that it can perform its natural functions (the vital importance of which are generally

overlooked) with freedom and ease; and to exercise all the muscles of the body so that you have a sound frame, strong in every part. That the system is simple is indicated by the fact that it need not take more than fifteen minutes each morning; and also, perhaps I may add, because so many people have adopted it.*

Even the highly conservative medical profession has of late begun to re-construct its valuation of such natural means of preventing and curing illness, and has realised the excellent work done for the amelioration of the physical state of the nation by the "Health and Strength League," with its more than 50,000 members, of which I have had the honour of being for so long time a Vice-President. When first in 1906 I showed the Londoners how the "white" man's skin should look when properly cared for, my demonstrations were met with enthusiasm. Let me quote a few sentences from the reports in the Press:—

"Mr. Muller himself has a figure which probably approaches the perfect model of the antique as nearly as man has hitherto attained. He has an admirable symmetry and grace of form, and he is both lithe and very strong. He performed the first part of his demonstration in shirt and breeches, stripping for the bath and the rubbing exercises that followed. In that frowsy London hall, amid the pallid Londoners huddled in overcoats, the stalwart athlete, his skin a ruddy brown from forehead to heel, shone like a being from another planet."—(*Standard*.)

"The system is a combination of physical exercise, breathing exercises, and attention to the skin; this attention to the skin is paid by means of a water bath, an air bath, and rubbing exercises. It pays heed chiefly to the internal organs and the skin, and to the lungs by means of deep breathings. . . . On one point Lieut. Muller lays particular stress, and that is that gymnastics should be carried out in the open air or in a room with open windows . . . one of the objects of the rubbing exercises being that one can stand by an open window in the winter and do gymnastics without clothing." (*Times*.)

"Exquisitely proportioned, instinct with strength, vigour and activity, with the very essences of health and strength radiating from his supple limbs and bronzed skin, no one could fail to see that here was proof positive that whatever course of Physical Culture this superb athlete had pursued, its super-excellence as far

* "My System," 210th Thousand, (Athletic Publications, Ltd., Link House, Greville Street, London, E.C. 1).

as he was concerned was simply undeniable. But when the Lieutenant had given a practical demonstration of his system, it was no less evident that in "My System" he had elaborated a course of Physical Culture which would be equally advantageous for one and all. Here at last was the ideal system."—(*Health and Strength.*)

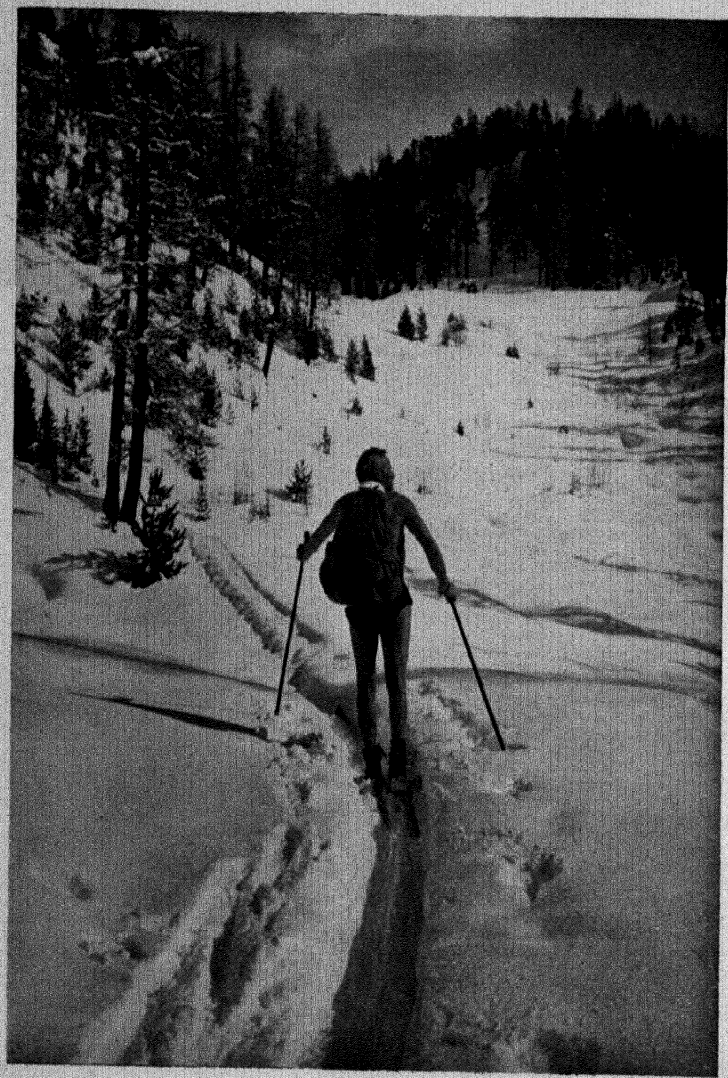
"Ex-Lieutenant J. P. Muller, Denmark, who gave a display of his "My System," which is expected to revolutionise the Health Culture movement in this country, on Thursday, April 5th, in the Exeter Hall, London, has been christened by the British critics "The Danish Apollo." His extraordinary, well-developed frame, and his sun-bathed, almost bronze-coloured skin, produced an effect of great artistic beauty, as well as the greatest sensation. Never has the ideal Sun-God of the old Greeks been so vividly realised."—(*Vim Magazine.*)

The book containing in detail my experience of, and advice on, Air and Sun-bathing having been for some time out of print, I have now prepared this volume, which I hope will meet with the same great interest as the former work.

J. P. MULLER.

Tring, Herts.

June, 1927.



The Author ski-ing at the age of 60.

NOTE BY THE EDITOR.

IN Lieut. Muller's main work, "My System," the editor in his "Introduction" gives some short biographical notes about the author. It is scarcely needed to reprint these here, but some supplementary particulars may be of interest to the general reader.

In 1917, when 51, Mr. Muller put up a veteran's record, in that between Putney and Hammersmith he cycled, ran, walked, paddled, sculled and swam six consecutive half-miles in 29 mins., 19 2-5 secs.

In 1919 H.M. the King of Denmark conferred a knighthood of the Order of the Dannebrog on Mr. Muller, who between 1883 and 1905 had introduced British athletics, field events, new swimming and life-saving methods, etc., until then unknown in his country.

In April, 1924, Mr. Muller stayed for a week at the French Army School of Gymnastics at Joinville, near Paris, where he taught "The Daily Five Minutes" (not published in France) to the staff of instructors, who eagerly took the opportunity of learning how to breathe deeply during quick body-movements, and how to relax the muscles properly.

In January, 1925, H.R.H. the Prince of Wales most graciously granted his patronage to Mr. Muller in respect of his works and books.

In September, 1924, Mr. Muller had abandoned the institute business, and was thus once more able to devote his whole time to authorship and lecture demonstrations. His tours during 1925-26 on the Continent were of a triumphal character. In Germany he was in 30 big towns invited by the Municipal Health officers to speak and demonstrate in the town halls. The Press quoted freely the following public declaration made by Dr. Mallwitz, physician at the State Academy for Physical Culture and Sport (in Grünewald, near Berlin): "When Mr. Muller in 1904 published his System, he was a couple of decades in advance of medical science, not only as a physical culturist, but also as an hygienist. Only recently medical science has begun to understand fully his ideas."

In Denmark he was given an almost royal reception; a gathering of 3,000 people with bands, standards, flowers, speeches and cheers received him at Copenhagen Station. And with signs of the same enthusiasm—only on a smaller scale—he was met in several provincial towns. In Copenhagen he twice lectured in the new Exhibition Hall,

each time to an audience of more than 5,000. The first evening, the Social Minister, Borgbjerg, was in the chair, and introduced Mr. Muller with a vivid description of his whole life since their boyhood when they had played and studied together.

In June, 1926, was published in Danish a selection of Mr. Muller's poems, and he was greeted by the greatest living Danish poet, Jeppe Aakjaer, as a prominent colleague. In some of the poems are depicted the beauties of the Chiltern Hills, especially Ashridge Park, Ivinghoe Common, and the old village of Aldbury.

His sixtieth birthday, on the 7th October, 1926, Mr. Muller spent at his Tring home, reading telegrams and letters. But in Copenhagen the Government's paper, as a demonstration of honour to Mr. Muller, arranged a festival in the "Idraetshuset," where 2,500 people gathered. A prologue in verses praising Mr. Muller's work was recited by the poet Aage Hermann, then followed music by a band of 100, songs partly written to Mr. Muller and sung by a choir of 200, a short lecture on "My System," and displays of boxing, wrestling, fencing and gymnastics by the Danish champions, both men and women.

Almost every Danish and German newspaper contained long articles wherein Mr. Muller was praised as the founder of modern physical culture with its appreciation of Fresh Air, Sun, Daily Bath, and Deep Breathing during exercise. And they unanimously state that it is due to him that whole populations now lead a more hygienic life.

One of the letters most appreciated by Mr. Muller was from a famous Danish judge, who wrote: "Thanks for your warm sympathy to humanity, for the idealism so conspicuous in all your works, and for your courage. Most thanks, I think, are due to you for "Sex Morals and Happiness*."

THE EDITOR.

* A Danish book, first published in 1908, and later in five successive revised editions, wherein the author criticised the false sex ideas and some Danish laws, and formulated his proposals on common sense and justice. He has since had the satisfaction of seeing that the laws, for instance, on matrimony, the equal rights of women, and the punishment of infanticides have been altered. And he has received many hundreds of letters from married couples who thanked him for the happiness they had won by following his practical advice.

CHAPTER I.

THE "NAKED CULT" MOVEMENT.

Can we escape Civilization?—The "Nature Cure" in Europe—
The Argument of the "Naked Cult" Teachers—The Family Sun
and Air Bath—The Naked Cult overdone—What is meant by
"Health."

WHAT a lot civilisation is responsible for! Not least amongst these things is bad health. But we cannot get away from civilisation—we are part of it—and, besides, even if we left it now, we probably should not regain our lost physique as a whole.

Man is subject to more bodily ills to-day than he has ever been before, and it is only natural, when you come to consider it, that the descendants of a race who had to hunt their food before they could eat should not be able to work in a factory or an office without suffering for it in some way or another. I know the cave man age is thousands of years ago, but evolution is slow. If it were not, none of us would now be on earth to tell the tale.

Then the life was open if hard, free if precarious.

Now turn the searchlight upon ourselves to-day. Clothed to the hilt, hats to protect our heads, bald at fifty, gouty, liverish, and—well, I've said enough. We don't need a looking-glass to tell us when we are out of sorts.

Yet I doubt if the cave man ever had chronic liverish complaints or heart disease, or even those people of much later times.

Now, I am not going to suggest that to return to a desirable state of health we should all go to Salisbury Plain and live in caves, and don bearskins. But I do say that, as we have changed our mode of life, we have not kept pace in the matter of fitness. Even to-day, with so many different forms of physical culture and training about, few—very few—of them aim at the real sources of fitness.

Please remember, fitness does not necessarily mean brawn; the possession of a good digestion, sound lungs, a well-regulated heart and an active skin being the first essentials to good health.

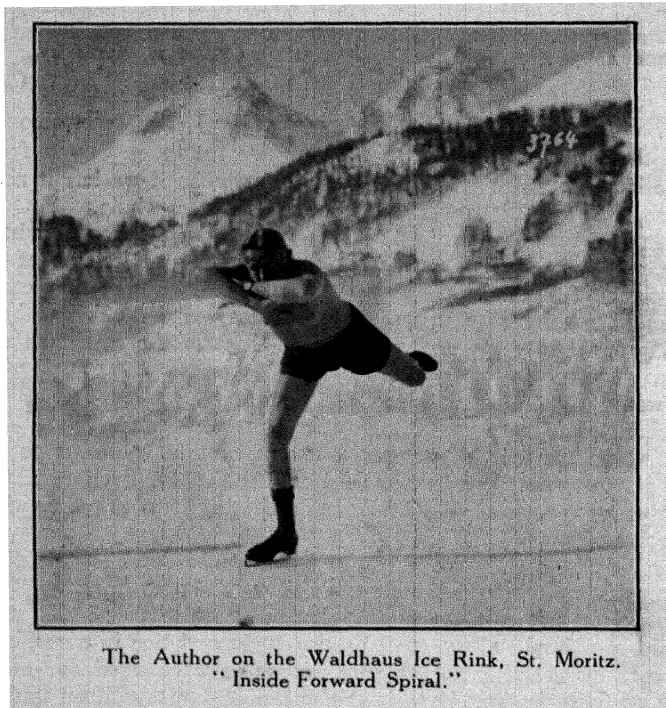
We cannot get away from civilisation, but we can keep pace with it, and this keeping pace process I can sum up in just one word—exercise.

There is no doubt we have allowed ourselves to become slack. So many conveniences are to hand for one thing, and for another the necessity for bodily exertion is becoming less and less.

What are we doing to counteract this slackness, that is in danger of making us a flabby race?

To-day we may roughly divide ourselves into two classes, those who do exercises, and those who don't.

The first class seems to aim at getting muscular. Never mind



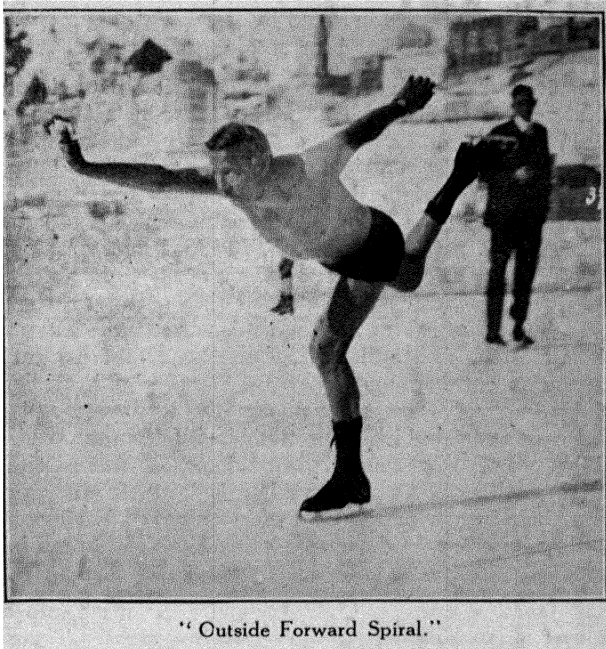
The Author on the Waldhaus Ice Rink, St. Moritz.
"Inside Forward Spiral."

how strenuous the exercise, how exacting the instructor. The object is muscle—there you have something to show for your pains. That is how they appear to look at it.

Now, long experience and study has proved to me that in a great majority of cases, Nature exacts a penalty for trying to force her hand by this kind of training. The internal organs are strained through carrying out such a policy, and this weakens them. It may not go so far as to result in a breakdown, and the person who is doing the

exercise may feel no ill effects, but it does have an effect in the long run. It is not necessarily the most muscular people who live the longest!

The object we should pursue is the health of the vital organs, above all of the lungs, heart, intestines, and, last but not least, of the skin. Then we shall possess the real, lasting strength which keeps us active and happy also in old age. How this should be done, and how we may escape overdoing our efforts, will be explained in this book.



During the last 25 years a vigorous movement has been making itself felt throughout Europe, the watchword of which is "Back to Nature." Advocates of the Nature-cure, numbering hundreds of thousands, are working with tireless zeal towards the introduction of vegetarianism, absolute abstemiousness in the matter of stimulants, and against the use of medicine, serum, vaccine, etc. Bitter strife has been caused for many years between orthodox and Nature-cure practitioners. This conflict of opinion has been the means of doing

both harm and good. Good, because many doubtful questions have been threshed out; evil, because both parties have gone to extremes and extravagances, thereby overlooking the golden mean of truth. That Nature-cure doctors without proper training—in other words “quacks”—are able to practise, is certainly objectionable, and leads, naturally, to a deal of disgust. This rule does not apply to men such as Kneipp, Friessnitz, Schroth and Rikli, who were exceptions. That more than half a century elapsed before “atmospheric” cure by means of sun and air-baths was recognised and adopted by the official medical authorities as a restorative and preservative of health lies simply and solely in the fact that it was invented by laymen, and because of this long delay mankind has had to bear untold suffering and loss.

One result (many people, perhaps, will call it a natural outcome) of this Nature-cure is the “Naked Cult.” Prophets (among whom Diefenbach, Gutzzeit and Gust. Nagel were best known) with long hair and beards, clothed only in a single garment or toga, travelled around and preached, while periodicals and books were issued proclaiming their creed that all human sickness, all mental and bodily infirmities proceeded from the use of clothing. The chief and most powerful argument of these teachers is that naked we are born into the world, and that, therefore, Nature has intended that naked we should go through life. Clothing, according to this doctrine, is the outward sign of the deterioration, ill-health and immorality of the present race. Against the argument that man, originally a tropical animal, has been scattered by force of circumstances over the temperate and frigid zones, and must wear clothing to protect himself from the cold, there is quoted the case of the climate-hardened women of Tierra del Fuego, who, clad in nothing but a rag round their loins, feed their naked children at their breast, or the case of stark-naked Eskimos in the frozen north, who entertained the wondering Frithjof Nansen in their earth huts.

Several fanatics on the Continent put their ideas into actual practice, that is, so far as the law would allow them. There were several families, the members of which when at home doffed every article of clothing (even bathing-drawers or loin cloths) no matter what the time of year. In some cases the servants followed the example of the masters and mistresses, work, especially in the kitchen, being much easier to do when the worker is not hampered by clothes. The conditions of health and morality in such cases are said to have been without taint (in one case this judgment was passed after an experience of eight years). If ever it becomes the fashion to go about naked both at home and abroad, one thing is certain, people will be

obliged to pay strict attention to body culture and the preservation of their natural grace. The majority of men and women nowadays, adorned and rigged out by every means known to the art of the tailor, barber and corset-maker, would cut a very sorry figure, nay, more, would inspire natural aversion, if they were suddenly called upon to show themselves as their Creator—or, rather their own mismanagement—has made them.

It must, however, be confessed that the Nature-cure in general, and the fervent pursuit of the Naked Cult, especially in the manner of our continental neighbours, are overdone. The family sun and air-bath (to give it its full title), such as I have referred to, is not exactly suitable in damp, windy climates, apart altogether from the question of taste and social convenience. Nor is it absolutely necessary for health and for great achievements to be quite naked when performing athletics, gymnastics and playing games, as is recommended in the books written by the German, Major Hans Surén, who since the Great War is the most fervent advocate of the Naked Cult. And when Herr Surén goes so far as to assert that also mental qualities, character and morals are improved by always running about stark naked and only covered by a layer of ointment, men and women, boys and girls together, then I have certain doubts. Herr Surén quoted several paragraphs from my books, and described in detail all my rubbing exercises without mentioning the source. At present a "great war" is raging in Germany between the followers of Herr Surén and those school authorities who want to adopt a happy medium. The problem is, how far the children should have their upper body naked during the indoor gymnastics and outdoor games, and how long their shorts or bathing slips should be.

During my lecturing tour in Germany in March, 1926, I was approached by a big periodical who wanted to hear my opinion. Let me here quote a few paragraphs of the letter I wrote:—

"I do quite agree with you that to-day both sports and sun-baths are often overdone, and that dangers are lurking here, both to the physical and moral health of young persons.

"Only in one respect am I a fanatic, viz., in the question about fresh air for the lungs. This is, in my opinion, the very most important source of health. Unfortunately, most people are unable to smell how far the air is vitiated; they only feel the difference between warm and cold air, but not between good and bad air, forgetting that in dwelling-rooms cold and bad air is still worse than warm and bad air, owing to the lack of natural ventilation when the temperature is the same indoors and outdoors. I do not think that fresh air for

breathing purposes ever can be overdone and harmful, as may be the case with sun-bathing. No doubt, also, the sex life is awakened too soon in children by too much sun-bathing.

“ I am sure it is wrong to be quite naked when the two sexes are taking sun and air-baths together. Many German books on Physical Culture have too many illustrations of completely naked men, women and children. Very often such illustrations are inserted *without the slightest necessity*, in that they are not meant to explain any sort of exercise.

“ A young, absolutely perfect female body may perhaps be looked at without equivocation. But most of the pictures I have seen of women in these books shew faults of shape and forms, and may thus affect the senses repulsively or even perversely.

“ As to the daily smearing of the whole body with oil or other ointment, I do not share the views of the Naked Cult fanatics, who think it a necessity. When healthy, the skin always secretes sufficient grease. I have formerly—more than twenty years ago—sometimes smeared the whole skin with vaseline, because I had to swim in cold water for hours. Olive oil, palm oil, or similar things I have never used. I have walked naked half a day in a wood or on the seashore, also, during winter, run on skis without any clothing; but I have never on such occasions used any ointment, nor missed it. The rubbing exercises, which I have performed for more than 25 years, have, of course, hardened my skin. It is quite true that the ancient athletes used ointment for their entire body. But the reason was that soap was then not known. Through wrestling on the ground, etc., they became very dirty, and if beforehand smeared with oil, they could easily clean themselves afterwards. The nigger funny-man of the modern music-halls uses a similar method in order to get quickly white and clean again, otherwise he would have to lie for hours in a hot bath. To-day we have plenty of soap, and therefore I think it is superfluous for sun-bathers to smear themselves daily. Besides, it must be a very troublesome and expensive matter!”

This letter was reprinted in extenso in a recently published book, “Nacktkultur” (“The Naked Cult”), by Ph. Küble (Jugendführungsverlag, Düsseldorf), and the author makes the following resumé of the four initial chapters of his book:—

“History, science, daily experience, common sense, and the first authority in this domain—J. P. Muller—testify unanimously:

“The Physical Culture of Germany has made an essential matter out of an un-essential one (Nakedness), and has thereby

been forced into a path which may—after the hellenic pattern—end in the swamp.’ ”

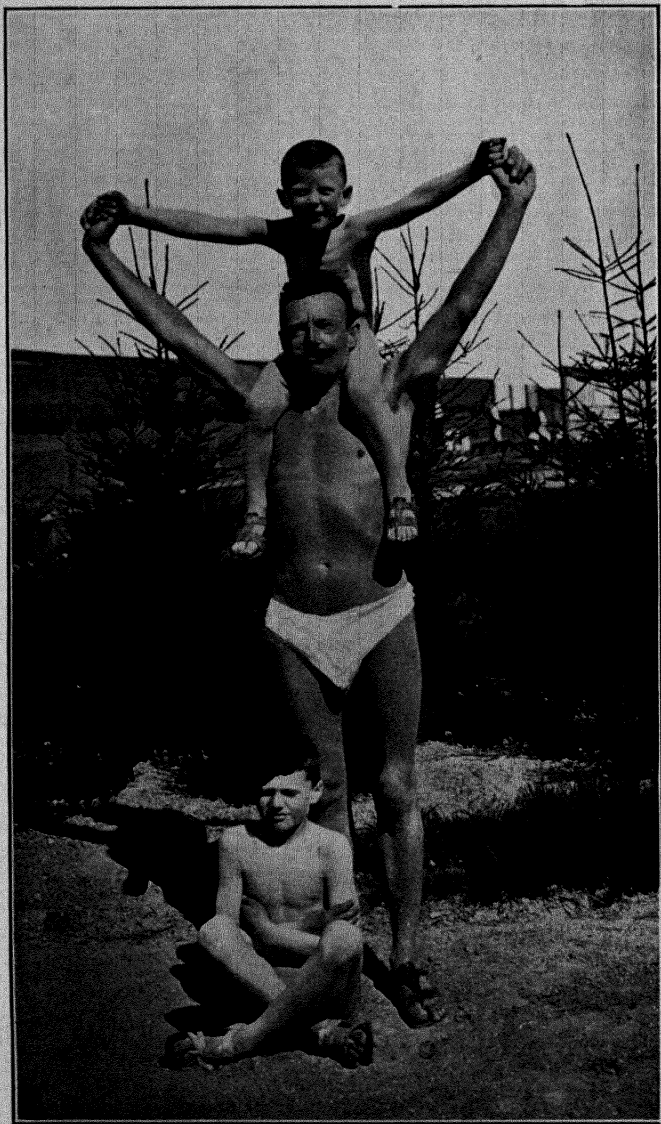
Nevertheless, it is quite worth our while to study a little the Nature-cure movement itself and see if there is nothing good and useful in it that we can select and adapt for our own benefit. I can name some very excellent ideas fostered by it; such, for instance, as the demand for fresh air, the insistence on the necessity of fresh air, wherever and whenever we breathe, the introduction of a simpler and healthier method of clothing our forms, and last, but not least, the use of sun-bathing in a common-sense, decent and discreet way.

It is not necessary to lay any emphasis on the incalculable value to the individual and to the community of good health. Everyone knows that without it life is well-nigh insupportable, and that only with it can life be happy and beautiful. Yet it is astounding to find how vast is the number of persons entirely ignorant of the first principles by which it is to be ensured and maintained.

By the word “health” I mean a condition in which all parts of the body, the internal organs as well as the external muscles, are developed to their natural extent and brought to that pitch of strength (power of resistance) to which Nature originally intended. Such health can only be obtained by the use and exercise of all those organs and muscles in a rational manner, and the oxidation of the blood by the consumption of fresh air.

We all know that the average human being inhales, takes into his system, millions of microbes in the course of a day, and that if it were not for the ability of his blood to destroy those microbes he would very quickly succumb. We know, also, that the destroying power (so to speak) of the blood is dependent upon the absorption of pure oxygen for its efficiency; and whilst it is amazing upon what a small quantity of pure air man can manage to subsist, it is even more mystifying that he should seldom, if ever, attempt to consume as much of it as possible in order that his physical—and, consequently, mental—organism should attain its fullest efficiency.

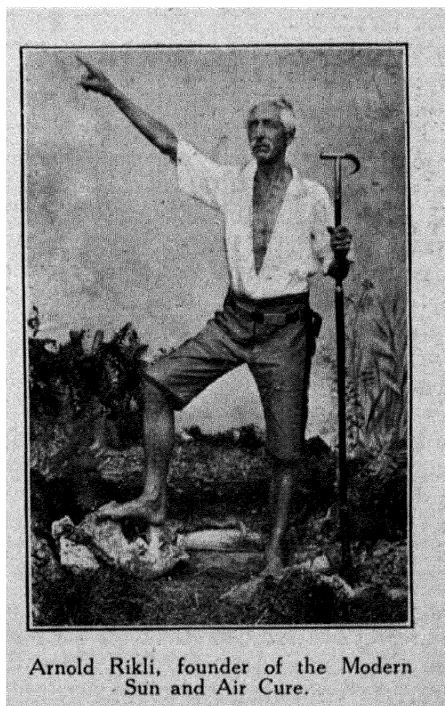
Next in importance to the vitalisation of the blood by the consumption of fresh air, is the strengthening of the multitude of organs of circulation, digestion, metabolism, and for the elimination of body poisons. This can only be attained by proper use. Again, it is the simplest, most obvious proposition. Just as iron will rust for want of use, so will any part of a living body atrophy if unexercised. How many famous athletes are there who, possessing mighty muscles, have yet fallen to the commonest, most trifling diseases? It is easy to find in any gymnasium scores of men with strong arms and legs, but weak lungs, hearts, kidneys, stomachs and



The Author with two of his sons taking a Sunbath.

skin; and as for the town-dwellers and the non-athletic, they are vulnerable at a hundred points. Through lacking knowledge in the proper care of the body, or at least through failing to practise it, they not only lose vigour and, consequently, their capacity for work and usefulness, but more than half the joy of life.

Given a body that is free from disease, the maintenance of good health and the maximum of energy and vigour are perfectly easy to acquire. It is a matter merely of internal and external application of fresh air, the practice of rational gymnastic exercise, and exposing the body to the rays of the sun whenever there is an opportunity. In the following chapters will be found information on the several departments of this all-important subject, which embody the results of special study, observation and experiment extending over many years.



Arnold Rikli, founder of the Modern
Sun and Air Cure.

CHAPTER II.

FRESH AIR AND BAD AIR.

Belief in value of Fresh Air Universal, but rarely put into practice—Physicians no Exception—Fresh and Warm Air—Fallacies about " Draughts "—The Length of Human Life.

NEARLY everyone is agreed to-day that sickness and short life are the consequences of unnatural and unhealthy modes of living. All are confirmed in the belief that fresh air is an all-powerful source of health, and that bad air, on the other hand, is exceedingly harmful, even dangerous. These things are common knowledge, but how uncommon it is to find practice in accordance with the knowledge! The vast majority of people live in bad air. That celebrated *savants* and erudite hygienists are no exception to this rule, I have had occasion to prove. Some while ago, at a congress in Liège, throughout an entire week, some two hundred hygienists of all nations sat in a hall of the University, in which not the slightest trace of artificial or natural ventilation was to be found. The hall, moreover, was covered by a large glass roof. A small pane, cut in two, formed an opening in this roof just above our heads, and it was my only consolation during the first day of the congress; but my hope of fresh air was frustrated when I detected that over the first glass roof was a second hermetically closed. I tried once to let a little air into the hall by opening a door in the background, some half an hour before the proceedings commenced; but, five minutes later, a very much laced-in and black-clothed lady (also a hygienist) appeared and closed that door. Another day I opened at least ten times a side door that led to the vestibule, but it was always re-shut by servants. At last I declined to stay in the hall, and tried to follow the proceedings from without as best I could. If I did not protest at once against the dreadful air in the hall, it was because I took a great " scientific " interest in finding out if an assembly of learned people would really sit for a number of days in such an atmosphere. In that place, where the air grew every day closer, thicker, fouler and more stinking, the assembled hygienists remained; many of them looked pale and unhealthy, and several sat in their overcoats and hats, although it was mild, late summer weather.

When such things happen at the fountain heads of physical wisdom, so to speak, is it to be wondered at that the public has no practical understanding of the value of good air? Good air—be it cold or warm—is the foundation of all conditions of life; bad air—cold or warm—is, everywhere, the most powerful and common cause of sickness and short life. Perhaps the reader will remark that the hygienists proved themselves as men strong and capable of endurance, as they were able to sit in that pestilential air and heat, while I, on the contrary, was the weaker, because I could not. But that is a great mistake. I can stand as much of the natural heat of the sun as anybody, and I am seldom thirsty, because my skin is in the best condition of activity. It is to be ascribed to this circumstance, in conjunction with my light clothing, that I enjoy strong exchange of matter, and, therefore, it is clear that I begot more warmth than others who wear many clothes.

But if it is a case of being in an enclosed room, filled with warm, poisonous air, a healthy body is susceptible to reaction in a moment, will feel unwell, and thus be warned in good time; whereas a body accustomed to impure air will not be in the least affected, quietly absorbing one poison after the other, until the day of the inevitable hygienic crash comes.

It is by no means necessary that the warm air in a room be stale.

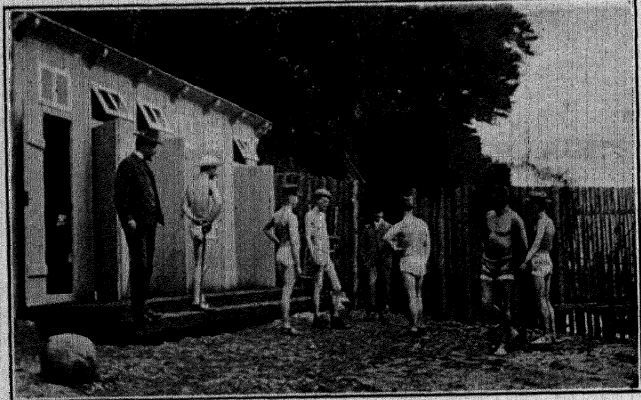
If the air be artificially warmed, that is, by a stove, it can, owing to its high temperature, even if it were originally pure, of itself prove a disadvantage, because it enervates those who inhale it, and makes them keenly sensitive to cold, owing to the great difference between the air outside and inside. A healthy body that, by means of a powerful skin activity, provides a lively exchange of matter, and possesses “well-trained” blood corpuscles—conditions by which we may be able to withstand attacks of sickness—will revolt at once against too much artificial warmth. The kind of man whose functions are naturally adapted to the temperature of the different seasons generates much more warmth than enervated people, and he, therefore, feels uncomfortable in presence of the latter.

Gymnasiums or drill-halls do not need to be very warm, but there is not much to be said against a certain temperature in the dressing-room. A slight warming of the gymnasiums—of course, with open windows—can, on the other hand, and especially when the weather is damp and cold, assist ventilation.

Gymnastic exercises in enclosed places with bad air are not only useless, but often directly harmful. I have, on occasion, seen more die of tuberculosis, without any other cause of their illness being

forthcoming, than that they had taken it upon themselves to practice gymnastics, often on so-called "rational" principles, in enclosed and badly-ventilated rooms, where they inhaled a mass of poisonous vapour, dust and bacilli. The cases were naturally not improved by the fact that they had inhaled through the mouth instead of through the nose, and that, after exercising, they had neither taken a bath nor had rubbed themselves down.

Many people have an actual and sickly fear of draught, and in their endeavour to escape the harmful consequences of a draught, they often avail themselves of a wrong medium. The more one sits near a stove, and the more one shuts oneself in, the more harmful is the draught if it happens to gain an entrance, in spite of all precautions, at some tiny hole or other. Draught is caused,



A scene in Vejle fjord Sanatorium where Sunbaths were first employed by the Author in the cure of consumption.

as is known, by the great difference of temperature between the inner and outer atmosphere. Cold air can easily stream in through the keyhole, unfastened windows, doors opened ajar, etc. Should such a fine, cold streak of air unluckily strike an isolated spot on an overheated and sensitive human body, it often causes cold or rheumatism. The same thing happens in the event of anyone going from a lengthened sojourn in an overheated room out into the cold. Rather should the rooms be thrown open so that the difference of the temperature outside and inside is not too great.

Then the air may blow through the large windows and doors, and if the occupants be well clad, it will be of more benefit than

harm. Wind is not draught. We should protect ourselves against the thin, cold stream, and take care when leaving a very hot room to go out into the cold air.

People often have a remarkable horror of sleeping with the windows open, although it ought to be well understood that it is as necessary to inhale fresh air while asleep as when at one's daily work. Many people regard night air as something mysterious and dangerous. If that were really the case, how would wild animals and birds be able to protect themselves? At times I have encountered the superstition that blindness is caused by sleeping near an open window, while others labour under the absurd delusion that deafness results therefrom!

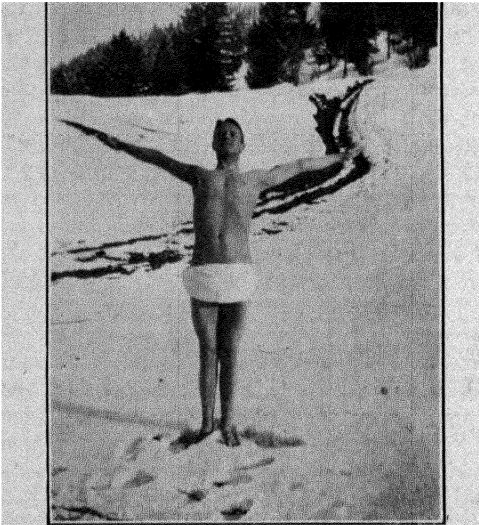
During the four and a half years that I was inspector to the Vejlebjerg Sanatorium, I saw to it that the 1,058 patients had the windows of their bedrooms wide open, even during storms and the depth of winter. As one entered the room from the corridor, it often seemed like emerging from a warm room into an icy one. That a great number of these patients had their lives virtually restored to them was due to this day and night inhalation of fresh air. I never heard of a single case of ear-ache or eye-trouble among them.

Tainted air is yet more to blame than lack of exercise for that "tired feeling" in the spring. People sleep in stuffy, close rooms, they journey to and from business in electric cars or railway compartments, the ventilators of which are kept continuously closed, so that the bad air will not be disturbed by good air. At the office, in shops, they are inhaling poison all the day long. They take walks in the most crowded streets in the fond delusion of supplying the lungs with fresh air, but succeed in filling the passages only with coal dust and other harmful matter. The evenings are spent in halls, theatres, ball-rooms or cafés. In these places the atmosphere is always horrible. By living in such a way we do not give the lungs an opportunity of freeing the blood from carbonic acid poisonous matter. To the contrary, we inhale a whole mass of other poisons which taint the blood more and more.

The opening of a window or a ventilator can provoke an otherwise perfectly friendly person to as great a fit of rage as would the presentation to him of an unexpected bill of taxes. According to the laws of prevailing cocknevisism, it is a veritable crime to try and force the blessing of fresh air on your neighbours, while it is the duty and obligation of the accused one to inhale the unappetising refuse products of the same neighbours without grumbling. Unluckily, it is impossible to ascertain the presence of these dangerous poisons by sight or sense of touch; they can only be smelt. If people would

only develop their olfactory powers and would test the purity of the air every time they step over the thresholds, the present conditions would not be suffered to exist. The only thing for those few who will not deny fresh air to themselves at any price is in the meantime to avoid the pestilential areas and to take the trouble of holding their own territories of fresh air.

People need not visit cafés, theatres, or variety entertainments where the air is tainted, unless they like, but the majority of people are forced to take a railway journey now and then. And if there



Deep-breathing exercise in the Snow and Sun.

is any poisonous, bacilli-laden air anywhere, it is to be found in these overfilled, tiny rooms called railway compartments.

Even if the weather is quite calm and summerlike, there are some people who have a mortal horror of the smallest aperture through which air can enter. On the other hand, there are travellers who insist on opening the windows even in the coldest weather, because they cannot, and will not, be deprived of the blessing of fresh air. As the number of the latter is ever increasing, the conflicts between Nature-lovers and fresh-air-nihilists become more frequent and relentless.

The only way out of the difficulty is to label certain compartments

as "free air compartments," in the same way as the smoking compartments are labelled, then those rational and hardened citizens who follow modern progress will no longer run the risk of being poisoned and stifled, and the backsliding weaklings will avoid those frightful air-agitations.

Fresh air being not only the preventive, but also the cure, of several diseases, it is surely the most powerful factor in promoting longevity: There is and always has been a good deal of speculation as to the length of man's life, as originally intended by Nature, and opinions as to the allotted span vary between eighty and one-hundred-and-forty years. There can be no doubt that the last number is more correct. Every animal lives at least five times longer than it needs to grow into full development. But it will not reach its full limit of years unless it takes plenty of open air or open sea exercise. Being "over-civilised" or kept in captivity, it will die much earlier. Man, who takes about 25 years to get full grown, ought to live at least 125 years. And if a man, from his birth upwards, lived under perfect hygienic conditions, senile decay could not possibly begin until he was nearing an age of 150 years. Evidence in support of this is negative: in face of inexorable law, that every cause has its effect, it cannot be accepted that all the different offences against hygiene ought not to have any shortening influence in a man's age. The most common offence against hygiene of which we all, without exception, are, or have been guilty, is that of breathing tainted air. Here, apparently, is the chief cause of our too limited existence. Every tissue and every nerve has been, therefore, inoculated with some kind of poison, and has lost entirely its power of resistance and its faculty of existence. Even if we go for a few hours' walk every day in the open air, we are breathing in poison during the other hours in our own rooms, in restaurants, in theatres, in concert halls, in the street cars, and in the railway carriages. Nature has furnished us with a nose, which should serve as a sentinel to warn us of the approach of this poison; but this means of intelligence is, by most people, as much unused and abused as the other weapons with which Nature has provided us. At school and during student days we are directly forced to inhale poison: therefore no human being living to-day dare contemplate the possibility of living until the age of 140 years has been reached. But what can be done is this: to strive to improve our positions, both public and private, so that the coming generations can approach nearer that ideal.

CHAPTER III.

HOW TO GET MORE SUNLIGHT AND FRESH AIR IN OLD ENGLAND.

What is called Mist, Haze or Fog is more often than not mostly Coal Smoke—In the Dark Seasons the Air is better in the Houses than in the Open—A Vicious Circle—When the Air is too Clean, then Bonfires are made. A radical Plan of improving the Climate of England and the Health and Economics of the People.

I HAVE been told that formerly it was forbidden by law to let dense smoke escape from chimneys, at all events inside the London area. If this be true, then people had in those days more understanding of hygiene than now.

The atmosphere of modern England consists mainly of smoke. Smoke from the hundreds of big factory chimneys, from the thousands of railway locomotive engines, and from the millions of private fireplaces. Most of the dirty coal used does not burn at all, but escapes into the open, making the air more or less black, hiding partly the sun and spoiling the climate of England. The smoke from the Midlands is smelt on the South Coast, and the smoke from London is smelt in the mountains of Wales. Nowhere is real fresh air to be had with absolute certainty, except in a few places when a Western gale is blowing.

Optimistic people give the smoke such euphemistic names as "haze," "mist," or "fog." And if only it does not rain, you are always met with a cheerful, "Nice day, Sir!" even if you scarcely can catch a glimpse of the sun at noon in a seemingly cloudless sky. Whatever you may answer, you always think, "Yes, if only it would rain, so that the air could be a little cleansed!"

From October until June, or more than half the year, the air is really fresher and cleaner inside the dwellings than outside, because the fireplaces act as ventilators and the air sucked in from outside is filtered through all the small leaks and cracks. Open-air exercise with deep breathing is, under such conditions, merely a parody.

Every May the arrival of Spring is delayed at least a whole month through slackness, thoughtlessness, or bad habit. For all fires are lighted in the early morning, even if the sun be prepared to send its

heating rays down during the whole day. Consequently, the smoke prevents the sun from acting beneficially, and the firing is continued until June, or longer. A vicious circle has been thus created. If only the firing were stopped one single day, the sunbeams would be able to penetrate and heat the whole town, and nobody would then think about making fires again until the arrival of autumn.

Many people seem even to revel in smoke. Otherwise, I cannot explain why they do all they can to spoil the air. When occasionally we do have, in the suburbs or in the countryside, a comparatively clear atmosphere, you will always see how eager people are to make bonfires from all sorts of rubbish in their gardens, or in the parks.

The problem of the perfect mechanical stokers and smokeless stoves was solved twelve years ago in Scandinavia, and since then they have been sufficiently tested in practice, whilst the attention of England and other belligerent countries was concentrated on war purposes. The mechanical stokers hitherto known here are expensive to make and to work. They are not absolutely smokeless, and they are patented, which makes them still more expensive. That their use is still not common, is evident from the thick smoke emanating from the many big chimneys. Perfect, smokeless and air-circulating stoves for heating dwelling-rooms with common coal, anthracite, coke, wood or peat, have for many years been used in other countries. I was myself for ten years a civil engineer manufacturing such stoves in Copenhagen.

In March, 1918, I sent to some very prominent persons a scheme for improving the atmosphere of England, and at the same time saving coal. The main points were the following:—

The Government, or a big company, to put up a prize for the best mechanical stoker.

To buy the rights of it.

To pass, or get passed, an Act making the application of such stoker to each boiler in the whole realm compulsory.

To manufacture the stokers in the released munition plants.

To furnish and install them free of cost.

The outlays on prizes, manufacture, etc., to be refunded through the saving of coal bills (amounting to between 17% and 24%).

Further, to furnish and install in dwelling-houses, continuously-burning and ventilating stoves for all sorts of fuel, also to be repaid by the coal savings (which here, in many cases would amount to over 90%).

To forbid, or discourage, the use of more than one open fire (naturally, in the drawing-room or the smoking-room), in houses or flats of less than ten rooms.

Kitchen stoves not to be interfered with temporarily.

In towns and villages with electric or gas supply, stoves heated by such methods allowed *ad libitum*. Oil stoves, of course, also allowed all over the country.

The advantages to the State and general public would be :

A slower using up of the layers of coal in the country.

Liberation from the smoke plague which now has a deleterious effect upon the climate and thereby upon the health and spirits of the people.

A saving of artificial light.

Everything would be cleaner, linen and all white clothing last much longer, and soap be saved.

All that grows in gardens, fields and woods would improve because the power of the sun would not be absorbed by the layers and clouds of smoke.

When the cost of the new stokers and stoves had been repaid, all the savings on coal bills would remain in the pockets of the people.

The boilers would last longer. Much labour would be saved, not only for the boiler owners, but for ordinary people as well, by using stoves with regulating mechanism.

CHAPTER IV.

SUN AND AIR BATHS IN EVERY-DAY LIFE.

**“ Applying ” Air Internally and Externally—Sun and Air Baths—
In Winter as well as Summer—Air Baths at Home—Value of Skin
Respiration—Fallacies about Clothing—Sun and Air Baths in the
Garden—A Lesson from the Ancient Greeks.**

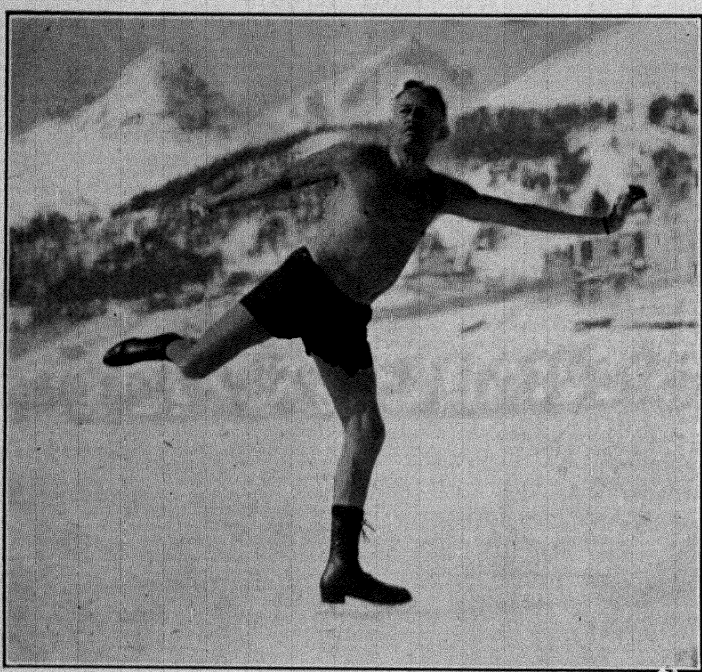
AS fresh air is the most important, nay, the vital factor in good health, bodily vigour and cheerful spirits, it will not be disputed, I think, that well-founded suggestions of method or system by which men may derive the greatest benefit from its use are of social value. I have already urged, and shall continue to urge, the necessity of *breathing* fresh air to maintain good health. I will now discuss a very efficacious means of promoting not only health and happiness, but physical vigour, by the *outward application* of fresh air. To breathe is to “apply” air internally; by “outward application” I mean the exposure of the whole body to the air, and that is what is termed an “air-bath.”

This article is superscribed “Sun and Air-baths,” because I wish to express my opinion that air-baths taken in the sunshine, or, at least, in daylight, are the best. Sunlight kills all manner of bacteria and disease germs; as soon as we permit the sun’s rays to penetrate our skin, our digestive powers are invigorated, our blood becomes healthier and darker, our disposition enlivened.

It need not be feared that I am going to give here a description of sun-baths situated in artificially arranged retreats, any more than I am going to supply information about expensive electric-light baths. Baths of this kind can be found in plenty of sanatoriums and clinical institutions especially provided for the treatment of certain diseases, available to a well-to-do public. A good many things must be complicated and costly before people will believe in their usefulness. We are well-supplied with books which describe these baths in a more or less popular manner, a sharp distinction being drawn between air, sun and light baths; some, moreover, divide air-baths into complete, semi and partial air-baths, and even these last are again sub-divided.

the main principles of division being that the air-bath is considered effective by reason of its cooling qualities, and the sun-bath for its heating qualities.

Those who have no reverence for these artificial establishments will see that, practically, they consist of one and the same kind of bath, varied in some small degree by circumstances. No matter what distinctions are made, it is obvious that if a thick cloud should



The Author skating at St. Moritz—"Outside Back Edge."

happen to pass in front of the sun whilst a sun-bath is being taken, it becomes in a moment simply an air-bath. If the bather feels somewhat cold and pulls on a garment, then he is having a semi-air-bath. This would change, however, by magic into a semi-sun-bath if the sun came out again before he had time to again divest himself of his clothing; but, having done this, he will be able to congratulate himself that he is again enjoying a regular sun-bath.

The majority of people have an idea that sun-baths can only be

taken during the warm summer months. But the summers of Northern Europe are often only of short duration, and are frequently very cold, so that the meaning of the word "summer" must be extended as much as possible. Even in winter we can provide ourselves with a little summer, when the sun is shining brightly and we know the right way to go to work. It grieves me when I think of how much "summer weather" and sunshine is wasted, which could be turned to good account by suffering mankind if they only knew how to divide and utilise the time to their advantage.

During the dull seasons of the year the working hours of those who are forced to pursue their vocations in pent-up rooms should be absolutely re-arranged, so that they could obtain a few hours' freedom in the brighter part of the day. It is a great mistake that sanatoriums devoted to natural sun-baths and atmospheric cures are only open during the four or five warm months of the year.

This gives the public quite an inverted idea of things. Winter sun-baths are really the most pleasant and comfortable because the heat is not oppressive, and the most useful because there is more need for them at that period of the year.

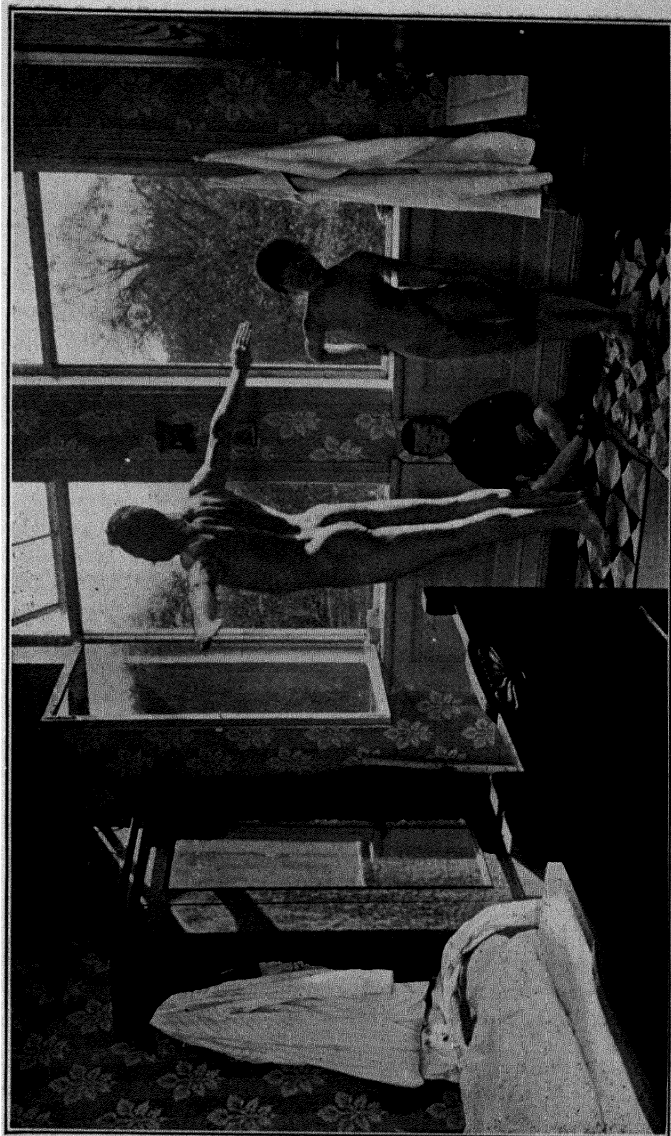
As, however, we cannot all afford to go to Sanatoria, or other places at which open air-baths would be possible, I want to induce people to take them at home, and the simplest and most convenient way is to walk naked in the bedroom. But it is essential—for the same reason that it is not especially refreshing to bathe in dish-water—that care be taken, when preparing for an air-bath, that the air in the room is quite fresh, otherwise all the impurities of the foul and stagnant atmosphere will be absorbed by the skin and lungs.

Only beginners should take their air-baths with closed windows, and only then on the understanding that the windows have been wide open for an hour before. If corporal exercise, especially that of skin massage—a simple rubbing of the whole body with the hands—be added to the exposure which constitutes the bath, the need will soon be felt of opening the windows wider and wider. Further, it will be found of more advantage, especially on a warm day, to open the door as well, so that sufficient air current is allowed to enter to prevent the bather from breaking into a perspiration, which, in this case, where the air-bath may not be followed up by a water-bath, might prove deleterious. It is because of this that the air should have as much free access to the room as possible during an air-bath, so that there can be no difference of temperature between the air inside and that outside. Allow the air to stream in quietly through a wide aperture. Wind does not constitute a draught, and can never prove injurious if skin-rubbing exercise is kept up while inhaling the

air into the lungs. It is not always a sign of a neglected skin or obstructed pores when strenuous corporal exercise fails to induce perspiration. Being naked, with a goodly current of cold or dry air playing on the body, the exhalation of the pores does not always take the form of sweat, but sometimes of a gaseous state. This kind of steam can be easily observed by standing close to a wall or screen in the bright sunshine on a cold day, and watching the outline of one's own figure, when little waves of shadow, like the dancing hot air above a flame, will be seen to rise upward quickly and continually. The skin is seen exhaling carbonic acid, steam and a number of various other poisonous matters. Everybody will understand that any check to this respiration of the skin, by thick apparel, prevents the free departure of poisonous gases and, therefore, is injurious to the health. It also proves that a skin that can breathe freely through its pores, and is accustomed to air-baths, sun-baths, and other kinds of gymnastics for the skin, has special faculties for cleansing and improving the blood, which healthy blood lays the foundation of a vigorous and fatigue-resisting organism. Science teaches us that the white blood corpuscles attack eagerly and devour greedily all invading disease germs.

It is dangerous for beginners, as it is for hardened air-bathers, to perspire during the air-bath, if they cannot afterwards indulge in a water-bath, or dry themselves by vigorous rubbing with a towel. To feel cold when dry is by no means so dangerous as when the body is wet.

Here I would point out that many people make the mistake of guarding against a cold by wrapping themselves in too many thick garments. If they are then obliged to move quickly, they soon break into a perspiration, and soon after, from the very same cause, begin to feel very cold, because the moisture on their undergarments, being an uncommonly good heat-conductor, takes the warmth from the body. How often one sees a perspiring cyclist sitting down in the shadow drinking ice-cold beer, or overheated ladies at a ball trying to cool themselves by eating ice-cream. Such methods are simply suicidal. On the other hand, people have accused me of gross shortsightedness because I took open-air baths in winter, which really are not at all dangerous, so distorted is the usual perception of the matter. In sunshine no one can feel the cold, even if it be freezing, if precaution be taken to protect one's self from the wind. I have stood for hours at Christmastime on the shore of the Vejle Fjord, using the paper notices affixed to a wooden fence as a screen, without suffering the slightest inconvenience. It is of no use to suggest that I am, possibly, so hardened to the cold that it cannot affect me; for I had to sit



The morning air-bath in the bedroom (Note the absence of curtains or blinds).

as its inspector, that same evening, in the dining-hall of a sanatorium, with the thermometer registering 48 degrees (Fahr.), and I shivered with cold. There the warming rays of the sun could not reach me, and therein lay the difference. Cold garments rob the body of warmth, even if they are not damp; while a naked body exposed to the still dry air loses only that warmth that can escape by its own volition, which is as much as to say that it loses very little even if the temperature be under zero. If we remember that the warm rays of the sun not only heat the surface of the skin, but penetrate through the skin, spreading a generous glow, because they have not had to pierce a thick layer of clothing, it will be understood that, in certain conditions, in winter we may be more sensible to cold when dressed than when naked.

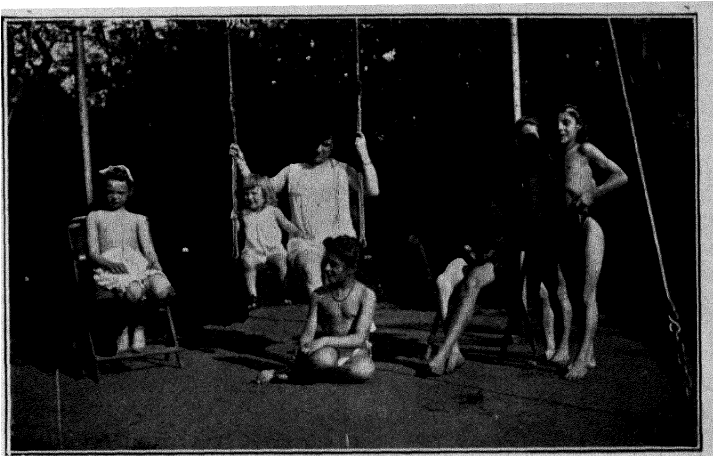
If one is forced to take one's sun and air-bath in the bedroom, the brightest room in the house should be chosen for sleeping in, instead of being reserved for a drawing-room; and, above all things, away with curtains and hangings. The sunlight will be little enough in all conscience. Air and sun-bathing, especially at first, induce a feeling of drowsiness, a proof that this form of exercise is good for those who suffer from insomnia. An air-bath in the bedroom should last at least five minutes, and even poor people can spare as little time as that. The air-bath, however, may be enjoyed several hours without danger.

An air-bath, being the mildest form of bath, is especially suitable for weak and nervous people, who are not strong enough to withstand water-baths—at least cold ones. When air-bathing is combined with a vigorous rubbing of the whole surface of the skin, it may very well take the place of the daily cold water-douche for cleansing and hardening purposes, although the latter is, without doubt, the more refreshing. The dirt that collects on the body during the twenty-four hours of the day can be got rid of quite as well by dry rubbing. This can be proved by the experiment of standing on a piece of glass and rubbing oneself vigorously the while, when a layer of minute particles will gradually appear on the surface of the glass.

Dwellers in the centres of large towns cannot obtain nearly as much fresh air and sun in their rooms as could be wished. It would be better to quit narrow streets, best of all to move out of town; distance is of not much account, considering the present excellent means of transit. The sun and air-baths which are to be found in most towns of Central Europe consist generally of a small portion of some old villa-garden, always surrounded by a high wooden hoarding.

If the would-be bather has a home with a flat roof, he can easily

erect a sun-bath by making screens of canvas, or similar material; or, perhaps, having a somewhat large garden at his disposal, he can set about shutting off a small portion for the purpose. If devoted to gardening, he can construct portable screens, and could then work, constantly protected by them, without clothes; but, of course, the space enclosed by the screens must be at least 9 feet square and some 5 or 6 feet in height, large enough to admit the sun's rays. Should he wish to take a sun-bath when the sun is pretty low in the heavens, as in the morning or the evening, or in winter, the enclosed space must of necessity be much larger. A light, portable bathroom can be constructed of canvas and light wooden uprights provided with metal



Children in a garden sunbath.

points. To prevent collapse before a high wind, the uprights can be stayed (as is the case with the ordinary tents) by means of a thin rope made fast to small wooden pegs. Such screens would, happily, not be required in the country. Here a pair of shorts, a straw hat and sandals (or wooden sabots) are all that is necessary when working in the garden, field and forest. How picturesque and healthy country people would look if they would only dress like this! The hardest work in the blazing sunlight would be sport, and the peasant would be spared the needless expense of clothes. Yet at present the peasants, even in harvest time, wear thick woollen jerkins and pants, over which is drawn a rough linen shirt, trousers and waistcoat, with thick woollen socks on their feet, and heavy leathern boots. Because of this they

have to suffer heavily from heat and perspiration, and every now and then they apply themselves to an earthen jug, drinking a great quantity of beer, which only seems to aggravate the evil. When I have come across a lot of soldiers, recruited from the country, bathing, I have often observed how ugly and neglected their skin looks. There may be many muscular specimens among them of almost faultless physique, with faces healthy-looking and sunburnt, but in every case the skins of these men had an unhealthy, light-grey colour; and even when this goose-flesh is washed clean in the bath, it still looks dirty. The skin of a thorough-paced town-dweller is doubtless just as bad, but perhaps there is more excuse for him. Country people are in the enviable position of being in direct touch with fresh air, and may have the finest sun-baths freely in the midst of natural surroundings. Unfortunately, they prize these conveniences about as much as a baker's child prizes good bread.

What beautiful skins the ancient Greeks possessed, acquired by constant practice, *i.e.*, body exercises, which they performed without clothes in the open air, under a blazing sun! The colour of their skins was a golden brown, like bronze, and as soft as velvet, but at the same time quite inured to all climatic conditions. That the skin is so inured does not mean that it is hard, but rather that it possesses the facility of transmitting the warmth and coolness, dryness and moisture, and the different chemical and electric influences, so that these, instead of harming or weakening the body, invigorate and preserve its vitality. While the skin of the palms of the hands and soles of the feet becomes hard and horny through constant use, the skin of the rest of the body has this entirely opposite peculiarity, that the more it is rubbed and exposed to the sun and the wind the softer it becomes. We who live in northern cities can make our skin as healthy and fine as the old Greeks, if we only do the same as they did.

Athletes might also make more use of the sun and air-bath process during their exercises than they have done hitherto. The short knee breeches and light shoes worn by athletes is the healthiest mode of dressing. With many useless things does the tourist hamper himself when setting out on walking tours and mountaineering expeditions. How many delightful sun-baths a yachtsman could enjoy if he would only lay his thick jersey aside! Even in winter a sportsman requires no more warmth than that supplied by the sun. I have often spent half-a-day running on skis in the mountains with only my boots and socks on, the thermometer registering many degrees below zero. I felt the cold so little, that I was convinced that every healthy and active man could have done the same. On the day when the skating

photographs of me were taken, it was very windy, so that the people who skated fully dressed felt cold. But I felt comfortably warm, because my body absorbed the sun-rays.

If the skin has been hardened by rubbing exercises during the daily air-bath in the bedroom, there is no need to avoid exposing it, when opportunity offers, in the open sun. But the sun "medicine" needs to be taken in small doses at first, and increased later. Skin that is not accustomed to such exposure is liable to redness, and may become very painful and start peeling; it is possible that one may contract a little fever; but even in such an unpleasant event, the new skin will be of fine colour and healthier than the old. In order to prove whether the acquirement of sudden "sun burning" was attended with any danger, I allowed myself to be literally roasted for a whole hour under the powerful electric apparatus of the Finsen light-rays. The report certified that my skin was burnt, and that little blisters had formed all over my body; my skin pricked me for a few days, and then peeled off in tiny pieces; but I did not experience the slightest feeling of illness. Beginners, who have never tried real sun-bathing, must of course gradually accustom themselves, starting with about ten minutes' exposure and then daily increase the time. And they must never forget to protect the eyes and the back of the neck with a hat or a handkerchief, eventually use dark eyeglasses too. An air-bath in the rain is very refreshing in warm weather; but when it is misty, one must be very careful.

CHAPTER V.

MORE ABOUT SUN-BATHING.

Wrong Ideas about what constitutes a Sun Bath—The less clothes on the less "Sunstroke" need be feared—To let a wet bathing costume dry upon the body is dangerous—Walks and Games in the Sunshine healthier than lying down—The few real sunny days should be made full use of—A Warning to Athletes in Training.

THE English Press, and consequently the public, too, have very funny ideas about sun-bathing. Almost every day in the sunny season the illustrated daily papers publish photographs of people in full dress resting upon the seats in the parks, and of lady swimmers lying on the edge of the bathing pool or upon the seashore, their whole body covered by a swimming costume. The text below these pictures will invariably tell you that the photographed are all of them enjoying a sun-bath!

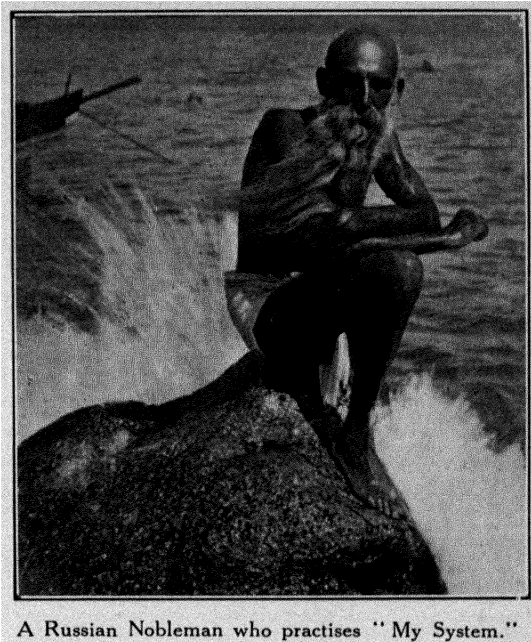
But if the sunbeams are not falling upon the naked skin of the body, then it is no sun-bath. And even if it were, it would be a very unhealthy form of sun-bathing. The first category, with all their layers of clothing, will, after a little while, perspire freely and get their undergarments drenched. Or they will become hectic, with too high body temperature and accelerated pulse. They may even fall victims to "sunstroke," because the body cannot get rid of the superfluous heat. Persons too heavily clad and with a poor action of the skin, can even in the shade get "sunstroke," in very hot weather.

On the other hand, if the pores of the skin work properly, preferably if naked, they will act as safety valves, and then the strongest sun and heat will cause no "sunstroke." The other category, the swimmers resting after the dip, will soon begin to shiver, owing to the strong evaporation from the humid garments, and will probably catch cold and get rheumatism or still worse afflictions. Therefore, if you will take sun-baths, you must be as naked as the circumstances will permit.

It is fairly easy to get real sun-baths on the seashore if only you avoid the crowded places. And then we have the whole country-side. You may take long walks dressed like a cross-country runner, and when out of sight of others, you simply take off your jersey. Your brown skin will from a distance look like an undervest, so there is plenty of time for re-dressing when you see somebody approaching.

Moving about in such ways is more interesting and also healthier than to lie prone and be cooked in one's own perspiration upon a badly-smelling mattress inside the narrow space between some partition walls.

When walking or running in the open on a warm day, the ripples of a fresh wind will be felt as a pleasant massage of the skin.



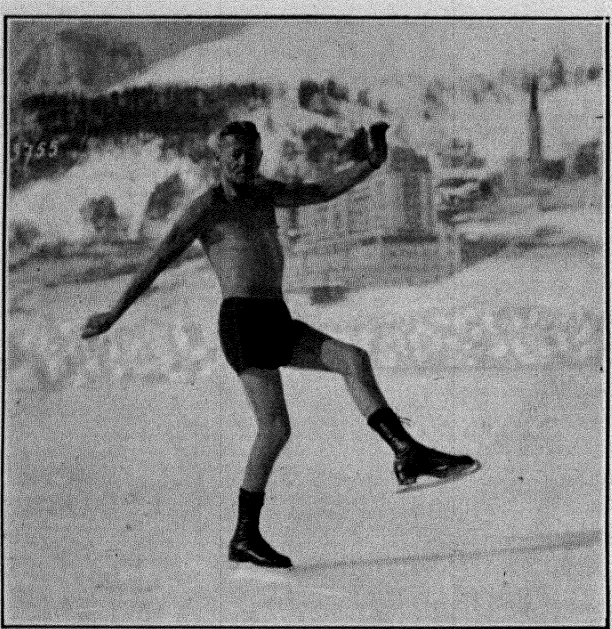
A Russian Nobleman who practises "My System."

This Russian nobleman—Victor von Gerkan—was before the revolution a censor at Moscow, where he formerly arranged my lecture-demonstrations. In October, 1926, he wrote:— "That I am still alive is due exclusively to your System. In prison I have not only myself Mullerised, but also instructed hundreds of other prisoners in 'My System.' Will you not lecture again in Russia? Your System is here recommended by Government Institutions through posters in the streets of the towns."

England is a comparatively sunless country. Therefore, the scarce opportunities should be used as fully as possible. We may get a nice clear and sunny day in the early summer and then imagine that many such days will follow. Alas, the next day it will probably

rain, and the rain may continue for a fortnight! So be quick and use the sun while you have got it!

If during summer you have acquired a pretty tanned skin all over, it will almost fade before next season, though not quite. You will keep a light shade of tanning, and when you again start sun-bathing, you will find that now you can stand practically any amount of sunshine without the ill-effects so characteristic for beginners. The cause is that your skin has formed its own means of protection by creating a

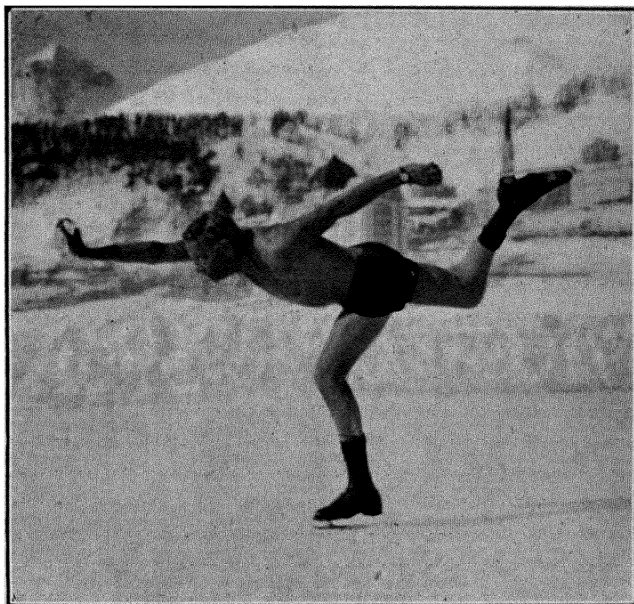


The Author skating at St. Moritz—"Inside Back Edge."

sort of pigment. We find similar pigments as an inherited gift in most other human races, from the light yellow of the Japanese to the ebony black of the real Negro. It is a curious fact, that not all white men can obtain the shining golden-brown colour. A few get a dirty dark-brown, some others a yellowish colour, and some—in most cases the red-haired—get only freckles.

I will now take the opportunity of giving the athletes a few hints. It does look nice for a man to be tanned, and if he has got it on the

largest part of body and limbs, he will have fortified his health and increased his ability of withstanding acute attacks of several diseases. But he must not believe that he can increase his special athletic ability by such means. On the contrary, after a protracted stay in the sun, he will feel very tired and sleepy. Therefore, during the later part of a serious training, he should not be exposed to the sunshine more than necessary for his outdoor work. And on the day of the com-



“ Straight Line Forward.”

petition, he must carefully keep in the shade, even if he be well “pigmented” and used to long sun-baths.

And if he will have to take part in more events, he should on no account walk round in the open, but keep quiet in a place where he is protected not only against cold draughts, but also against the rays of the sun.

CHAPTER VI.

THE "HAT OF AIR" AND AIRY UNDERWEAR.

The Absurdity of the Hat—Its Deleterious Effect upon the Hair—Concerning Underclothing—The "Wool next the Skin" Fallacy—The Advantages of Linen and Cotton Mesh—Wear as few Clothes as possible.

WE see mankind, young and old, male and female, carefully covering the head with various materials, the head being that part of the body already naturally protected by a thick, strong hair-growth. . Even workmen, rolling up their sleeves to keep their almost hairless arms cool, never think of removing the dirty caps from their heads. During recent years the "hatless brigade" has not been unknown at seaside and other resorts where people spend their holidays. Very wisely, they thus give their heads the benefit of the strengthening sun and air; but very few consistently carry their common sense to the towns. Occasionally in the London streets one may meet a hatless man, but as a rule all submit to the decree of fashion in spite of the evidence of their senses that the absence of headgear is beneficial.

Let us seek to examine carefully the reason why we wear headgear, and if there are really cases where such a thing as a hat is absolutely necessary.

The first reason usually advanced is that a hat is necessary for keeping the head warm. Healthy people, however, with good heads of hair, do not need more warmth than the hair already gives them. The attempt to increase the natural warmth imparted by the hair is only a custom, and a bad custom at that, often causing headaches. If we would only accustom ourselves to go about without a head-covering, no matter the weather, we should have no fear of either rheumatism or pains in the head, even if we were obliged to sit in a "bad draught." We should soon, however, regard the idea of a "draught" in the light of superstitious fancy.

Only the ears need protection when the weather is severely cold. Besides, it is merely a figure of speech to speak of the warmth provided by a hat. As a fact, it does nothing of the kind. The wearing of

a hat checks the natural warmth of the head, hinders the proper evaporation of the injurious perspiration, and causes baldness.

An entirely opposite reason is that it is a protection from heat. It is said that the heat of the sun's rays beating upon the head is harmful; this is merely fancy. In the tropics Europeans are compelled to wear hats, yet the bare-headed negro goes about unharmed by the fierce equatorial sun. We ought, therefore, to be able to accustom ourselves to bear the milder heat of our northern climate. I know a certain professor who is absolutely bald; nevertheless, he always returns from his summer holidays with his skull as brown as a chestnut. And I have known other bald gentlemen who have left their heads exposed to the sun, wind and rain develop quite a little crop of hair. (Massage is also good for this.) Exposure of the bald scalp to the ultra-violet rays of a powerful electric lamp has been known to encourage an entirely fresh growth of hair, though, of course, not where the hair roots themselves are dead. Our summers are so breezy that it is difficult to keep a loose-fitting hat on the head. To remedy this it is necessary to press the hat, especially if it be a large, light Panama, tightly over the temples. This pressure creates a heat that is much more unpleasant than that caused by the sun shining on the bare head. Even a light-fitting hat pressing on the arteries and veins, checks the circulation of the blood and prevents the proper nourishment of these organs, which in their turn feed the hair.

The hat is also worn as a protection against rain. Well, rain-water is certainly not so harmful to the hair as the water which, under the name of sweat, collects and stagnates under our thick and heavy head-gear. I venture to say, also, that rain-water is better for the hair and the skin of the head than several of the costly and fanciful hair-washes. Besides, rain-water does not remove so much of the natural grease from the hair as salt-water. Greasy hair is a sign of health, yet it is remarkable how many people are constantly writing to the health columns of the papers inquiring as to the best means of removing greasy hair, which discommodes them so much. Yes, even good health incommodes some people. Besides, an umbrella is used as a protection from rain, and this, alone, should make the wearing of a hat superfluous, but it is astounding how many people take an umbrella with them to protect the hat from rain. As for those who would accustom themselves to a "Hat of Air"—that is to say, to wear no artificial covering at all—I can recommend them to begin in rainy weather, and to hide their naked heads and sensitive consciousness under the discreet roof of their umbrellas. On encountering an acquaintance, the umbrella might be lowered until it rested on the

head, so that no one could see that it lacked the customary covering.

As a matter of fact, headgear is only compulsory when it is part of a prescribed uniform, and in only a few cases is it of real necessity, for instance, as a fire-helmet. I have said above that loss of hair and baldness is easily brought about if the head is denied the use of light and air. Even were a high price offered, no better hot-house for the breeding and rearing of microbes could be found than that of a thick felt hat or a greasy cap. On the other hand, let the microbes be exposed to the rays of the sun and there would soon be an end of them. But microbes are not the only cause of falling hair, which often follows certain sicknesses; in the majority of cases, however, baldness is attributable to the habit of covering the head, as has been proved by recent scientific investigations.

I myself have had many years' experience in going about without a hat. In Copenhagen and in the Danish provincial towns it is looked upon as little less than an offence to go hatless, or barefooted, only with sandals on; and it needs a deal of courage to face a crowded street like this.

At any kind of sporting exercise conducive to perspiration, it is very objectionable to cover the head. The thick fur or woollen caps to the use of which so many skaters and ski-runners seem devoted are simply terrible. When I joined a rowing club in 1883, it was the usual custom to row in a cap. Each club had its special colours worked on this "rowing cap." But all this is now abandoned. How far I am responsible for this I do not know, but in any case, I myself never wore a cap when rowing, and would not allow any member of my boat's crew to do so either.

When I was inspector to the Vejle fjord Sanatorium, I never wore any head covering (many of those who were undergoing the cure also went about bareheaded) except once a month, when I visited the town of Vejle to pay accounts. I generally took the steamer to the town, which lay some thirteen miles distant. One morning, however, I could not find my hat; the boat had sounded its whistle, so I was forced to make the journey bareheaded.

That was the only attempt I ever made to introduce this good custom in the town of Vejle. After I had answered, for the fortieth time, the question whether my hat had been blown into the water, I was quite weary. In the place where I am living now I never wear anything on my head; but when I have to visit London, I put on a hat or a cap in order not to advertise myself as a crank.

Of late years I have frequently seen cyclists without a cap, and it is quite usual, especially in summer, to see people going about with their hats in their hands. That is a refreshing sight,

No fear need be entertained of cold in the head if proper precaution be taken, by which I mean the daily bath, air or water-bath, paying thorough attention to the skin, not only of the face, hands and feet, but of the whole body. It is common knowledge that the largest sweat-pores are found on the head and under the soles of the feet. The pores of a neglected skin are either partially or completely blocked, and so the perspiration seeks the easiest way out, through the head or through the soles of the feet. Naturally, this exudation is concentrated and highly poisonous. If the perspiration from the head encounters this formidable obstruction in the shape of a thick head



The Author leading a class at his exercises in a Sun and Air Bath.

covering, the poison cannot evaporate, and will, therefore, gradually destroy the hair. Should the sweat choose the other way, then it is a case of perspiring feet. People who suffer from perspiring feet frequently possess a fine head of hair (but it does not follow that people with good hair always suffer from bad feet). There is a good deal of truth in the old folk-saying that it is dangerous to check the perspiration of the feet. The poisonous exudation, not being able to escape, would be again absorbed by the body. Washing of the feet alone will not help in the matter; it will, doubtless, take away a part of the unpleasant smell, but the exudation will be more copious, because bathing serves to open the pores. No, the only proved remedy is to take care that all the pores over the whole surface of the

body are kept well open, so that the perspiration has a free and natural egress everywhere.

Every worthy citizen knows, or thinks that he knows, that it is simply suicidal to go without a woollen undervest. This is, in fact, a gospel in which almost everybody believes. My experience is that the "wool-next-the-skin" doctrine is entirely fallacious. Nearly all the present inhabitants of North and Central Europe wear a more or less thick and closely-woven woollen undervest, and over this a linen shirt, also of thick texture. This is very objectionable. Two layers of non-porous underclothing, the upper of which fits closely to the under, hinder the respiration of the skin to a very great extent; and the skin, moreover, becomes enervated if the bottom layer is of wool. In cold weather it is much better to wear a great coat over the usual clothing than a woollen undervest under the shirt. Entering a warm room, the great coat can be immediately removed, but the woollen vest must remain, be the heat ever so unbearable.

Both in Pastor Kneipp's and in Dr. Lahmann's writings the falsity of the "wool-next-the-skin" custom was proved. Dr. Lahmann says of wool clothing that it seems very pleasant at first, especially in winter, for the feeling of warmth and good health is enhanced. He found, however, that by degrees the skin got overheated, and this made the wearer susceptible to colds. Dr. Henrik Berg, of Stockholm, the author of a well-known text-book of health, calls the prevailing passion for wool a horrible humbug which has done as much harm to people as their superstitious trust in medicaments. According to his experience, the victims of certain wool-wearing faddists become, within the course of about three years, nervously weak, and have a horror of cold water, are uncommonly susceptible to changes of temperature, and finally resolve into rheumatic subjects.

The following direct question has been put to me: "Why should a woollen undervest, which absorbs the perspiration, and which is repeatedly changed and aired, be more injurious than a linen shirt, which only absorbs the perspiration very slowly and does not easily part with it again, but becomes stiff and sticky, if it cannot be immediately changed?"

My reply is that the discussion does not usually treat of the comparison between a linen and a woollen shirt, but of the comparison between wearing a linen shirt only and wearing a linen shirt together with a woollen vest; and, as said before, two thicknesses of underclothing are too much.

It is quite true that a woollen undervest easily absorbs the sweat without becoming cold or wet; that, however, is just where the fault lies: a woollen vest causes the wearer to sweat too easily. While

preparing your outfit for some strenuous sport, you must bear in mind that you will perspire a good deal. After the exercise, you take a bath and put on other clothes. On the other hand, during an ordinary day's work in ordinary complete clothing, it is very annoying to sweat. This is easily avoided by wearing light and porous clothing. In fact, less danger of catching cold is incurred when the coat or waistcoat are opened, thereby allowing a cool draught of air to make its way under the shirt, at the same time preventing the exudations of the skin from condensation into sweat, than when a sweat-saturated, damp, woollen undervest is worn on the body over which the other clothes are carefully and tightly buttoned.

Finally, I may say that, according to my own experience, a stratum of linen or cotton openwork is best suited for underclothing. This is warm in winter, partly because there is plenty of room for this warmer air, which is the best means of obtaining warmth. In summer, on the other hand, it is cooler and more pleasant than closely-woven linen, because the exudations evaporate more easily through the porous material, so that no drops of sweat can accumulate on the skin.

My ideal is to get accustomed to the wear of as few clothes as possible. I am horrified when I contemplate the number of layers under which "over-civilised" man has concealed himself, and the number of which will certainly increase, unless a stop be put to it in time. If under all these layers wool is worn, the skin becomes more pampered and delicate than when the underclothing consists of linen-mesh or cotton-mesh. Only in a very damp and cold climate should I use a shirt of flannel, or of a mixture of flannel and cotton; but, of course, no undervest at all.

CHAPTER VII.

SUN, AIR, AND AMPLE ROOM FOR THE FEET.

Why our Feet are Cold—The Proper Footwear—The Many Advantages of Sandals—Boots Cripple the Feet—How to keep the Feet Warm—The Injury caused by the common Socks and Stockings.

THE foot is the part of the body that is placed farthest from the centre of the blood-circulation. It is not surrounded by any warming layer of fat; indoors it encounters the lowest and, therefore, the coldest air-stratum, and, out of doors, it comes in contact with the frozen or damp earth or cold flag-stones. In winter, by snow and ice it is deprived of much more warmth, comparatively speaking, than the air draws from the other parts of the body. But Nature has so ordained that the feet in the ordinary, repeated movement of walking, always carrying a heavy weight, must do more work than any other part of the body. They are so constructed that they, by means of this fundamental exercise, would keep every limb and every joint in a lively state of efficiency, creating and maintaining the necessary warmth if the modern, unnatural foot-gear had never been introduced.

Many people do not trust to their feet now in order to get about. The foot has become a lifeless, jointless lump of flesh, only serviceable to fill out and to keep the shape of that new specimen of modern handiwork, the stocking-lined boot, and might be just as well made of plaster of Paris; much better so, indeed, for then it would be without feeling, a condition often devoutly desired by the possessors of these dead-alive enormities.

Sandals are undoubtedly the best form of footwear, as I have proved by personal experience during many years. Let us look closely into the advantages of wearing them. There is, firstly, the hygienic side of the question. By their use the feet harden, and the wearer, by degrees, becomes less susceptible to all those affections that arise from cold, perspiring or tender feet. No wonder, then, that I was told in one of the chief places where they are sold that these sandals were purchased largely by physicians for the use of their

families. The few voices that have been raised against the use of sandals are heard mainly from people who have never made a trial of wearing them; somewhat like the blind man expressing his opinions on colour. Naturally it is not wise when wearing sandals for the first time to walk through the snow or when the evening dew is rising, and their inauguration should be reserved for the dry weather or a sunny summer day.

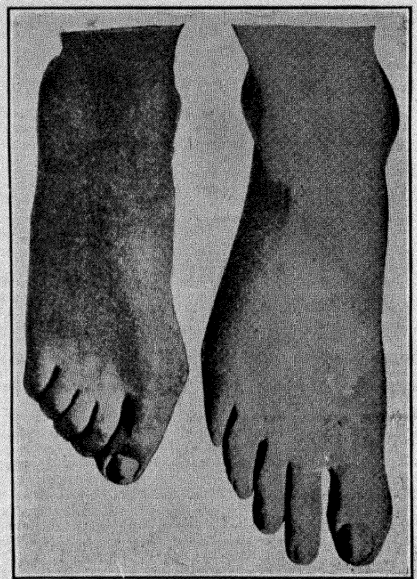
If anyone contracts a cold, he should rather blame his own thoughtlessness—not the sandals. It would be just as illogical to prohibit the use of stairs or windows because, now and then, a little child happens to meet its death by falling down or out of either. The feet will become more and more hardened if sandals are worn constantly at home and as much as possible out-doors; and sore toes, callosities, corns and such-like inconveniences, which hinder quick and constant walking, will disappear by degrees.

To guard against misunderstanding, I would like to mention that it would not, of course, occur to me to appear at funerals or in society with blackened sandals. When, however, the feet and toes have regained their natural shape, they will strongly resist being squeezed once more into the narrow, modern torture-chambers which we call boots. The shoemaker must be gently but firmly persuaded to make proper footwear, not on the ordinary last, but according to the natural shape of our own feet—that is, not the awkward and tight monstrosity that is the fashion.

While discussing these hygienic advantages, I must not neglect to mention one especial point, that the use of sandals will correct a malformation of the foot—I mean flat-footedness. This ugly infirmity is traceable to many different causes: it may arise, as may varicose veins, from the fact that the sufferer has to stand all day in one position, as must be done, for example, in many a factory and office.

This complaint is not developed by the rational use of our extremities, and never occurs in one who energetically exercises them in a proper manner. Running on the soles of the feet, as the negroes do, is another cause of flat-footedness; and finally, it can be inherited, by which I mean the inherited ignorance of the proper care and exercise of the foot. In most cases the harm is done when we are children, the natural consequence of squeezing the instep, highly arched by Nature, into straight and narrow footwear. The instep loses thereby the power of keeping its form under the weight of the body; the same effect is brought about by the use of the corset in the bust and waist of a woman, which are unable to maintain their usual shape without the help of this artificial support. By the way, several parents brought their children to me in the belief that they were

flat-footed, and asked me for exercises to cure it. In not a few cases I found by examination that they were not flat-footed at all. In "My System," in the chapter on "Chronic Ailments and Bodily Defects," I have described a test by which it can be easily ascertained if the feet are "flat" or not. And I also give there the best exercises to cure this defect. As sandals indicate, in a physical respect, an important advance in culture, so will the level of our culture be considerably raised in the æsthetic sense when their use is common. At present it so happens that only an exceptionally small number of people, not even every artist or doctor of medicine, knows how a really normal and naturally developed, beautiful and harmoniously formed foot should look. The ideal of beauty conceived by the majority is that of the Parisian lady of fashion—a foot much too small with an unnaturally high arch, squeezed into patent leather shoes, tapering to a point like a needle, and with high heels. But take away this outward gear, together with the silk stockings, and we shall see a crippled foot, crooked, bent toes all crushed and sore, red callosities and yellow corns. Can we then declare that this deformity is an ideal of beauty?



A mis-shapen foot and a normal foot.

When sandals are first worn it is imperative that every care of the feet be taken, so that they acquire by degrees their genuine, true and natural beauty; as can be done by the waist only when corsets are discarded. A new, hitherto unknown ethical feeling will then become general: to do away with the impertinence of crippling by force certain parts of our bodies under pretence of bettering the master work of God by the help of the boot-maker.

Here are a few small, practical hints. When first wearing sandals, rub vaseline or something similar into the foot; this will prevent any soreness likely to arise from the chafing of the straps. After a week

the skin of the feet will have become so hardened that even walking over loose and sharp gravel will cause no discomfort.

As often as opportunity offers—when walking on a warm and sunny country road or on soft sand—the sandals should be carried in the hand. This saves wear and tear to the sandals, besides hardening and thickening the soles of the feet. There is no need to be apprehensive of tetanus bacilli or of such-like cattle; for these things flourish better in the fancy of learned men than in the light and sunshine. The soles of the feet will soon become so horny that stray pieces of glass or small needles will do no harm.

Country boys, you will recollect, have gone barefoot for ages over stony paths and fields of stubble and thistle without suffering any hurt worthy of the name. And how much better to go protected by the thick sole of the sandal!

There is much ignorance and fallacy abroad concerning such a matter as this. Some time ago, for instance, I read in a newspaper much in circulation among the Danes the following advice to a subscriber who had enquired as to the best means of protecting the feet from cold: "Wear two pairs of stockings." This was about as wrong and silly an answer as could possibly have been given. (Taking this advice, why not wear three or more pairs of stockings?) Tight stockings, narrow footwear, allowing insufficient freedom to the foot, are the commonest causes of cold feet. If the stockings be dirty and saturated with perspiration, or the boots be damp, the evil is naturally aggravated. What would be the result, then, if two pairs of stockings were worn? Why, the already tight boots would give still less room to the toes, which are squeezed together, and kept absolutely rigid. Further, the skin of the feet, rendered delicate by all this coddling and double wrapping, loses the faculty of engendering and maintaining warmth, because the highly necessary respiration of the pores is checked, causing complete exhaustion. All building experts know that double outer walls with an air space between keep the interior warmer than solid and massive ones, the simple reason being that air is a very slow heat conductor.

People who walk a great deal rarely suffer from cold feet, which is an inconvenience often common to those who are forced to remain sitting either at business or at home. In a room the coldest stratum of air sinks to the floor, and it is, therefore, advisable that the feet be kept in a raised position. If circumstances do not permit of this, there is no better or pleasanter method of keeping the feet warm than by placing them, naked or sandaled, in a little foot-sack of fur. By way of experiment, I have tried sitting still in a cold room until my feet were thoroughly chilled, though I was wearing thick stockings

and heavy, laced boots. I tried the effect of slippers, and they were of no avail, but when I drew off my boots and stockings and put my feet into an open foot-sack, where they had room for movement and the skin could freely evaporate, I found my feet regaining their natural warmth after the lapse of a few minutes.

Now as to the sort of sandal to wear. I have formerly tried various patterns, but they were not durable, and the strappings were far from suitable. They do not even deserve the name of sandals, for the wake that covers the toes prevents these from getting any sunshine and air. Sand and gravel accumulates under this leather covering, heating and chafing the flesh, whereas with the sandal that leaves the toes free a slight tap of the foot suffices to dislodge any gravel or small stones.

Several years ago, quite by chance, I came across an illustrated article in a Danish paper showing some excellent examples of sandals. I gave orders to my shoemaker to make me a pair after one of the designs, and found the method of strapping to be both practical and effective. As, however, I wanted a sandal suitable for the naked foot, I hit upon the improvement of having a strap between the big and second toes—after the style of antique statues. This permits a greater control over the foot which otherwise in walking always has a tendency to slip sideways. At the same time a space is formed between the above-named toes, and this is the first stage in the cultivation of the classically formed foot. Before the War, sandals after my pattern were manufactured and sold here in England. But of late I have in vain tried to get them made here. As sometimes



The "Everyday"
Sandal.

I am asked by correspondents where to get them from, I herewith give the address of a maker who, owing to the favourable exchange of money, can deliver them cheaply: Erich Schuster, 4, Schillerstrasse, Mähr-Schönberg, Czecho-Slovakia.

Particularly unfit are the tight-fitting, machine-woven socks and stockings, so much in use at present, for they seriously check skin-respiration and blood circulation. The evil is aggravated in the case of long stockings pulled tightly over the feet, as is the custom with many ladies, and fastened with a strong elastic band that causes a constant stoppage of the circulation. The india-rubber or leather garters which are fastened either just below or above the knee are very harmful. People who wear them consequently suffer from varicose veins and incurable running sores on the legs. Further, I would have

it borne in mind that the socks or stockings themselves are very often the cause of lasting disfigurement to the feet. It is not of much use to give up tight and pointed footwear if the wearing of ordinary tight socks, those that are made to suit either foot, ending in the middle in a funnel-shaped tip, is persisted in.

This form of sock presses the toes together in an oblique position, so that they cannot spread in a natural way when walking, and do not, therefore, fill out the broad, comfortable boots that, we will suppose, have been just purchased. Neither can they perform the important functions of the muscles called into action by the natural gait. The toes and instep are originally intended to bend and stretch with each step. Every time the foot is set to earth and the heel has done its work, the toes and ball of the foot should simultaneously grip, maintain and then repulse. The big toe is of especial need here, but, unfortunately, this toe is generally out of its place, being bent inwards or squeezed either over or under the other toes. In normal conditions the great toe ought to be divided from the others by a perceptible gap, and pointed outwards. Besides this, it is generally depressed because of its length, hence that painful evil known as "ingrowing toe-nail."

The foot and toes are only free to act naturally when naked or when protected by a pliant and correctly shaped sandal. In a roomy boot or shoe this can, at least in some measure, be achieved; not only will the foot be kept warm, but the bones, muscles, tendons and skin invigorated. I would recommend everybody wearing ordinary socks or stockings to get in the habit of, every time they have been put on, to pull them a bit backwards (*i.e.* off) again by taking hold of the toe end. In this way there would be created a small "free room" for the toes. But much better would, of course, be the use of stockings and socks so shaped that, in any case, they would not be seriously harmful. Instead of a point in the centre of the toe end, the stocking should be made with a slanting finish to the fore part, so that the point would lie on the inner side where the great toe would come.

On the Continent machine-woven socks of this shape were introduced by the trade some time ago, and it is to be hoped that this reform won't take so many years to come into general use. But I am afraid that it will need a determined revolution before we shall be able to have our girls taught in the schools what the natural shape



The "Everyday" Sandal in Wearing.

of the foot ought to be and, consequently, how to knit their stockings. How far, however, does the knowledge of our schoolmistresses reach in this respect? How long must we confess to the truth of Professor Starcke's accusation: "Nature has provided our great toes with seven strong muscles, all of which have been condemned to uselessness and lameness by the careful hands of knitting mothers?"

The knitting of such normal stockings will certainly not necessitate more labour, and it will render them more durable, because the great toe will no longer show the inclination to bore its way free, as it does in the case of the common, unnaturally formed wrappings.

There are also socks with a special place provided for the big toe, resembling mittens, some even with a stall for each toe, like gloves. (These were, before the War, to be bought in most shops where they sell Dr. Jaeger's sanitary underclothing.) Such socks are intended to give a well-rounded form to each toe, but they are exceptionally cold and, of course, expensive. As they require more time to put on, I don't think they will become very popular. They are, however, of temporary use to those who wish to keep their feet in good condition, so that later they can accustom themselves to the wearing of sandals.

But I must warn my readers that no good can be expected to result if people suddenly determine to wear on their neglected toes and tender skin the ordinary tight footwear without stockings. The inside of the boots would also in the long run become rather soiled, and would not be easy to clean. It is true that in the first edition of this book I did advise going with the feet naked in the boots, but I gave it up for the aforementioned reason. I take this opportunity of calling attention to that which is required in a rational boot. Many people have an idea that the boot is everything it should be if, instead of being pointed, it is broad and square.

Such boots have, on the front outer side, a large three-cornered empty and superfluous space, while the great toe is still pressed inwards, and the instep and little toe have to undergo a certain pressure. See for yourself the right outline for the shape of the sole by placing the naked foot, with the whole weight of the body resting upon it, upon a piece of paper, stretching the toes so that they spread out fanwise, and then with a pencil held perpendicularly carefully trace round the foot, and a perfect pattern for the sandal is obtained. But should it be intended to make this the pattern for the sole of a boot or shoe, it should be made a trifle longer, so that there is a small space in front of the toes to prevent them from rubbing against the leather.

If the boot be now buttoned or laced up, the foot will be able

neither to shuffle nor slide about. But so much space must be provided that each toe can move freely; the upper must not join the outer edge of the sole obliquely or flat, but a piece must rise perpendicularly, enough to provide that the highest point is directly over the big toe—not over the middle toe, as is customary with the usual and bad system of shoe-making.

It is to be understood that the heel must be low and broad. The hollow must be as small as possible, and must always be placed on the inner side. The overstrung artificial support of the hollow slackens the tendons even of a sound foot, helping to cause flat-footedness.

I would recommend ladies especially to have their footwear made after the above description; then it would be seen by the outer form of the boot that the foot within was well-formed and pretty. It is enough to make me feel ill when I observe a modern lady's boot and picture what the foot and toes inside must look like.

The very best means of getting a well-shaped foot is to wear sandals throughout the summer, if not at business then during the hours of freedom, on Sundays, and through the summer holidays. The skin, too, will become hardened, and the feeling of embarrassment that is natural when anybody goes about for the first time with naked feet will gradually wear away.

The wearer of sandals will also soon have acquired the habit of washing his feet at least once a day, not counting the morning bath. It is self-evident that thorough cleanliness and careful attention as regards the feet are necessary when putting them before the eyes of each and all. The nails must be trimmed and the feet "pedicured" as the hands are "manicured."

On long marches or walks in summer, sandals are the most rational form of foot-wear; in the cold part of the year, through sand or in muddy streets, watertight boots will, of course, be found of more advantage.

To protect the feet from blisters and other troubles incident to pedestrians, it is as well, before a long march, to dress the feet with vaseline, tallow or powder. If the march last for several days, bathe the feet every evening in methylated spirit after they have been thoroughly cleansed in water.

On such long marches it would, by the way, be a good plan, instead of wearing stockings, to swathe the feet in linen rags or, more exactly, in a linen bandage, taking care, however, to avoid any creases. The linen bandage can be strapped fairly tightly round the foot, as the action in walking will stretch it, and it will thus accommodate itself to the foot. It would prove a real blessing in walking were soldiers

allowed to wear bandages of cotton or linen instead of their thick, hot, woollen socks that, badly darned as they always are, irritate and compress the feet. Bandages are also cheaper and easier to wash and quicker to dry.

Since the above was written, I have frequently made experiments, and so added to my experience on sandals and the use of them. I have now found a model which possesses more practical advantages than those enumerated above. As the present illustration of this "Everyday Sandal" shows, the leathern material has been so minimised that this sandal only costs just half that of the "Promenade Sandal." The sun and air can act on the whole surface of the foot, and, moreover, the heel is also ventilated. The small, broad strap aslant over the great toe is sufficient for fixing the sandal even when sprinting, and compels the great toe to remain in the classical pose pointing just forward, instead of the common, hideous and wrong position. It is also, by the aid of this strap, possible to lift up the fore-side of the sandal, and in this manner avoid stumbling over a protruding paving stone or other obstacle. Bathing sandals should be made of a sort of imbued leather which is not affected by the salt water.

When sitting at your table, or lying in your bed just before sleeping, you may use my special foot-exercises. First, it is a never-failing means of warming the feet in a few minutes, and it also forms the best gymnastics imaginable for developing the muscles of the feet and toes. They are fully described and illustrated in "My System" and "My System for Ladies."

CHAPTER VIII.

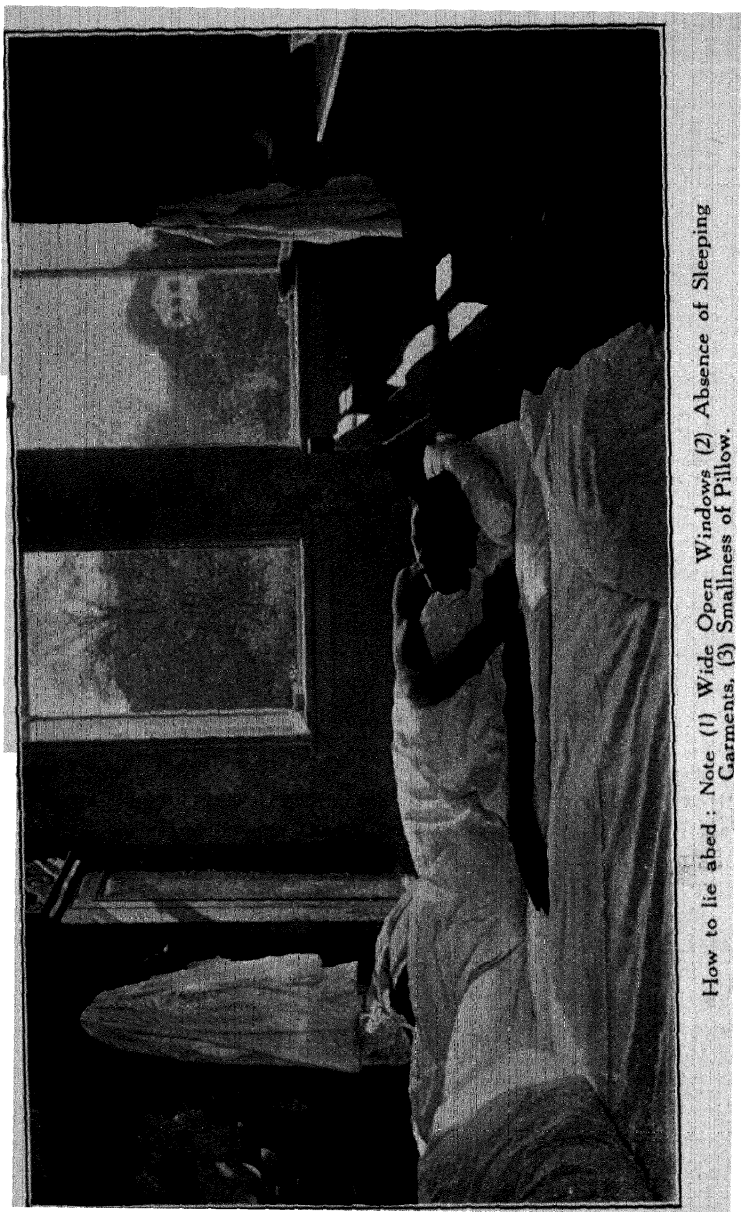
THE AIR-NIGHT-DRESS AND HOW TO LIE ABED.

Old-Time Customs—Pros and Cons of Various Positions in Bed—Why you should not Lie on the Left Side—How Weak and Nervous People should Lie—Hibernation and Giving the Organs a Rest.

AN “air night-dress” is quite simple: it consists of going to bed without any garment on at all. One might call it taking a night-air-bath. The one who accustoms himself to this in summer will find it so pleasant that he will never go to bed in a night-shirt and pyjamas even during the severe winter with the windows open. It is obvious that one must have a bathing or dressing-gown close to hand in case of fire, or other alarm.

This custom is very popular with advocates of the open air-bath. It is not new, having been very common in the olden time. Historical paintings can be seen wherein kings and people of noble degree are depicted lying or sitting-up, naked, in bed, and being waited upon by their chamber-servants. Formerly it was believed that the painters concerned had allowed themselves a certain artistic freedom in this matter, but the latest investigations prove that these pictures represent faithfully the manners and customs of the time. It is another example of an old and good but forgotten custom which modern hygienists have revived.

As we are on the subject of beds, I take the opportunity of setting my face against those false ideas as to which is the best position to lie in when asleep. Without doubt it is best to be mostly on the right side, instead of on the back, as some people lie. At the same time, I would point out that it is healthiest to lie on a hard, or, at least, firm mattress, and certainly not on a feather-bed. Lying on the back does not completely agree with what physiology teaches us. In this position a normally-grown body rests on the neck, shoulder-blades, buttocks, calves and heels. The other portions of the body, especially the lower part of the back, can only be maintained in their natural position by a partial straining of the muscles. This results in lassitude, and even pain in the loins. On the other hand,



How to lie abed : Note (1) Wide Open Windows (2) Absence of Sleeping
Garments, (3) Smallness of Pillow.

there is the opinion that, in the case of a feather-bed being used, the whole surface of the back can rest, the bed conforming itself to the shape of the body. Experience teaches us, however, that sleep in this position may be accompanied with troubled dreams and nightmare. A sloping mattress is in this, as well as all other positions, superfluous—indeed, often harmful, because it tends to make a person round-backed. Only a rather thin pillow should be used which, when lying on one's side, can be doubled, or the hand and forearm can be employed to prop it up.

Lie, therefore, mainly on the right-hand side, with the feet drawn up, more or less; for in this position the heart can beat freely, the digestive organs perform their functions well, and the liver is undisturbed. In this position the bowels may be slightly displaced; but this can easily be prevented by accustoming oneself to put the left hand under the body, just above the right hip, as many people do instinctively. Lying on the left side is not so good, because the liver then rests on the other intestines, and the heart cannot work so freely.

Only people with strong chests and powerful muscular development can lie for a protracted time on the stomach, sometimes resting the head on their crossed arms, or on one or both hands. When compelled to lie without a pillow on the hard, bare floor, this last-mentioned is the only possible position which can be taken to ensure rest for any length of time, and awaking without that feeling of being completely "knocked up." Besides these positions, there are a number of others, of which some are very convenient, such as lying half on the right side and half on the stomach, with the right arm thrown behind the back.

To the enquirer, therefore, which position should be chosen, the answer can only be: "Please yourself!" Weak and nervous people ought to be advised to lie as much as possible on the right side. Persons suffering from asthma may find relief in lying on the stomach. Healthy people can change the position when half awake or do so quite mechanically when sound asleep. Others wake up for a second or two and seek a fresh resting-place, either by turning over in bed, or by stretching the legs, which have, perhaps, been lying in a cramped position. If one prefers to sleep on the back, the hand should be placed under the hollow of the back to support it.

One should not lie always in the same position, because this disturbs the harmonious development of the body cells. To obtain sound and good rest it is correct, from a physiological standpoint, and best in practice, to change the position occasionally.

In the winter I often hear people complain of sleepiness—

people, moreover, who have the opportunity of sleeping through the entire night and also part of the day. The reason for this must be attributed to the time of year and to the weather. Why not hibernate like the bear, and sleep through this grey, unhealthy part of winter, only to awake and recover strength when the sun begins to shine in February? It is said that the Russian peasants vegetate through the whole winter in a half sleeping condition in their huts, and only creep once a week—on Saturdays generally—to take a highly necessary bath in the snow and to eat some mouldy bread, with brandy to wash it down. This done, they continue their comatose condition until the following Saturday. If only it were a case of being able to put the methods of the bears or of the Russian peasants into practice, those of us who had had a thorough good sleep during the winter would not be under so much temptation to doze away through the long, light, fresh summer mornings. We should then, in other words, attain this long neglected good: the fertilisation of our health—which only begins to excite interest as it is about to slip from our hands. To continue this dream experiment of a winter sleep, what benefit would it not be to the human stomach if it could only have undisturbed rest for several months, this poor digestive machine, overladen and oiled with poisons, worked at high pressure from childhood, and therefore becoming unfit for work long before the expiration of its functional life?

In this respect we can learn from the lower animals the value of fasting. Animals kept in zoological gardens have a weekly fast-day, and if this were omitted would quickly fall ill.

It is often pure chance that causes us to acquire a healthy habit. A short time ago I went on a journey with the proprietor of a large factory, one of the quickest and surest calculators that I had ever come to know. He had been in weak health previously, but then felt extraordinarily well and strong. While reading an old ordinance, in which the inhabitants of a certain town were forbidden to disturb the tranquillity of the streets after eight o'clock in the evening, the good idea occurred to him to begin his night also at eight o'clock, with the result that he felt so much stronger that he could undertake severe mental labour at three or four in the morning.

If anyone, after reading these lines, should feel disposed to go somewhat earlier to bed, or, feeling his stomach somewhat out of order, should fast for a day, then I have obtained my object.

CHAPTER IX.

HOW TO EAT SUNSHINE.

Oranges and Apples saturated with Sunshine—The Husk and the Bran contain the "Sunshine" of the Wheat—The Habit of Eating fine White Bread has Deteriorated the Race—Rye "Black" Bread better than "Wholemeal" Bread—Artificial Foods Advertised Too Expensive and not always Healthy—A Matter for the Health Ministry.

TO get in a perfect state of health we should not only make an exterior use of the beneficial effects of the sunbeams, through sun-baths for the skin, but we ought also to make interior use, by eating plenty of fruits and fresh vegetables which contain chemical deposits from the ultra-violet rays. Especially oranges and bananas contain lots of "sunshine," but also good home-grown apples and all other fruits and berries ripened in the sun are very rich in this respect.

There is even a fair amount of "sunshine" deposited in every sort of vegetable, but more in cabbage and corn than in "underground" beets and potatoes.

And here we come to a very important question. Bread is the chief ingredient of the daily fare of the largest part of the population. But, unfortunately, the bread of our generation is the white, light bread made of wheat. It may look nice, but it has been deprived of its most valuable ingredients, viz. :—The husk, which contains the deposited "sunshine" (vitamines) and the bran which is so useful for building up the bones of the human frame, besides being very healthy for the bowels.

In olden days it was only the rich people who ate white bread, and that even only at the festivals. The poor, unfortunately, by and by got the false idea that it was the right food for self-respecting people, and as times grew more democratic they all adopted the white loaf. Exactly the same curious, but human, *motif* induced manual labourers to wear white collars while working in the fields, gardens, on buildings, in factories, etc.—a not only useless, but unhealthy and expensive habit.

The white bread is the main factor responsible for the physical degeneration of great parts of the British race.

The fact that the Scandinavian races are bigger and taller than most other nations is due to their use of better bread. Still to-day bread made of rye is preferred in Scandinavia. It is dark brown or almost black, and always weighty, most wholesome and nutritious. The oaten bread of Scotland is of a similar good character. But, alas! the white wheaten loaf is gaining ground also in the Highlands.

When I was a boy two out of our three daily meals consisted of black bread, either broken into hot milk and eaten with a spoon, or made in the form of sandwiches spread with lard and sprinkled with coarse-grain salt. We had an old Danish verse which implied :

“ Salt and larded bread
Make the cheeks so red.”

The slices of bread were always very thick, at least three-quarters of an inch, with the effect that it was necessary to masticate thoroughly, the result being a great benefit to the teeth and to the muscles of the jaw.

Before I was promoted to the rank of lieutenant in the Danish Army, I was for two years a private and a corporal, during which time practically my only food was this black bread. Every fifth day each man had served out to him a loaf of bread, about 22in. long and 7in. square, and weighing about 8lbs.

Now in a country like England where the bread is of indifferent quality, the result is as follows:—Poor people will be of small physique, badly developed and weak generally; whilst the more well-to-do resort to scores of forms of artificial foods. Very few of these have the same food value as rye bread, or even wholemeal bread, while they are ten times more expensive. Some of them are merely stimulants, containing poisons. In some cases ingredients are extracted from meat and sold at a high price as nourishment even for children, notwithstanding that it is precisely such substances which induce arthritic troubles when the diet contains too much meat. The public is entirely confused and bewildered by the variety of advertisements of such artificial foods, the manufacturers of which all enjoy and profit by the old Latin adage: “*Mundus vult decipi, ergo decipiatur.*”

Nowadays it is possible in many places here in England to obtain various sorts of brown wholemeal bread made of wheat. Whilst this is much better than ordinary white, soft bread, it is not so good by far as the rye bread of which I have spoken.

I often wonder why English farmers do not cultivate rye, at least for making bread for their own use, since not only is it more nutritious, but from the point of view of economy it is greatly preferable, because of its keeping qualities. The Danish farmers, who at all events formerly made their bread at home, only baked every fort-

night. And I have often had rye bread sent from Scandinavia, which kept well for some weeks.

The conversion of the public taste among populations in big towns in respect to better sorts of bread is, of course, a long process. **Being** a matter of vital importance to the whole nation, it should be **taken** up by the Health Ministry.

CHAPTER X.

SUN AND AIR BATHS IN PUBLIC INSTITUTIONS.

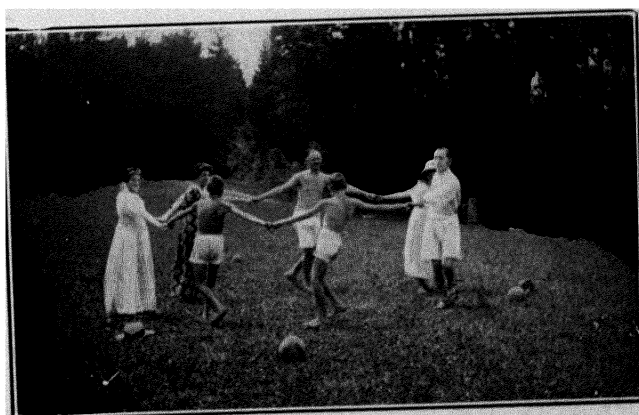
Various Sun and Air-Baths on the Continent described—How Sun-Bathers enjoy themselves—What they Wear—Why not Sun and Air-Bathing Establishments in England?—The Fresh Air Gymnasium at Copenhagen—Continental Municipalities support Sun-and-Air Baths.

SOME time ago I visited the extensive and beautiful "King Frederick-Augustus Baths," situated in the centre of miles of pine-forest that grow on the plain of Dresden. A little river, the Priesnitz, supplies both the gentlemen's and the ladies' swimming baths as well as the hydro-therapeutic department of the bath. Well-appointed and roomy gymnasiums for both sexes, and spacious grounds for air and sun-baths, surrounded by beautiful trees, are to be found here, as well as large sandy courts open to every aspect of the sun. Here in the midst of beautiful and natural surroundings, fanned by balmy forest breezes rich in ozone, far from the tumult of the town; here where every convenience and comfort that may be desired by sound or sick seeking recreation or recovery, is to be found, I spent eight never-to-be-forgotten days, accompanied by my seven-years-old son, who became strongly attracted to the great swimming bath, in which he spent nearly the whole of every day sporting with a company of boys like himself. (He did not, of course, understand their language, but this fact seems not to have been the slightest obstacle to his thorough enjoyment.) I was invited to come here partly to study the methods of modern sun and air-baths, partly to give teachers free instruction in "My System." As will be seen in the accompanying photographs, the concourse of people who wished to learn from me was very large. Twice, sometimes four times a day, I went through "My System," explaining all the different degrees of every single exercise. I also found an opportunity to give a demonstration in the ladies' department of the bath. The weather was beautiful throughout, the sun shining brightly and shedding a generous warmth. Having finished the gymnastic exercises, all bedewed with perspiration, it was a delicious experience to turn to the cool water that lay, clear as crystal, in the big lake, and give exhibitions in fancy swimming.



Start of a Race at Waidberg.

Later, I dwelt for some time at the sun and air home on the Waidberg, at Hoengg, near Zurich. There, in the midst of a pine forest, stands the large sun and air-bathing establishment, consisting of whole colonies of so-called air-houses and air-huts, the latter being open in the front as well as in the eaves under the roof. These dwellings are occupied by visitors, who very often spend their holidays with their wives and children in this place. Other visitors to the air and sun-baths come here daily from the town, bringing books, writing materials, or handwork; while they may often be seen climb-



Play at Waidberg.



Sunbathing in Italy.

ing the hill with food and books, and pushing infant-carriages. In one of the corners, shut off by means of a wooden partition, are the water- and sun-baths, each with their separate compartments for ladies and gentlemen. Here, quite naked, lie, on little wooden benches, the inveterate sun-worshippers for hours, letting their bodies get roasted brown on all sides.

More interesting, and certainly also more healthy, are the means of enjoyment chosen by others, who seek the spacious lawns, playing games or engaging in sports. Monotonous wooden fences or buildings do not enclose these lawns, but only a low flourishing hedge, and



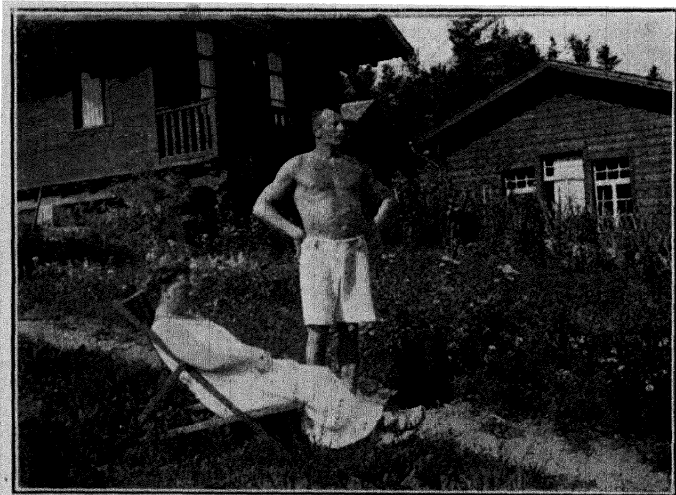
Elderly men doing " My System " in the Snow and Sun.

behind that the forest. The passer-by outside is not prevented from contemplating this paradise through the hedge. He, perspiring in his thick clothes, is at liberty to observe for a while this happy group of people living in a state of Nature. The entrance is not far away, and by paying a modest sum such envious observers will be admitted and welcomed to the ranks of those within.

The attire for ladies consists of a loose short empire-gown; that for men and children of loose knickers of openwork flax. A few wear straw hats and sandals, but the majority go bare-footed and bare-headed. It was interesting to observe the natural tact and fine

feeling that prevailed, and to compare them with the constraint and hypocritical etiquette of false culture.

The sports that attract the largest number of enthusiasts at these public sun and air-baths, including nearly every one advanced in years of both sexes, are the various games of ball. I learnt several amusing games, in which an almost unlimited number of players could take part. As an alternative, walks can be taken in the forest around, or even farther afield. One day my wife and I, with some thirty others, made an expedition lasting several hours, to the Katzenssee, where we enjoyed an excellent swim. The way led through several villages,



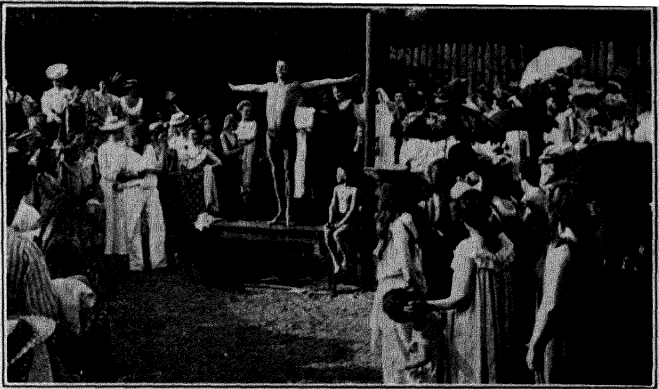
The Author and his Wife outside their Air-Cottage at Waidberg, Zurich.

but nobody stared at us, although we were clothed as above described.

The founder of this sun-and-air home, and the soul of the life and sport there, Herr Stern, formerly a country parson—he has the figure of a giant—a few years ago, while walking through the lonely mountain forests of the Bernese Oberland, was arrested because he had nothing on but a pair of bathing-drawers. Taking everything into consideration, this was hardly the correct uniform for a caretaker of souls.

One Sunday at his establishment he instituted a great festival of sport. It consisted of contests in running, wrestling, throwing the spear and discus, long and high jumping, horizontal and parallel bar

exercises, and a number of ball games, the whole concluding with a distribution of prizes and a beauty competition, at which I, together with Professor Freitag, the sculptor, acted as judges. There were several hundred contestants and half a thousand spectators present. The most remarkable feature of the gathering, however, was that the majority, even among the onlookers, wore air-bathing costumes. Even the judges, stewards, etc., wore only knickers; black coats, tall hats, long trailing dresses being conspicuous by their absence, and the sun shining everywhere on naked forms of colours ranging from milk-white to nut-brown. Here athletes were wrestling in the centre of a circle of interested spectators, and there a race was being run on naked feet, while at the same time some fifty men and women were striving one



The Author lecturing to a class of Women Air Bathers.

against the other at games of ball on the largest of the lawns. At that moment it occurred to me that I had never seen anything before in my life like that approaching so nearly the gymnastic or athletic contests of the ancient Greeks.

A good sun-bath has been opened at Copenhagen, situated on the shore, but rather far from the centre of the town. At the opening of the Copenhagen Fresh Air Gymnasium, as it is named, there was a very significant gymnastic entertainment, which took place on the large, green-covered open ground at the edge of the sea, all who took part in it wearing nothing more than small swimming drawers. A party of gymnasts performed with all the various apparatus in the place: parallel bars, Roman rings, trapezes, ropes, spring-boards, etc.; heavy (iron) weight exercises were practised, together with

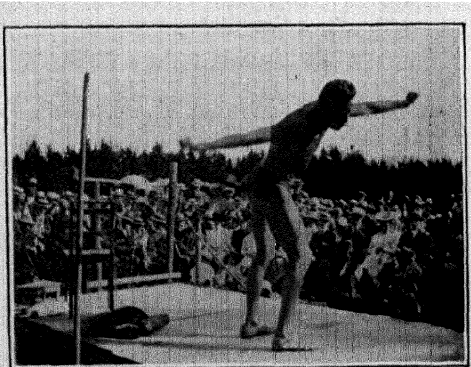


Another view of the Author lecturing
in an air bath.

only walk across a bridge, at the end of which a fully-complete sea-bathing establishment is situated. The ticket of admission to the Gymnasium gives the right to spend a whole day on the premises, and there to make use of all the apparatus. What specially was of interest to the 500 country school-teachers, men and women, who had met by invitation, was the exercises given by a class of boys from a municipal school. There gymnastics, with as well as without apparatus, tug-of-war, and football with naked feet met with lively attention. When the boys had ended their performance, it was pleasing to see the

boxing and wrestling in the grounds especially adapted for these branches of sport; the object of the display being to disprove that we could not in our day and in our climate carry on gymnastics and sports just like the ancient Greeks.

In this Fresh Air Gymnasium is a special wrestling ground, where the earth is dug out and fine sand filled in, the space being covered with a roofing of canvas. Several excellent lawn tennis courts are also provided, at which the game may be played quite free from the hampering inconvenience of clothing, which during the hot season makes this sport a rather doubtful pleasure. To obtain swimming exercise, visitors need



Demonstrating a figure in the exercises
at Waidberg, Zurich.

whole party rushing across the bridge to finish up with a cleansing and refreshing bath in the waves of the Oeresund (the Sound).

The sight of these healthy Indian-brown-skinned and muscular boys, although brought up in small and insanitary surroundings, made a strong impression on the country school teachers, so that it is very likely that some of them returned home determined to make a trial with the "Nude-gymnastic" system.

Among the thousands of sun and air-bath institutes of Germany a large number are controlled by the community, while several which belong to private societies are supported out of the public funds.

Amongst others I visited that in Frankfurt-am-Main. It is conveniently situated, being on the borders of the town proper. The sun and air-bath consists of an old garden, surrounded by a high wall, built of planks, the side opposite dwelling-houses being further heightened by a tall canvas screen. A handsome restaurant, large halls for undressing, appliances for bathing and shower baths, arbours where meals can be eaten, all kinds of gymnastic apparatus and sporting requisites, couches and hammocks, tables and benches are to be found there. In the centre is a large grass lawn encircled by a running track. One part of the garden has been preserved in its original state, being planted with trees, fruit-bearing trees and bushes. Here tables and chairs are also provided for those who wish to keep in the shade (in very hot weather an air-bath in the shade is as healthy as it is pleasant). A special portion of the grounds laid out in a similar way is reserved for ladies.

Why should such an undertaking not pay quite as well in English towns as it does everywhere in Germany, Switzerland and Austria? An old villa-garden within the precincts of a town would lend itself exactly to the purpose. It must lie near enough to the centre to be reached without any serious loss of time, so that those employed in reading, writing or other mental labour could spend half the day air and sun-bathing, at the same time pursuing their vocations if they were so disposed, instead of perspiring in stuffy rooms in incommodious clothes.

CHAPTER XI.

THE GREAT OPPORTUNITIES FOR SUN AND AIR BATHING IN ENGLAND.

Not so many Stinging Insects interfere with the Bathing in these Islands—"Riposo" the first and largest English establishment of this kind—In Schools and Army and Navy the young ought to Learn to use Fresh Air and Sunlight in the best way.

THERE is in the whole world no country better adapted for taking sun and air baths than old England—and notwithstanding this, I do not think there exists a country where the happy opportunities are more neglected than they are here. In the suburbs and in the country most gardens are surrounded by high old brick walls or thick hedges providing perfect privacy inside, and the world-famous English lawns have such nice soft and clean grass that it tempts one irresistibly to utilise them for sun-bathing, or at least to run about bare-footed. The climate here is mild during the greater part of the year, the sun shines with a refreshing warmth which seldom becomes too hot and unbearable for the white man's skin, as does the tropical sun. And the very greatest advantage which is offered by the British sun and air bath, compared with those on the continent, is the almost complete absence of biting and stinging poisonous flies, mosquitoes, etc. These pests make the sun-bathing a very doubtful pleasure in most other countries, and actually make it impossible at not a few places I know of. I once undertook a great "tournee" in Switzerland and Germany, being invited to demonstrate "My System" in the sun-bathing establishments of all the big towns. It is scarcely too much to say that every single place had its own special kind of plague. At Berlin it was an ordinary-looking slender mosquito, at Frankfort a smaller but more poisonous species, at Mannheim a microscopic fly with enormous stinging power, at Dresden a long, grey horse-fly, etc. It was often necessary for me, when lecturing and demonstrating almost naked, to have a number of attendants with fans to protect me from being completely eaten up. The attacks were especially fierce when I took my shower-bath upon the platform; the insects seemed to feast upon a wet skin. The aspect of the native sun-bathers was, as a rule, most pitiful. Their skin was full of sting-bites and scars from scratching.

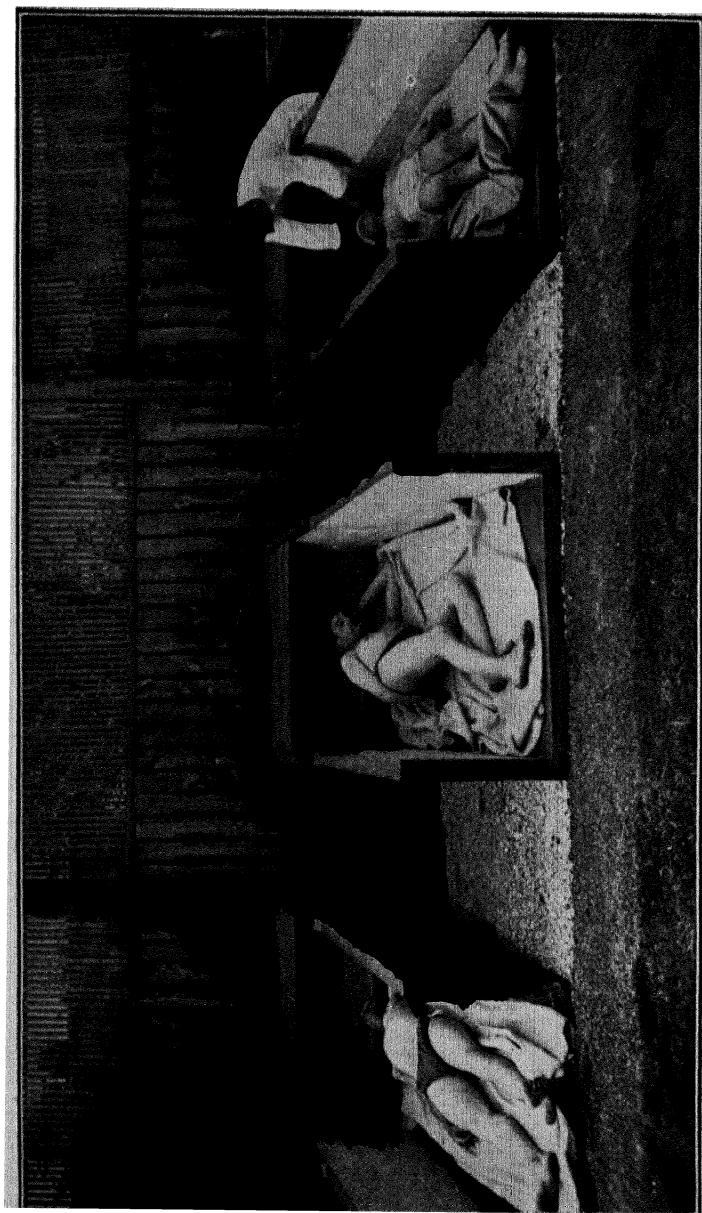
The horse-flies are not poisonous, but the bite is awful, and they are very persevering in their combined attacks. Walking naked in fir woods I have often had to spring away, closely hunted by swarms of them, and have not been able to save my skin. They love it when it is dark brown, whereas they despise white skin. They never settle upon white clothes, but prefer black, even to the skin—and they are able to sting right through the clothing.

Once while traversing a little lake, the Katzensee above Zurich, in Switzerland, I was attacked by a tiny fly. Knowing how poisonous it was, I splashed violently with arms and legs, but could not drive it away. At last I tried to dive below the surface, but it was there again each time I came up. Finally it got at me and stung my eyelid, which by and by swelled so much that my eye was absolutely closed for a whole day and night.

I have related my bad experiences so fully because I should like English people to realise what horrors of this kind they are spared here, so that they will more and more appreciate the splendid "peaceful" state of the sun-bathing places of this country. In my various books I have done all I could to advertise the health-giving use of air and sun, and explained theoretically how to proceed to derive the utmost benefit. To see the bathing carried out in practice and have the procedures brought clearly before the eyes, one may pay a visit to the Health-Hydro, "Riposo," near Hastings. There may be places of a similar kind in these islands, but I have not heard of any, and I doubt if there exists one as perfect and scientific in all its details. When, therefore I am asked *where* to go to learn how to take sun-baths properly, I always recommend Riposo, where I myself have spent a delightful time.

The main reason why we should perform exercises in our birthday costume—which is exactly what constitutes an air-bath—is to give our bodies the best opportunities for proper breathing in fresh air. We breathe both with the skin and lungs. We do not know to what extent inhalation takes place through the pores of the skin, but the exhalation is very conspicuous as evaporation or exudation. It simply depends upon the temperature and degree of moisture of the air whether the evaporations condense themselves into perspiration forming the well-known "water"-drops upon the skin (very poisonous water at that!).

The lungs form the other big outlet for the toxins and waste matter from the body. Nowhere can this important function take place under better conditions than in the air-bath, in as pure an atmosphere as is obtainable, and where no restrictions in the form of tight clothing, braces, suspenders, belts or corsets check the free movement of the thorax.



Sun and Air Bath Enclosures at "Riposo," St. Leonard's.

I will here state as a hard and fast rule for exercising in a sun and air bath that any exercise, game or sport performed with the body naked is healthy to a high degree, if combined throughout with proper respiration. Whereas the seemingly best exercises will lose most of their benefits and even become useless, if the accompanying breathing is incorrect.

It is a very curious fact, that only a few practical athletes know how the breathing should be done, whereas so-called "Science" still adheres to some old, silly ideas. All official manuals on physiology are wrong, all instruction for schools, universities, Army and Navy are faulty so far as breathing goes. The few medical specialists who have dealt with this question are more and more inclined to concede that I am right not only in my practical advice, but also in the theories about breathing laid down in my latest books.

I have had the opportunity of examining and treating a great number of young officers and demobilised men. They were, nearly all of them, victims of the "Swedish" Army drill in the following way:

They had acquired the habit of keeping the abdomen partly indrawn and constantly fixed; they were absolutely "muscle-bound" in this part of their anatomy. The result was always a small lung capacity (defective contraction) and constipation; sometimes even real disease in heart, lungs and digestive organs. It is not difficult to explain these bad effects of the military "chest-out-stomach-in habit." As the flat abdominal muscles are fixed to the lower ribs, it is clear that the outward movements of the ribs are checked if those muscles are kept in a state of tension; and if the abdomen—simultaneously—is kept indrawn, then the inward movement of the ribs is checked, so that complete contraction during exhalation is impossible.

It must also be evident that the involuntary free movement of the bowels is hindered when the abdomen is kept fixed in this position. There is simply not room enough, and the liver, stomach and other organs, too, will miss the unlimited movements of the ribs and the corresponding actions of the horizontal diaphragm which otherwise would tone up those vital organs and give them the needed internal massage. To get the ribs completely contracted in the last part of exhalation, the abdomen must be relaxed, protruding somewhat in a state of softness. It is also well to remember that it is the movements of the chest which should force the air in and out during full respiration, so that the thorax is used as a pair of bellows. The nose should only be the *passive* passage of the in-and-out-going air and should therefore be kept well open. But this distension of the muscles of the nose wings should be the only exertion of the nose: no sniffing, sucking, or blowing. Then the right thing is to breathe *through* the

nose, and not *with* the nose, but with the chest ; and in every sort of play, game and sport the most important thing is to acquire the habit of breathing fully, regularly and steadily *during* all sorts of movements, including quick ones, never to hold the breath, nor to take short gasps. Thus—and only thus—shall we get the full benefit of the air-bath, one of nature's most valuable and effective remedies.

CHAPTER XII.

FRESH-AIR SCHOOLS.

The Vitiated Atmosphere of School Rooms—Fresh-Air Schools should be used for Healthy as well as Ailing Children—An English Public School where Common Sense reigns.

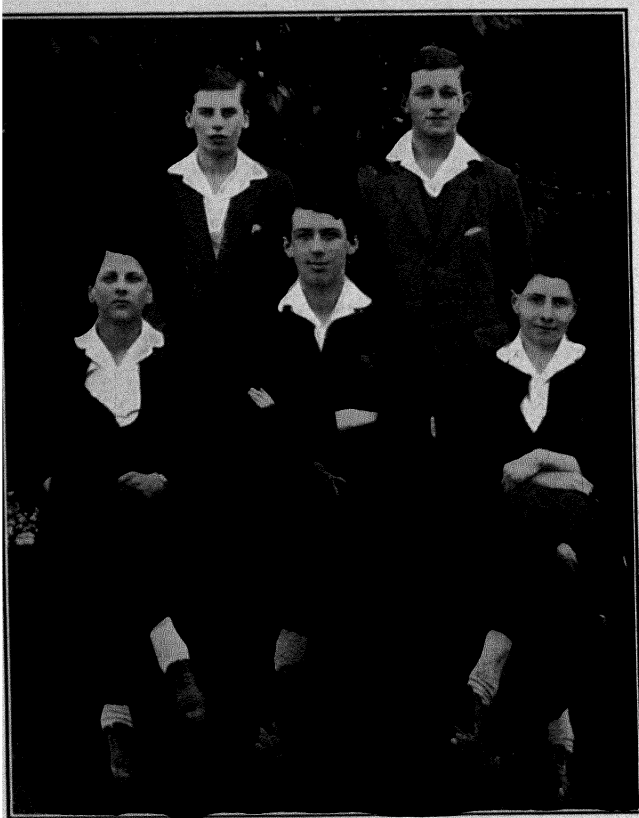
IN the so-called "ventilated" municipal schools of great towns the air is scarcely renewed oftener than three or four times every hour. Whilst this is better than no ventilation, it is not sufficient to prevent the bad and stinking air being inhaled by the children before it can find its way out to the small sucking air "ventilators" in the farther corners of the room. In the private schools conducted in ordinary dwelling-houses things are much worse, there being, as a rule, no ventilating apparatus of any kind. For this very reason I once was obliged to take my son out of his Danish school and give him instruction at home, where he could always have the window wide open, and thus be free from the headache with which he regularly suffered during the last hours of school entirely owing to polluted air in the rooms. On sunny spring or autumn days I had often passed the school and found all the windows closed, also those of the hall used for gymnastics, while I myself had been sitting completely undressed for three to four hours in the forest, reading or writing. When I opened the outer door to the hall of the school an offensive stench of polluted air met me and drove me away from the premises; and it will be understood that I pitied my poor boy.

As far as they go, the well-known English, American and German "fresh-air schools," "forest schools," or "open-air schools" are quite excellent, but they have one defect in common, in that only the weakest and sickliest children get admission to these improved conditions. In the American school at Providence, for instance, most of the children were suffering from incipient consumption.

When it is known that most of the sickness among school children is caused by the poisonous air they breathe, it becomes almost incomprehensible that not more interest is taken in these simple means of saving from attack those children who are still immune. Everybody would rather be troubled to prevent a disease than to cure it.

All hygienic authorities seem to be alike. When people are ill due concern is taken in their health, just as society only manifests

interest in the morals of individuals when they have become criminals. Most European cities are provided with excellent hospitals, maintained at great cost by the community or by private philanthropy, and no doubt the people who use them are made grateful and happy. But

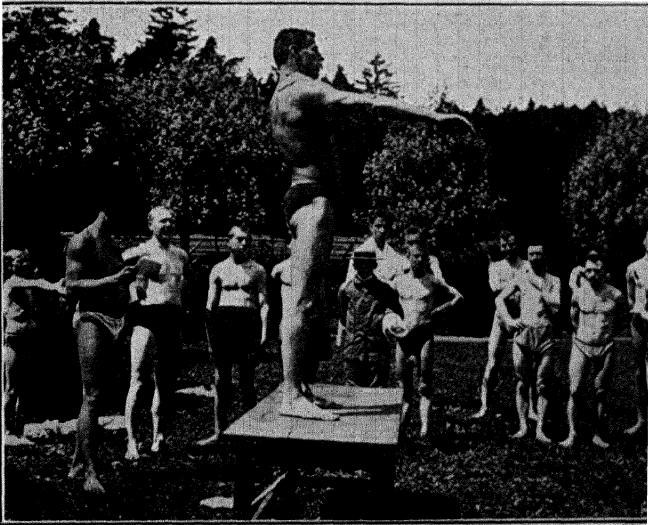


Boys of Wycliffe College, Gos., wearing Commonsense Shirts and Collars. In the centre the Author's son, Bror.

this happiness rather reminds one of the dog who was indeed pleased when its master stopped thrashing it. Without the thrashing there could have been no joy at its cessation; without illness no joyful recovery and gratitude to hospitals. When will the public at large

get rid of the preposterous idea, which it shares with certain physicians, that fresh air is a special kind of medicine, only suited to certain cases of illness, such as, say, tuberculosis, but otherwise unnecessary to sound people?

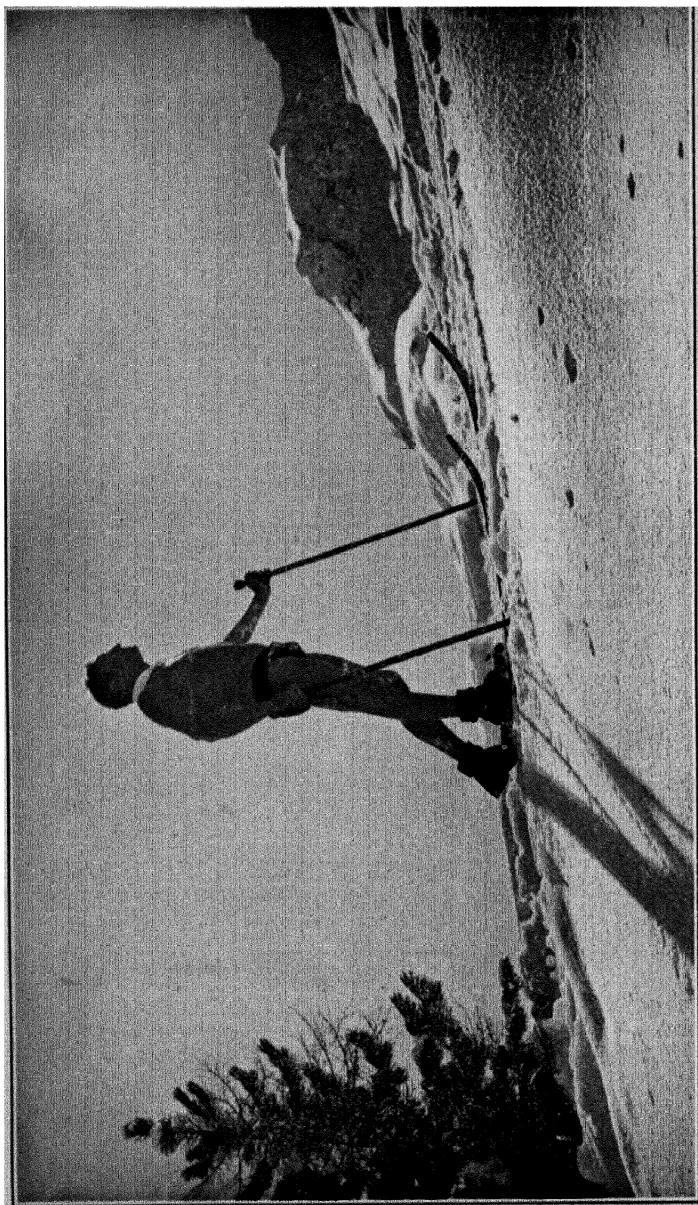
Meals are taken three and four times a day; air also is food, which is taken in large quantities every moment that we live, and therefore it is obvious that the quality of the air must have an enormous influence on our health.



The Author instructing Teachers in his System.

To this chapter on schools I should like to add a little postscript about the school where my youngest son, now a farmer in Canada, was educated. All know the stiff, tight collars which fashion prescribes boys to wear in the public schools and which constrict the circulation of the blood, and make the head overheated, causing nervousness and—as some believe—even baldness. At Wycliffe College in Stonehouse (Glos.), shirts wide open at the neck are authorised for daily wear. Also, short trousers are allowed even when not playing games.

By the way, this public school was one of the first to adopt "My System," and for many years a competition in the 18 exercises, with challenge cup and prizes, has been a regular event each spring.



The Author ski-ing in the Alps. Nearing the summit.

CHAPTER XIII.

RATIONAL PHYSICAL CULTURE AND OPEN-AIR SCHOOL GYMNASTICS.

**The present Awakening—"Rational Scientific Gymnastics"—
Meaning of the Terms—What the Greeks Taught—Athletic
Enthusiasm in Great Britain—What Children should be Taught:
The Habit of Caring for their Bodies—Lawn Gymnastics instead
of Indoor Apparatus Work.**

MEN are not yet so far advanced in the province of physical culture as to have entirely freed themselves from the nightmare of the middle ages. The Renaissance can only be compared, in this respect, to an unseasonable awakening, a yawning, a rubbing of the eyes, and a sort of turning over on the other side, after which the slumber continued until at last man began to thoroughly arouse himself about the year 1800. The time of our present flourishing period of physical culture is consequently scarcely more than 100 years old, whereas men of the ancient Greek period of body culture had the benefit of more than a thousand years' experience. Taking this into consideration, we can excuse ourselves for not having obtained quite so good a result as the ancients. If, as is now apparent, our official leaders show an inclination to sit down and rest on their laurels, or even to fall back, the time is come to send forth a cry of distress so much the louder, because the future of the race is at stake.

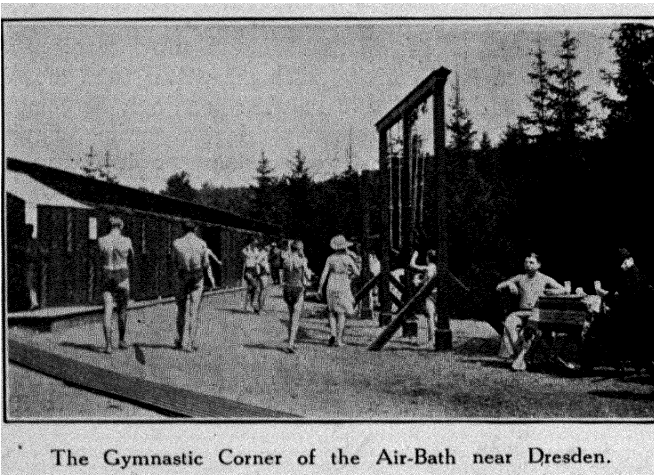
Just now there is a good deal of misunderstanding and misuse of the term "rational scientific gymnastics." Bodily exercise is rational only when it is carried out in a manner suitable to the required purpose. The ends which we strive to attain may be very different, and in each case may be good and noble in their object, such as a good digestion, a good carriage, general health, the prevention of disease, cure of sickness, corporal dexterity, a mighty biceps, mental and moral attributes, and so forth. How far a system of physical exercise is or is not rational depends entirely as to how and where it is applied. In itself no system is rational; by application, however, many kinds of exercises may come near to being so.

I call those gymnastics scientific in which we make use of science for the purpose of producing a good result in as many directions as possible. We must not, however, be one-sided and respect only those

claims set up by æsthetics. Much more, or at least as important, are the claims of physiology, hygiene, ethics and education.

Finally, to come to the word itself, "gymnastics" signifies the *art of cultivating the naked body*. If more clothes than are absolutely necessary are worn while taking exercise, then the word gymnastics ceases to be applicable. Indeed, every form of bodily exercise which is carried on in closed rooms and in clothes is in direct contradiction to the actual demands of the above-mentioned sciences, and at best can only be but an insufficient substitute for really rational gymnastics.

The ancient Greeks appear to have attained the ideal of "rational scientific gymnastics." (I emphasise the word "ancient" because the modern Greeks appear to have still less understanding of gymnastics



The Gymnastic Corner of the Air-Bath near Dresden.

than most other nations). Even if we do not know the particulars of the ancient Greek system the practical effects stand out clearly to-day. Nowadays, everything that the gymnastic instructors share in their great zeal for specializing in sport—athletics, acrobatics, exercises for general health and for physical development and other special purposes—was contained in the gymnastics of the ancients, which were performed in the open air without clothes. As an example, exercises in suppleness of the body, which certain gymnasium professors of to-day, lacking judgment, call acrobatics, occupied an important position in the eyes of the ancient Greeks. These exercises, in fact, are of exceptional benefit, because they (1) afford a perfect control over the body, (2) develop the most important trunk muscles

and organs, (3) require no special apparatus, and (4) are very entertaining. The greatest fallacy of which those responsible are guilty is, however, not to be sought for here, but more in the fact that they only include exercises for the bones and muscles in the category of "gymnastics," while deep breathing and air, sun and water baths, together with the rubbing down of the skin, do not, in their opinion, belong to gymnastics at all. As if the lungs, blood and skin were not quite as important parts of the body as the bones and flesh! An irrefutable deduction is to be drawn from this, namely, that the various modern systems of educational Physical Culture or "gymnastics" are only substitutes for one single side of the ancient gymnastics.

The first object of a proper school education in Physical Culture should be to lay the foundations of the future bodily health of the



Boys of Soro Academy performing Lawn Gymnastics.

scholars and to develop their understanding of hygienic principles. But what do the schools offer pupils in this respect? I maintain that it is the duty of every school to instruct its pupils so thoroughly in a simple system of home gymnastics, with bath and lung exercises (according to my or any other system), so that they could continue it to their benefit all through life.

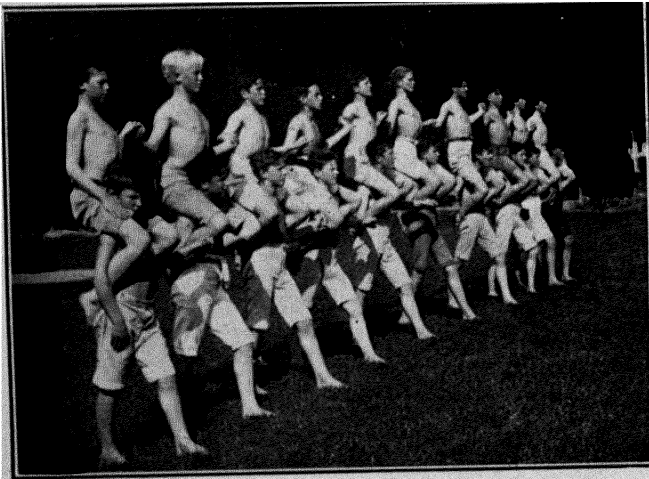
As to apparatus, none is needed. The best results can be achieved without them. And whilst on this point, I should like to say a word against the fallacious systems that are current.

Do you not think, for instance, it is absurd that young children, girls as well as boys, should be recommended to perform daily exercises with dumb-bells which only develop their arms, and even more absurd to demand that they shall concentrate their energy and

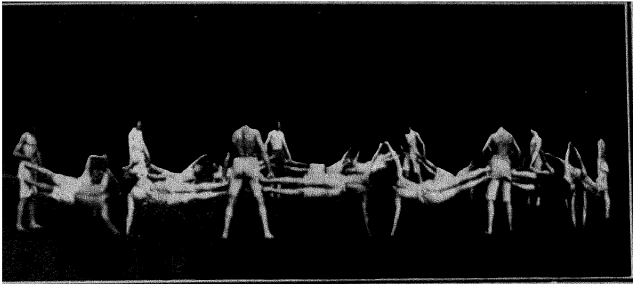


Lawn Gymnastics—2.

thought (will-power) on certain arm muscles and their movements? And this not only during the earlier days, whilst they are learning the exercises, but afterwards continuously during the whole time they are at the school? This is really a grave sin against the unfortunate children, who are already hardly pressed with mental work, and who—as far as the poorer classes are concerned—do not even get sufficient



Lawn Gymnastics—3.

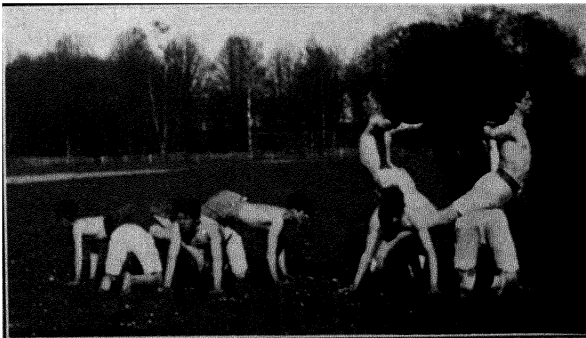


Lawn Gymnastics—4.

food, rest, sleep and fresh air. Gymnastic exercises, during which a continuous concentration of certain mental powers is required, certainly involves a very considerable amount of brain-work, which naturally adds to the "wear and tear" of children's constitutions instead of strengthening them. What is most needed is exercises for the heart, lungs and digestive organs, and during such exercises no concentration of thought on special muscles is necessary.

There exist only two principal forms of rational physical training of youth, and these two principal forms do not counteract but supplement each other.

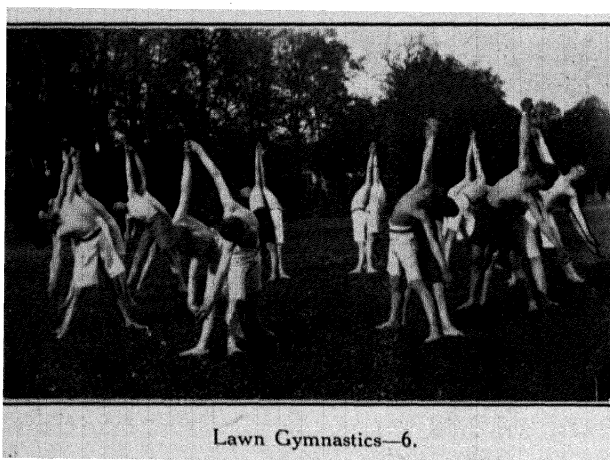
The practice of out-door games is the one principal way of improving the physical—and also to a very great extent the moral—condition of youth. The ideal physical man should be a mobile animal in which activity and endurance should be the leading attributes, and these can best be obtained by out-door games, even



Lawn Gymnastics—5.

if such do not produce a heavy muscular tissue. This latter may, on the other hand, be produced artificially by dumb-bell exercises, heavy weight-lifting and different gymnastic apparatus, but in practical life it must be considered a dead weight, a superfluous, inconvenient and may-be unhealthy burden. Another advantage of out-door games is that these are practically the only available means in modern communities for the encouragement in youth of such spiritual qualities and virtues as courage, promptness, presence of mind, resolution, energy, comradeship and humane feelings towards the weak.

It is a well-known fact that this splendid method of training by out-door games has prevailed, and does prevail, to a far greater degree in Great Britain than in any other country. It is certain



Lawn Gymnastics—6.

that it is these out-door games which have made Britons the nation which, with the highest degree of energy and thoroughness, has brought the greatest part of the globe under its power and influence. Most athletic games and sports originated here, and from here were spread and taught all over the rest of the world, to the enormous benefit of mankind. And it was the hundreds of thousands of British athletes and sportsmen who won the Great War, saved civilisation, and safeguarded the liberty of the human race.

I, for one, am doubly indebted. All my greatest pleasures and recreation during a lifetime I have derived from British games and athletics; and North Sleswick, where I was born, was given back to Denmark, my country, by the victories of British athletes and sportsmen.

The British victory in the Great War has also proved once and for all that games and sports are much more valuable as physical training for young people, and especially for soldiers, than the old stiff and tedious drill methods of the Swedish jerks and the Prussian goose-step. All the Allied Forces were quick to learn this lesson taught by the British Armies in France.

Therefore, to-day most British games, especially football, boxing, wrestling, running and other athletics form the most important part of the training in the French and other Allied Armies.

Then, most of the long hours of tedious "physical jerks" of the old days has been scrapped. They really never were suitable to the British temperament, and moreover they were dangerous to the heart,



Lawn Gymnastics—7.

lungs, and other vital organs, because they were not combined with proper respiration, the most important factor in physical training.

Any of the daily half-hours of Swedish Drill which still remain ought, therefore, to be scrapped and replaced by only five minutes good, concentrated work for the internal organs and the waist muscles, such as I have devised in my new book, "The Daily Five Minutes." This would be in the highest degree suitable both for the soldiers in training, for the Olympic athletes, and last, but not least, for all school children.

The athlete now practises his speciality and tries to develop to the utmost the special muscles therein used. But if he does too much of such one-sided work there will be a tendency for him to put undue

strain and stress upon that single part of his anatomy, and perhaps to grow tired and stale there, especially if his digestion, assimilation of food, and general circulation be not first-class.

Such special muscle training, then, will not always keep him thoroughly fit and healthy. He may even break down or develop an ailment before he has really finished his training for the contest in prospect. Long distance running or walking will, for instance, not save an athlete from indigestion, constipation or, still worse, stomach troubles. I have often had the opportunity of observing that. But my "Daily Five Minutes" for general health and fitness will guarantee any fairly healthy young man freedom from chronic ailments and all sorts of slackness, staleness, or breakdowns during training.



Lawn Gymnastics—8.

I now come to speak of the second of the two sole methods under which Physical Culture should be applied to children.

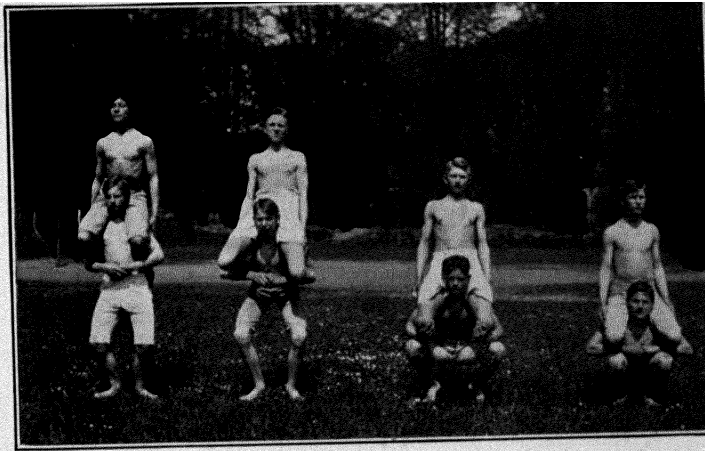
The kind of indoor gymnastic exercises which it is most advisable to teach school-children is a simple home-gymnastic system so devised that the practise of it shall be—so far as it lies in man's power—a guarantee for the preservation of health and the prevention of most diseases. The exercises should, therefore, as far as possible be chosen with a view to the breathing, the circulation, the functions of the skin and the organs of the digestive canal.

A sufficient muscular development will follow as a matter of course.

This ideal system must be inseparably connected with the daily

water-bath, or at least an air-bath with skin-rubbing exercises, and must not call for any apparatus but such as is to be found in every home. This system must be so arranged that it can be practised at any place and under all the varied circumstances in which the pupils may later on in life be placed. During school-time the pupils should not only learn the exercises, but it should be impressed upon them that this little system is an indispensable adjunct to the morning (or evening) toilet, which can be carried out with advantage just as well by the poorest as by the richest, by weak persons as by athletes, by young and by the old, by girls as well as by boys.

The system ought not to require more than 10 to 15 minutes



Lawn Gymnastics—9.

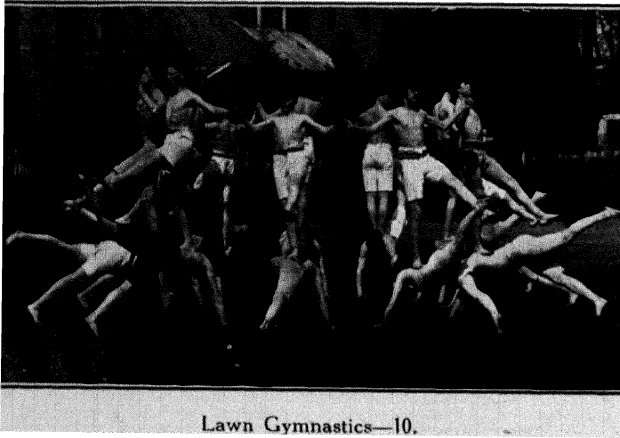
daily, and each exercise should be carried out the same number of times throughout one's whole life. The exercises should be the same for anyone and everyone, but in order to adapt them to different persons, ages, sexes or degrees of strength, each exercise should be capable of being performed with varying degrees of force, so that it may be made either easy or difficult.

If such a system—mine or another—were generally adopted, the instruction given in the gymnastic departments of schools would promote physical development not only during childhood but in after life as well, and besides be an insurance of health.

In most other subjects—reading, writing and arithmetic, for instance—the pupil acquires knowledge of which he can make daily

use in after life. The gymnastic instruction hitherto given, on the other hand, requires large rooms and heavy or expensive apparatus which are not readily or daily accessible to the pupil after he has left school.

Public schools, grammar schools and high schools, as well as elementary schools would then be in a position to develop in their pupils, to a much greater extent than is now the case, a sense of the importance of hygiene and the proper care of the body if through such a short system of home-gymnastics (combined with daily water-bath or air-bath with rubbing) they accustom them to the comforts of cleanliness and to the proper care of the body.



Lawn Gymnastics—10.

A scholar who has had a physical education of this sort will really have brought out of his school experience something that will be of benefit to him his whole life through; and such instruction is the more desirable since the greater part of the physical and mental work of to-day is carried out under injurious external conditions.

I am persuaded that the future will see my opinions put into practice.

As mentioned before in this chapter, I, like the majority of the English people, have good sense enough to consider outdoor games and athletic sports a far better method for physical education than Swedish drill. There is only one educational sport I do not like, viz., the indoor gymnastics with apparatus, and that for the following reasons :—

1. It is too strenuous, even dangerous, for undeveloped children and weakly young people. And the natural result is then that all the weakest who are most in need of exercise are generally exempted from such gymnastics.

2. The gymnasiums or halls fitted for this sort of sport, with the many kinds of apparatus such as parallel bars, wall bars, beams and vaulting horses, are enormously expensive and therefore only to be found in the larger towns with rich municipalities. Therefore, they are not much use in the general physical training of the population. The worst part is when a community has spent so much money on the erection and fittings of such a gymnasium it thinks it has spent enough on the physical education of the younger generation, and the other and more valuable parts of this education will then be neglected.

3. These gymnasia more often than not deprive the pupils of the opportunities of exercise in the open air, which is probably the most important factor from the hygienic point of view.

Therefore, it may interest readers to know that during the last few years there has been used in Denmark the so-called "Lawn Gymnastics" which originated at the "Danish Eton," the "Sorö" Academy. I have already mentioned this new system of gymnastics in my book, "The Daily Five Minutes," but I will now give some further details about it.

In "Lawn Gymnastics" the indoor gymnastics in the foul air of the expensive gymnasium have been transferred into a healthy and cheap outdoor game. The exercises can be performed upon any field or playground, preferably on a lawn, and they are done with the mutual co-operation of the participants in that half their number in turn play the rôle of various pieces of apparatus, and thus develop a totally different set of muscles. The pupils acting as apparatus will be able to assist those who are performing for the moment.

In other words, they will become "Play Mates," who accommodate themselves to each other, knowing that they belong to each other and must co-operate to produce a good display. It is just this characteristic which makes so many of the British outdoor games so valuable educationally as a means of improving the moral conditions of the young. But hitherto this asset has been completely absent from the usual apparatus-gymnastics of the gymnasium.

The Danish book explaining the "Lawn Gymnastics" contains no less than 212 photographs exhibiting the pupils of the "Sorö" Academy performing the many various exercises. It is shown practically how every exercise hitherto dependent upon beams, wall bars, horses, hooks and boxes can be performed just as well without such apparatus, and even in a more interesting and healthy way. All the

exercises are sociable, and many of them have the character of sports and games, and amongst these latter are some good new inventions.

The book was published with the support of the Danish Board of Education and subsidised by the Government. In Denmark only 32 per cent. of the country schools possess a gymnasium or hall for gymnastics, so the new "Lawn Gymnastics" have met a very great desideratum.

It has hitherto been in certain wide circles a common superstition that the so-called "rational gymnastics" depended entirely on the possession of a hall well-fitted with all sorts of apparatus. The "Lawn Gymnastics" will gradually kill this superstition, being based as it is on the good democratic principle that good exercise should not be a privilege for a few communities economically well situated, but should be available for the entire population, even in the poorest or most remote parts of the country.

CHAPTER XIV.

SKIN GYMNASTICS WITH AIR-BATH AS A MEANS OF BEAUTY.

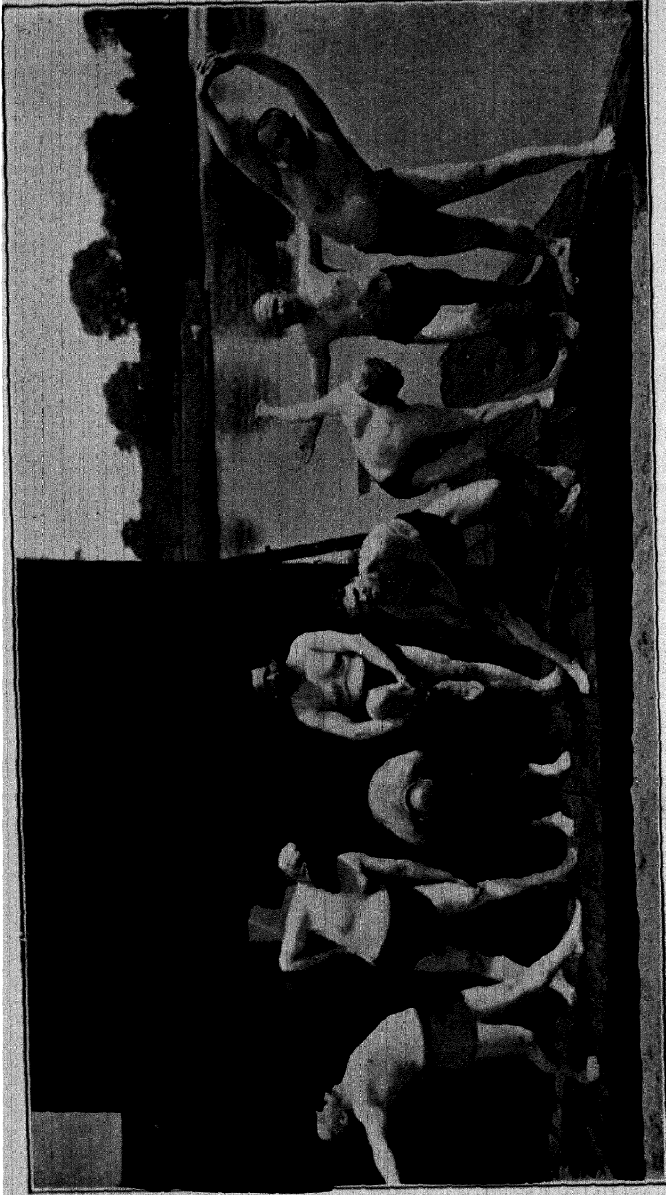
The Skin as an Important Health Organ—Its good condition Essential to Good Looks—What Skin Massage does—Its Quick Results—What Doctors say about my Massage Exercises.

ONE of the most essential conditions of physical beauty is a healthy skin. Even if the stature be not free from fault and the form and muscles are not so well-developed as could be desired, a naked body with a healthy, golden-brown skin as soft as velvet will be always a thing of beauty, besides being pleasant to the touch and to the sense of smell; while an unclean, white-grey skin, with black spots, red blotches and yellow patches is repulsive to all healthy minds. Whoever wishes for beauty, man or woman, must in the first place direct attention to the skin.

Elsewhere I have drawn attention to the fact that the skin is by most people considered last in an ideal of health and beauty except, of course, on the parts which when one is dressed are exposed to the eyes of other people. It is on account of this general disregard of skin that people stand in most need of "skin gymnastics."

As will be perceived by readers of my book, I mean by "skin gymnastics" not only the exposure of the skin to the beneficial influences of air and wind, sun and water, but chiefly a fundamental and thorough treatment of the whole surface of the body in a systematical manner by means of my skin-massage or rubbing exercises.

I certainly do not underrate the great influence of sunlight on the skin. But this influence cannot be obtained during the unfavourable time of the year which, unfortunately, lasts longer under our part of the heavens. Even in summer the amount of sunshine is often little enough, and besides, we have not always the time to spare for a sun-bath at the exact moment when the sun is shining brightly. Massage and rubbing, on the contrary, can be exercised with profit at any time and anywhere, wherever it is most convenient. If these exercises be prosecuted every day for several minutes, the skin will then be subjected to the benefit of continuous treatment, a benefit



Middle-aged men vigorously practising the Author's System.

which cannot be shared by those people who are content with occasional sun, air or water-baths, and disregard proper exercise.

These massage or rubbing exercises have an extraordinary quick result. Already, a short time after the appearance of the first edition of my book, "My System," I received many letters from ladies and gentlemen who were delighted to find that their skins, after a few weeks, had become as soft as velvet. In later editions these exercises have been much improved.

A few have inquired, by the way, whether it is not wrong to stroke the limb outwards, that is, away from the heart. My reply is that the rule of massage for the muscles is to stroke from outwards towards the heart. In "My System" I deal, however, with skin massage, in which the limbs ought to be rubbed in both directions, more power being used when stroking inwards towards the heart.

There are many different toilet soaps advertised as means of cleanliness and of beautifying the skin, but in my opinion soap in many cases does the skin more harm than good. To remove dirt from the hands and feet and face we are forced to make use of soap, but the dirt that forms on the body of an ordinary person consists mainly of skin refuse, and I see no reason why it should be dampened by water mixed with soap before removal, especially as the soap may remain in the pores and irritate the skin. According to my experience, this refuse can be quite as well removed in a dry condition by "curry combing"—that is, massage. Take notice, for once, how much skin refuse collects on the floor covering after the evening's rub down. The cold water-bath after the morning's gymnastics I look upon more for refreshment and hardening than for cleansing purposes.

It has been a great pleasure to me that several medical authorities have adopted my massage system with enthusiasm (and acknowledgments). My "active rubbing," as it has been called in medical terms, has been introduced in the "Kneipp cure Institutes," and in the air and sun-cure establishments all over the Continent.

It may be of interest to my readers to read a few opinions of medical men concerning my skin massage exercises. Dr. Broendsted, Aarhus, wrote in a daily paper:—

"The popularity that has been attained by that distinguished book, 'My System,' proves that it has supplied a want, in that it points out a simple, easy road to health which all men and women, young and old, can tread with very little trouble and without expensive apparatus. It not only contains good advice concerning invigorating baths and exercises, which are very judiciously selected and can be prosecuted anywhere, but also something absolutely

new (as far as I am aware). I refer principally to the so-called 'rubbing' exercises, with which are combined judicious corporal movements in an ingenious manner. As these rubbing exercises stimulate the skin by active muscular movements, they have a thorough and evident effect, and are adaptable in great measure to development and hardening. Accustomed for some time to cold baths and elementary exercises, I have, by personal experiment, confirmed everything as stated in this book; and the so-called rubbing exercises appear to be such an ingenious discovery that they in all their simplicity certainly ought to be termed 'inspired.' It may be said that as I have for several years taken a cold bath daily, and have employed therewith a few gymnastic exercises, a partial adoption of Muller's system can make no special difference to me. But that is not the case. Although, as I said before, I only follow it in principle, the result is already, after one month, plainly—nay, astonishingly—evident. And I am perfectly convinced that I owe it to the stimulating influence of the rubbing exercise on the skin. . . ."

Dr. Med. C. Heyerdahl writes in the *Dansk Sundhedstidende* (Danish Health Journal):—

"In the scheme, that should only take 15 minutes, much circumspection and experience is concealed. In comparison with the ordinary methods of taking the morning bath, the Muller arrangement offers great advantages. The ordinary method is this: to get out of bed and to step directly into the bath with the warmth of the bed still in the body, to dress oneself immediately, and afterwards, perhaps, perform a few gymnastic exercises. In Muller's system the order is changed in this way: before the bath, clothed in shirt and drawers, a number of invigorating body exercises are to be carried out, whereby the body is thoroughly warmed in quite another manner to the former way and well prepared to enter the bath. And after the bath something special to J. P. Muller's System is added, namely, a course of exercises by which the whole skin receives a thorough rubbing, causing it to glow and to induce a feeling of physical comfort that can be attained by no other form of bath.

"We recall the publication of the Sandow System giving instructions for obtaining strong muscles, accompanied by diagrams, etc., showing how much arms, legs and chest can gain in circumference if these exercises be performed. Very little of this muscle idolatry, thank goodness, is contained in Muller's System. He has perceived—which is rare in a layman, and still more exceptional in an athlete—that strength does not lie in the muscles, but in the development of all the organs of the body, and on these, and especially on those of the chest, stomach and skin, he has fixed his attention.

“ Perhaps people would interest themselves a little more on skin cultivation if they could move themselves to look upon the skin as a species of clothing. At the moment there exists, indeed no organ of the body that is more neglected. The skin is in general looked upon more or less as an indecent covering, of which people only dare show as little as possible. In reality, the skin is a very complex and important organ, the numerous vessels, glands and muscles of which prosper very ill under the continual packing of clothes. It becomes relaxed, badly nourished, and (to drop into metaphor) like an old, crumpled, dirty dishclout.

“ The skin can again be made as it was originally, smooth and soft and fine as silk, by practising the rubbing exercises of J. P. Muller. By his system the whole skin surface, from the soles to the scalp, becomes thoroughly enlivened, and an inexpressively pleasant sensation of warmth ensues which even the most complete massage and sunbaths could not effect. The reaction which everybody tries to bring about by the various forms of bathing is attained in full measure, and those who can only with difficulty regain their warmth after a bath will not by adopting the Muller method experience such inconvenience again.

“ The skin becomes, so to speak, another form of matter, at the same time finer and more hardened, and one could say the same thing, perhaps, of the bather himself. Then if one follows the health directions, the result, which comes as a sort of reward at last, will be that he will have grown into a new being. Ill-humour and fatigue vanish, giving place to a confidence in life and lust for labour. The change that has taken place is observed with wonderment, and one asks oneself if it is possible that fifteen minutes a day can have had all this as a result.”

CHAPTER XV.

WHICH EXERCISE DO I CONSIDER THE BEST ?

The Question frequently Asked—and Answered—All Forms Good for Specific Purposes—No Single Form that Develops all the Muscles—Bathing Essential—Hints on the Proper Method of Bathing—Running and Long Walks should be Practised by Everybody—Hints on Winter Bathing and Snow-Baths—Another Lesson from the old Greeks.

WHAT kind of sport do I like the best? Which is the more advantageous to health, gymnastics or athletics or games? Questions like these are frequently hurled at old stagers like myself, but we are always ready with answers that are no less numerous than anomalous :

“ Walking is the best exercise because the most natural.”

“ Cycling is the best and most healthy sport.”

“ Fencing is, by all means, the most healthy exercise, for it develops both the muscles of the body and special attribute of the mind.”

“ Lawn tennis is the pearl of games and, without question, the healthiest.”

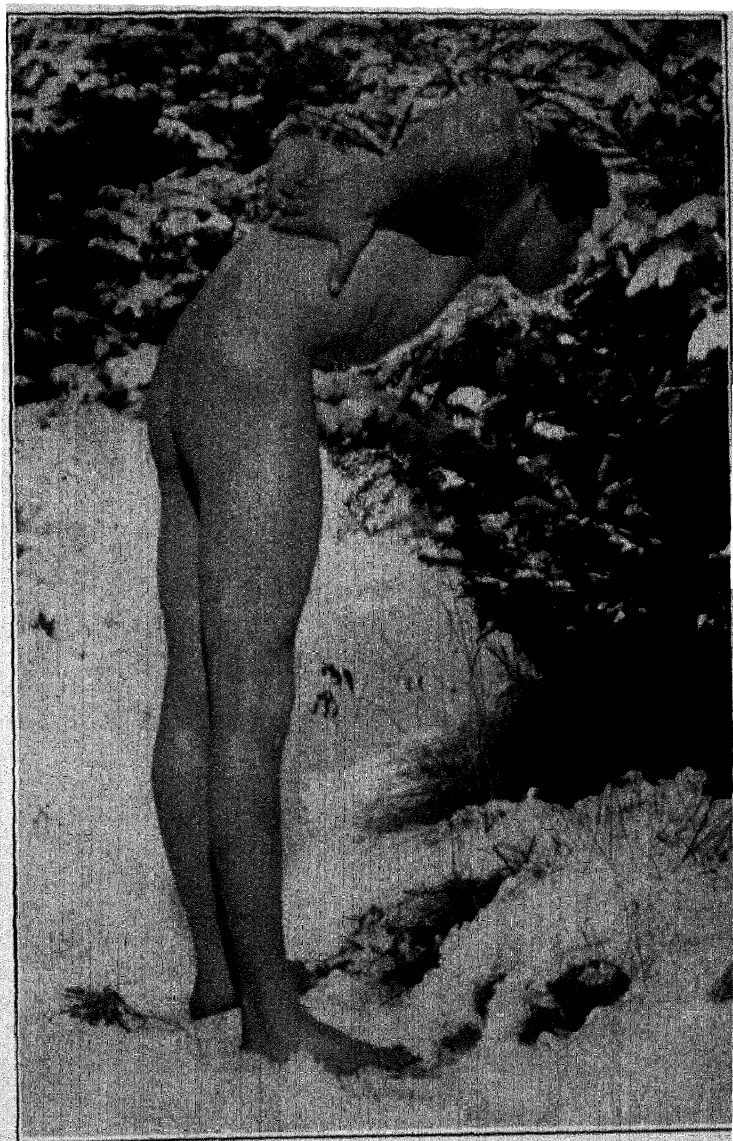
“ Wrestling is the best sport and exercise, because it is so many sided;” (you can have everything dislocated, from the great toe to the thumb).

There are so many, each with good points, and each being claimed by its devotees as “the best.”

I read a long article by a foreign physician who sought to prove that riding on horse-back was the only sport that developed the entire muscular system of the human body in the most complete and efficient manner, besides being the healthiest, and it was, therefore, to be recommended above all forms of exercise. And a Danish baron said much the same to me a few years ago.

I quote the baron, not because I am in any doubt whether the majority of “passionate” lovers of equestrian sports are of the same mind, but rather because he is the only man to whom I ever opened my mind on the subject.

“ Do you ride, Herr Lieutenant?”



Author performing rubbing exercises in the snow at Vjilefjord.

“No, Herr Baron; no more. I have, of course, gone through the riding school, have attended the manœuvres mounted, and have ridden over the plains of South America, but when I now wish to enjoy my leisure to the betterment of my body I find I have no time for riding.”

“Extraordinary! because riding is the very best exercise that exists for developing the muscles.”

“Yes, there I must agree with the Herr Baron. Riding is an especially beneficial sport—for the horse; and as his body receives an entirely different rational treatment both before and after the exercise, the horse, in contrast to the rider, becomes day by day more active, strong and enduring. Besides, it is such a noble sport”

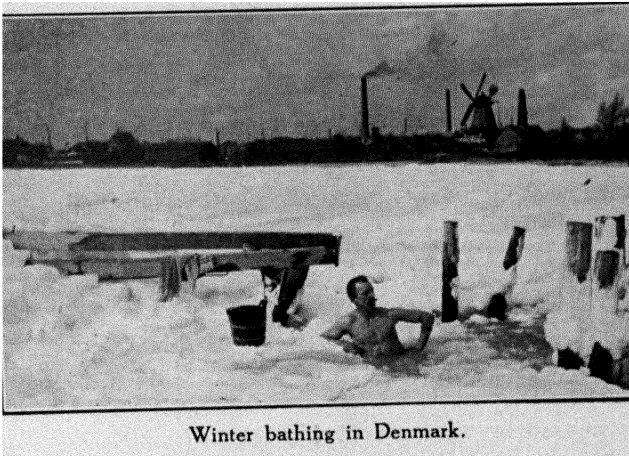
“Very good; but what form of exercise or sport do you consider the healthiest?” I hear the impatient reader ask. This depends so much on circumstances that it would be jumping to conclusions to give an unreserved opinion that this or that exercise was the healthiest or best. No one is justified in selecting such distinguished branches of sport as rowing or acrobatics as pre-eminently healthy, for the simple reason that there are people who impair their health by over-training in them, or they go in for a course of gymnastics in badly ventilated gymnasiums filled with dust and bacilli. In the same respect, swimming, which so many, with a certain show of reason, consider the healthiest sport, is often prosecuted in a manner that borders on madness. During a swimming contest I found several participants who intended to compete in several races, standing still during the intervals in their wet outfits, hunched together and trembling with cold like aspen leaves. I have never seen any of those gentlemen since, so must conclude that they have all contracted bronchitis or pneumonia. If a swimmer is competing in several events at a gala, and the weather is none too warm, he should either bring a dry outfit for each race, or else he ought after swimming (not taking part in the race immediately following) to take off his outfit, wring it out, dry himself and put on his ordinary clothes, only resuming his damp swimming dress when he is about to re-enter the water. Advantages, both in hygienic and in a sporting sense, are to be obtained from such precautions as this, for a body trembling with cold can scarcely establish a record.

If a general opinion is wanted on the value of different forms of exercise, it is safest to say, “So long as a sport or exercise is prosecuted according to the rules of *its* hygiene, in the right way, at the right time and in the right place, it will be healthy and good; otherwise, it will only tend more to do harm than good.” I said

purposely the rules of *its* hygiene, and not of hygiene. Hygiene in general prohibits one to remain more than 10 to 20 minutes in the water, and restricts, sometimes, running exercises to a few minutes, whereas long distance swimming or running can be, indeed, advantageous to the health and the development of the runner or swimmer, if only the special demands of its hygiene be respected.

He who raises the question as to which exercise he ought to choose, must be prepared for the counter-question, "What object has he in view?"

Does he wish for health and fine body, with every possible physical attribute? Or a noble and valuable array of medals and goblets? Or, rather, both these things at once? This is not



Winter bathing in Denmark.

impossible, and is, besides, praiseworthy. This, however, is my aim: a healthy body with good physical *attributes*, the possession of which is a treasure that cannot easily be stolen.

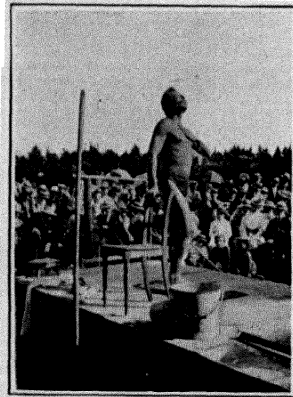
It may be said, at the outset, that such a good result is not to be obtained by the practice of any single branch of exercise or sport. There exists no *single* sport or athletics or game that develops all the combined muscles and organs, to say nothing of creating a harmonious and uniform development; but the result may be obtained from even a small measure of general gymnastics in fresh air which will give to the lungs elasticity and endurance, will renew and cleanse the blood, invigorate and harden the skin.

What exercise or sport or which kind of gymnastics one should adopt often depends on circumstances and conditions peculiar to the

individual. Therefore, it is advisable, when opportunity offers, to choose that exercise or sport that will most quickly effect those deficiencies or infirmities under which the physique of the individual is labouring. One should seek occasion to have oneself examined, and should ask for the advice of more experienced and more cultivated men.

I lay down as an indispensable part of every form of exercise the cultivation of the skin by bathing. The practice of physical exercises almost always produces perspiration; and it is healthy to sweat, at least once a day. Not the least benefit of it is that the pores of the skin by this means are kept open and the body freed, in a manner, from the mass of poisonous matter within.

It is only to be expected that a German professor should have made the discovery that several blood corpuscles are carried away



The Author demonstrating rubbing exercises.

with every drop of sweat, and that, according to him, every corporal exertion, with the exception of swimming, is harmful because the latter sport does not induce perspiration. The professor, by his dictum, has endeavoured to destroy every good blessing that we owe to the athletic practices of the old Greeks, to the robust Scandinavians and the energetic English of the present day. Indeed, according to his view of the matter, all labour in the fields, on the sea, or in factories ("by the sweat of his brow shall man eat his bread") is harmful.

It is, of course, an uncontested fact, borne out even by the holders

of the world's records in swimming, that it is impossible at this sport to perspire in the slightest degree; but, nevertheless, the professor's assertion is senseless. Now, blood-letting is often beneficial. Relief follows the exchange of matter, whereby health is increased. In earlier times blood was drawn to an excessive degree, and yet there were many gluttons to whom it did good. But it is as well to note that at least a thousand times more blood corpuscles must be lost by a single blood-letting or a bleeding at the nose than could possibly be lost by sweating for a hundred years.

But sweating is of no benefit if left to dry on the body instead of being washed off in the bath. Should there be, for the moment, no opportunity of having a bath, care must be taken to keep moving about in order to prevent a cessation of the state of perspiration until a bath can be reached or until a dry rub down can be effected. How many thousands of soldiers have contracted fatal illness simply because they had to offend against this rule? It happens that soldiers are forced to go through arduous and sweat-producing drill and field exercises, and then are obliged to stand still for lengthened periods, often in the cold and wet, or in the shade in summer, while theoretical instruction or the like is meted out to them. If they only had had a small towel in the knapsack, and could they have been spared a few minutes to rub themselves down, or perhaps just enough time to pass the towel under their shirt and rub their chests and backs, many lives would have been saved.

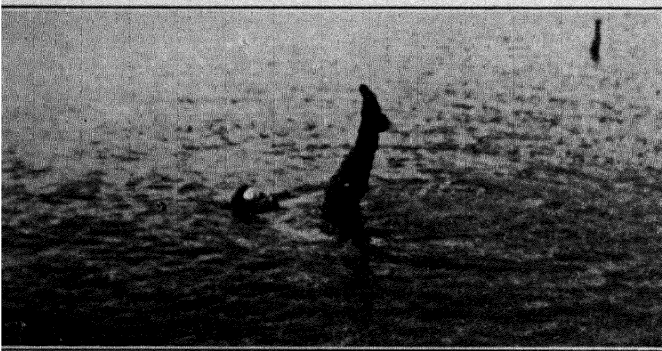
Even to-day many people hug the old superstition that it is dangerous to take a bath while in a state of perspiration. One should first, ran the old dictum, dressed or undressed, sit down and wait until cool. I do not know which of these two practices is the more dangerous; both have caused the deaths of hundreds of persons. Who does not know the type of worthy citizen who emerges from the dressing-room leisurely, sticks his big toe into the water, walks up and down, then descends a few steps leading to the water, scoops up a handful and moistens his chest with it, and then returns to mount the board? At last the preliminaries are over, the cooling down is effected, and the man, his skin all "goose-flesh," enters the water. The intelligent, sensible, smart athletic man goes to work in an entirely different manner. If not sweating when approaching the bath, he runs the last part of the way in order to encourage perspiration and get well heated. Unrobing follows, slowly enough to allow the heart to quiet itself, and then with his body covered with pearl-like ropes of sweat he plunges in head foremost, eager to experience the delightful sensation of cooling under the water.

Here are a few hints as to water-bathing : Never take a cold bath

unless you are thoroughly warm ; the more one perspires the colder the water may be, and therefore the greater is the enjoyment of it. But if the bather is cold and cannot, for some reason or other, warm himself, then the water must be warm.

Having been for many years a vice-president of " The Corporation of Vikings " at Copenhagen, one of the oldest bands of winter bathers in Europe, I have some experience in this sort of sport. Some of the members over 80 have bathed in icy water since their young days, and therefore still feel young. I have myself swum during mid-winter in The Sound, Vejle fjord, Skagerak, the Channel, the North Sea, and in several Alpine lakes. Sometimes a hole had to be cut through two feet of ice.

There is one main rule to make it safe and healthy. It is: be



Scientific swimming in winter in full dress.

well warm before and after. If you are perspiring when diving in you will find it comfortable and have no feeling of shivering, but you should, of course, steady the heart by some deep breathings during undressing.

The coldness will not be felt until one has dressed again, because the cold clothes then steal the warmth of the skin which was produced by the reaction. Here is the most dangerous point of the whole affair. To stay talking afterwards, or to sit in a car or 'bus, would almost be suicide. You should run or walk very quickly until you are quite near the perspiring point again. Then you are out of danger.

In Copenhagen we have heated dressing-rooms for the bathers, with stoves for warming the clothes, which, of course, makes the performance quite safe. When bathing during winter in the open here in England, I should think much caution should be applied,

because the clothes will not alone be cold but also get damp while we are in the water.

A similar sport is snow-bathing. If the surface of the snow be frozen, care must be taken not to cut the skin. Last winter, when 60, I took a daily snow-bath after sun-bath on skis in the woods surrounding St. Moritz. Heated dressing-rooms are not necessary here because of the very dry air and the intense warmth from the sunbeams, which act with double force, both directly and being reflected by the snow, too.

All of us—that is we who call ourselves athletic men—ought to consider it our responsible duty to teach the great mass of the public by degrees how to live sensibly and healthily, and to discourage their excessive imprudence and pitiful self-indulgence. And, further, we ought to strive more earnestly until athletics or daily exercise of some kind are common to the whole people. All young men ought to practise running and long walks; then they would look forward to their daily labours as a pleasure, a sport; all young women and girls should go in for physical culture which would serve to make their future maternal functions merely a healthy diversion.

I know of no better means of fortifying and preserving the health than running exercises in the open. There are, of course, other movements, such as contained in "My System," that help more to develop the waist line muscles; but the chief condition of health is proper exercise for the heart and lungs, and energetic advancement of the powers of endurance.

If people would only consider how much healthy sustenance to the blood is to be obtained from fresh air, they would use any time that was at their disposal to breathe into their lungs as much as possible of this invaluable element.

The deeper one breathes the more is the power of his lungs developed. Running is better for the heart than parallel bar exercise, wrestling, heavy dumb-bells, or the like, because these are not seldom the cause of heart-pressure, induced by having to "hold the breath" occasionally. There is no need for anxiety if after running the heart beats loudly, so long as the beat is regular.

I must not neglect to draw attention to the favourable influence that running has on the harmonious development of the body. It is a great mistake to suppose that only the legs benefit by it or grow exceptionally bulky. Thin and weak legs naturally become more muscular, but fat legs become slender; by "legs" I mean really the calves of the leg. The thickest legs are not by any means the most powerful and capable of endurance. An Arab steed is, in this respect, obviously superior to a hippopotamus.

The most important thing in running exercise is its influence on the build of the body. To the man who is possessed of a deep and regular respiratory action, this sport comes most naturally and simply, and it is the best means of expanding the chest and making the shoulders broader. Not in vain was it that the old Greeks regarded running as the most efficient of all their methods for rearing their robust, handsome men. Even at the present day the antique masculine type, with its broad shoulders, strong hips and finely formed limbs, serves as the ideal. Exceptionally powerful and muscular, but at the same time beautifully proportioned, full of vivacity and power of endurance, are the figures of their heroes which classic artists have handed down to us.

Still to-day I am so convinced of the great utility of running that I do a half or a whole mile as often as I get a good opportunity. My speed is, of course, not very impressive, but, after all, I am not afraid of racing any man in the world who is, like me, over 60 years of age and over 12 stones.

CHAPTER XVI.

SUN AND AIR BATHS FOR OPEN-AIR WORKMEN.

Rheumatism ("the Poor Man's Gout") caused by inefficient Skin Respiration—Body Rendered "Air Tight" by Clothing—The Trouble Remedied by Sun and Air-Baths and Sensible Garments—Precautions to be Taken.

GOUT is expressed in the Danish language as a sort of lumber room in which a mass of various physical infirmities are included. They can be roughly divided into two principal groups: the kinds of gout that attack the poor man, called rheumatism, and those that assail the rich. Of the latter—usually derived from over-eating and drinking, combined with too little exercise—it is not my purpose to treat here. The "gouty" ailments that affect the workman, to the contrary, are mainly due to severe physical labour in unfavourable conditions. It is sad enough, that part of these inconveniences cannot be permanently remedied. Fortunately, however, the most frequent causes of rheumatism can be avoided, and, instead of creating expense, the process will afford material gain. I mean to say that rheumatism often arises from neglect or improper treatment of the skin. By wearing too many clothes because it is thought that the skin should be protected and is tender, it so happens that it is really weakened and ruined.

Opinions are united on one point: if we cease to breathe, we die. The very worst thing that can happen from a health point of view is the neglect of regular respiration. Truth is that most people have half forgotten this, and in it lies the foundation of a multitude of physical and mental troubles. The majority of people scarcely know that the act of exhalation should not be performed merely by the lungs, but by the skin of the entire body. If, then, the body is covered with four to seven layers of clothing, rendered air-tight by fatty exudations, it is plain that the important respiratory function of the skin will be completely suffocated, and health and happiness begin their downward path.

I would like to make this proposal, that all who are compelled to work in the open-air—bricklayers, builders, carpenters, plasterers, navvies, gardeners, workers in the fields, fishermen and mariners—

should wear, while at work in warm weather, only linen trousers, either rolled up to the knee or cut off above the knee, a straw hat or a white cap, wooden sabots or leather shoes. This will have the immediate advantage (of disadvantages I will treat subsequently) of saving money. The following articles will be done away with when purchasing working apparel: the thick woollen jersey or under-vest, drawers, stockings, and also the smock frock, while the linen shirt and outer vest will be saved much wear and tear, because these will hang during working hours with the jacket, and need only be put on during meal-times, or in going to and from work. The same can be said of the trousers, if during work only short knickers are worn. Further, if long linen trousers are worn, they can be rolled up during work and let down again when evening comes, so that there will be no need to wear ordinary trousers.

It is, of course, understood that in certain kinds of labour leather protections must be provided for the naked body, to the use of which workmen will become specially accustomed.

A second general saving of direct benefit will be in the matter of drink. Working partially clothed, the skin will be able to perform its regular and proper functions, with the result that the workman will not feel oppressed even when the weather is warm, and he will not suffer much from thirst. He who works in thick woollen under-clothing, with several thicknesses of clothing laid upon that, will suffer either from an insupportable feeling of oppression or—if the pores are not quite blocked—will perspire most terribly. In either case he will suffer from a burning thirst, accompanied, of course, by a constant craving to quench it. If he seeks to quench it by drinking beer it will prove pretty costly, especially on a long warm day, and it is well known that beer only serves to increase the accumulation of phlegm in the throat which provokes the first thirst.

The worst of it is that when a workman, bathed in perspiration, sits down to eat without first taking a bath or thoroughly rubbing himself dry—to do which he has neither time nor opportunity—sooner or later he must fall a victim to rheumatism. The ancient Greeks were so healthy and so well formed, not so much because they persevered in gymnastics and athletic exercises—we do that to-day—but because they carried out their physical labours without clothes.

The Nature doctor, Arnold Rikli, in the year 1856 made the discovery that it was possible to cure a whole series of illnesses by causing the patients to lie down or walk about naked in the open air and in the sunshine. During the years that have elapsed since then, a great number of people have been won back to health at his

atmospherical-cure establishment at Veldes in Oberkrain, Austria. However, it was not until recently that men of science did recognise that sun and air-baths must be reckoned with when considering the best means of curing sickness and maintaining health.

If I could only induce those people who work in the open air to throw off the major portion of clothing, they would at least for half the year be virtually taking air and sun-baths for several hours together. This would improve their health and invigorate their bodies, and their labours would not prove nearly so fatiguing. They would also save money that might be otherwise spent in medicine, and even if they were members of a sick club, they would earn more money by sticking to work than by being obliged to lie upon a bed of sickness.

If some remedy be rubbed into the skin, the warmth excited there will drive away temporary attacks of rheumatism; but as the seat of the mischief is still present, another comes, and every subsequent attack is more difficult to repulse. The sun, however, can drive away the temporary attack as well, and, what is of most importance, regular air and sun-baths—that is, exposure to the sun—will harden the skin and thus help to prevent future attacks. Furthermore, the sun and the wind will cleanse the millions of skin pores, thus restoring to over-worked man the lost power of exhaling through these millions of mouths. Besides, the bodies of workmen, after a short time in the sun, will be of a beautiful bronze colour; and will look as if they wore brown jackets.

So much for immediate advantages. Now for disadvantages. These exist either in the imagination, or can be regarded as only temporary, by which I mean they will disappear within a week. The worst thing that could happen, as far as I can judge, is that a policeman, from a mistaken sense of duty, should take it into his head to arrest, say, a sun-bathing road mender.

There is also the suggestion that in the above circumstances the body would not be protected from the dirt and dust that otherwise clings to the clothing. This dirt is easily removed by the hand as soon as it is on, that is, if there be no time to wash until arriving home in the evening. And even if the dirt were allowed to remain, it is not a tenth part as injurious as the poisonous outpourings of the skin congealing under thick, sweat-saturated woollen vests, to be again absorbed by the body, doing incalculable harm to the blood and internal organs. In like manner one is, apparently, better protected from cuts and scratches by the clothes. But a fresh cut is far less likely to inflame when exposed to the sun than when wrapped up in a dirty microbe-laden piece of cloth. It is a well-

known fact that wounds on healthy-blooded people heal very quickly, and without doubt the sun-bath is the best means of ensuring good blood. Above all, a tender and irritable skin will become pliable and elastic, as well as less susceptible to cold, or rough handling.

It is to be recommended that beginners who are not exceptionally strong should advance gradually; for instance, on the first day only expose oneself to the sun for half-an-hour, and then, by degrees, for longer periods until it will be safe to work the whole day through attired as I have suggested. Ordinary care in this respect will prevent the one concerned from being troubled by blisters, or being kept awake at night by an itching skin which, otherwise, would be the most likely experience of the first week. When the old skin has peeled off, the new skin will be found able to bear any amount of exposure.

The most foolish thing to do, during the period of transition, is to divest oneself of one's woollen vest and yet retain the shirt. It is easier to catch cold when clad only in a shirt than when quite naked; and in the event of perspiration it is much more dangerous to wear damp linen than damp woollen. Absolutely the best thing is always to have nothing on, if the weather—that is, the temperature—will permit it. The exudations of the skin evaporate without letting the sweat congeal, and the healing and invigorating rays of the sun can penetrate without hindrance into the body. Even in rainy weather, at least in summer, it is much less dangerous to work naked than clothed.

CHAPTER XVII.

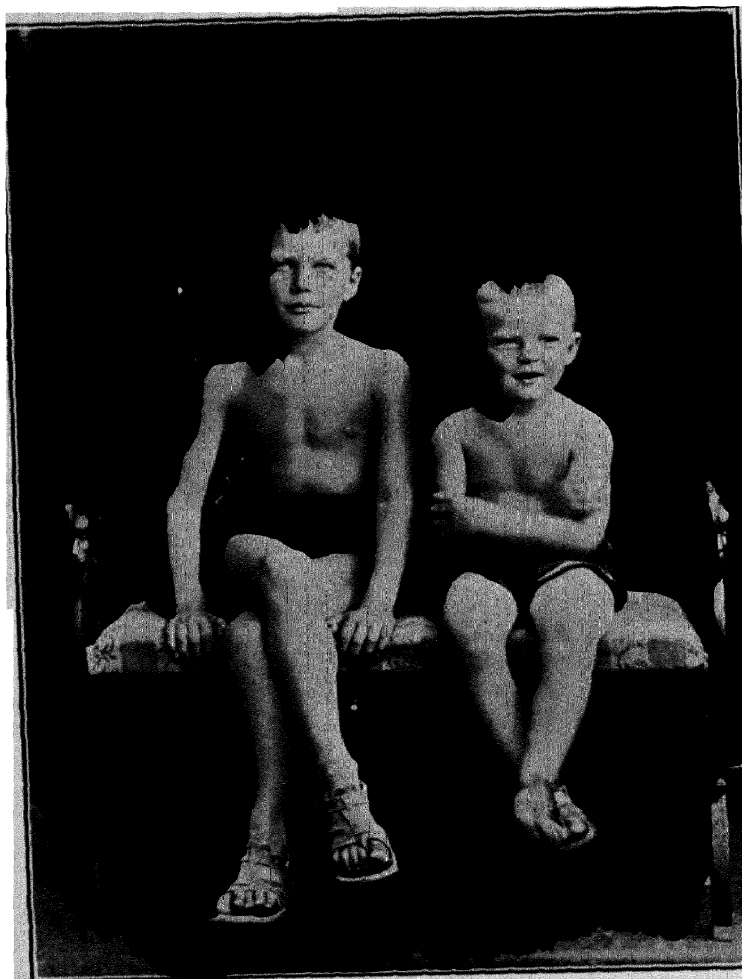
THE HARDENING OF CHILDREN.

**Misuse of Cold Water—How to arrive at Proper Temperature—
The Air-Bath invaluable—The Ridiculous Mode of Dressing
Children—Superfluous Clothing on the Body and Bare Legs!**

DR. FERD. HUEPPE, Professor of Hygiene at the University of Prague, has written somewhere or other that "*many thousand children have been killed by excessive and misunderstood cold water treatment.*" The bath-water for children in the first year of their life must be of a temperature of 32 down to 25° Reaumur (say, 104 to 95° Fahr.) In the second year the temperature may be lowered from 25 to 16° R. or 89—72° Fahr. *provided* the child be uncommonly robust and of a quiet disposition and the temperature of the room is proportionately low—about 60° Fahr.

In most nurseries, however, the air temperature is much higher, and in that case the child will find the water temperature of 68 to 78° Fahr. very cold, and will begin to scream through experiencing a nervous shock. Here, therefore, is a means of measuring how high the temperature of the bath-water ought to be. If the child does not seem comfortable in the bath, then the water is too cold and may be harmful.

But lukewarm and warm baths must be employed with all precaution. A danger is easily run that the child may catch cold afterwards, for warm and luke-warm water does not cause so strong a reaction as cold water. It is necessary, therefore, immediately after the bath, to dry the child quickly with a towel, and then to rub it down all over the whole body. If the child is bathed in the evening, it must be enveloped in a woollen garment and well-covered in bed. After half-an-hour, if the child and the *ordinary* bed-clothes are warm, the woollen covering can be taken away.



The Author's sons Ib and Per when aged seven and three respectively.

If the bathing is done in the morning or during the course of the day, the child, after being rubbed down, should be quickly dressed, and care be taken that it has exercise at once, either by playing at some lively game or by gymnastics.

Adults also, when taking a warm bath, should lay these precautionary measures to heart, not only the nervous and elderly, but also the young and robust. But, unfortunately, these precautions are disregarded. So soon as a Turkish or Roman bath has been taken, especially in the cold months of the year, or a bath has been enjoyed in



Two Danish Peasant boys, 9 and 11 years old, physically developed by "My System."

the swimming-hall of any institute—in such places the atmosphere is nearly always too warm—the bather should go for a good walk at a quick pace. Instead of doing this, many people stand about in the street or sit in cars and 'buses, and thus easily take cold.

A cold bath taken daily is, of course, most refreshing, but for cleanliness and as a means of hardening oneself, a weekly warm bath with soap, in combination with a daily air-bath and a dry rubbing down, serve equally well.



Two little Danish girls trained according to the Author's system.

(They had never worn boots or stockings; note their beautiful feet.)

As for bathing in ice-cold water, it is a kind of sport to be recommended only to very robust men, and then only if they find actual pleasure in it. The same applies in respect to snow-baths and sea-baths in winter in the open-air. In regard to these baths one thing is certain: they are in no wise necessary to health, and may be very harmful indeed if the bather does not see to it that he keeps warm when dressing himself and after.

The air-bath is, above all, an excellent, mild method of hardening that is to be highly recommended for both small and bigger children.

In summer there is absolutely no need to clothe them, even when playing in the open air. In winter they can take their air-baths in the bed or dressing-room; but in that case care must be taken that they are always in motion or are being massaged all the time they



remain undressed. Whilst it is very good indeed for young children to run about and play in warm weather and sunshine without clothes, it is, nevertheless, quite a wrong method of hardening children to allow them to go about in the cold weather with naked legs, a practice which retards their proper growth. I consider it ridiculous, as well as directly unhealthy, inasmuch as it checks circulation, for children to go about, as I often see them, with seven thicknesses of clothing on their bodies and nothing on their blue, frozen legs.

I should prefer to see children clad with only two thicknesses of material; at best a pair of combinations of porous linen or cotton, and an outer garment and blouse to which the knickers and stockings could be buttoned, so that braces were unnecessary. My boys went thus clad through the winters, and I am convinced that this costume is much more comfortable and more hardening than the seven thicknesses of clothing and the naked calves.

CHAPTER XVIII.

TUBERCULOSIS PREVENTED AND CURED BY SUNLIGHT, FRESH AIR AND CORRECT BREATHING.

A Suggestion for Propaganda: Care for the Afflicted, but teach Health Culture to Prevent Affliction—The all-importance of Fresh Air—Lack of Exercises in Sanatoria—How these would Assist Cure—Many People have Cured themselves by following my "Systems."

THE Danish National Association for the Fight Against Consumption has built and maintains partly out of private funds, Sanatoria for thousands of patients. Had not the association better begin with the object, announced as secondary in their programme, namely the propagation of knowledge of the means of preventing tuberculosis?

A large sphere of useful work is open to this association, and all other kindred associations, if it will only aim at this second object; and it would be, indeed, "worthy of the blood of nobles" if they began a ruthless campaign against the tainted, confined and superheated air in which people live and breathe, both at work and at home, and while seeking their pleasures in theatres, music-halls, and churches and chapels.

One wonders that a still greater number of people do not become completely debilitated—fall a prey to infection—when one thinks how oppressive the atmosphere can be even in the office of a sanitary inspector, or in a physician's waiting-room, to say nothing of that in the veritable human pig-styes where the disease is bred.

In how few offices, lecture-rooms, factories, and other crowded places of assembly are rational contrivances for ventilation found? And even if such things do really exist, they are often wrongly or never used.

What a horrible smell and dust are often to be found in a gymnasium or exercise rooms. Is it to be wondered at that gymnasts and athletes, who suck this dust down by the pailful,

succumb to the attacks of bacilli, even when their muscles are so strong?

How few people, even among doctors, sleep at night with their windows open; and how few, not excepting engineers who are specialists in ventilating machinery, are capable of detecting, by their sense of smell, whether the air around them is pure or pestilent?

Although it is bad enough in towns, it is infinitely worse in the country. Here, when the air is obtained fresh from the cask, so to speak, it is, nevertheless, carefully imprisoned in tiny bed and living rooms! Add to this the disagreeable, excessive warmth that greets one as soon as we enter the door at all times, except during the summer months.

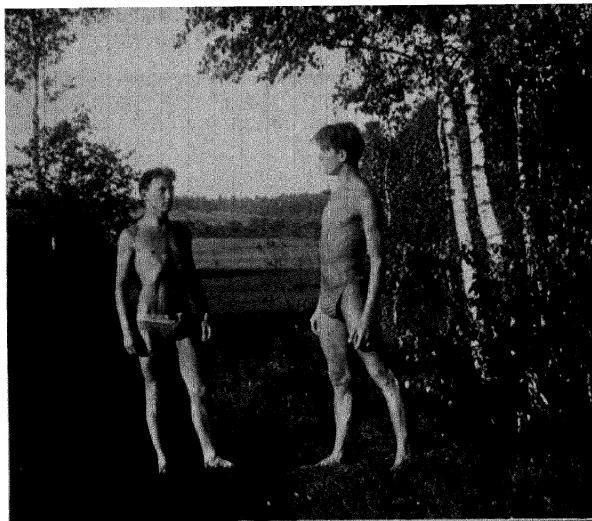


Performance of "My System" in the Sanatorium, Oberwaid.

The sole advantage which a high degree of warmth could provide, namely, the fresh currents of air striving to supply the deficiency caused by the heat, is rendered useless by the sickly, superstitious fear of a draught, which, combined with misunderstood motives of economy, causes people to stick paper over the window crevices and felt on to the doors. How many millions would be added to the national wealth if people would only content themselves to live in rooms of a temperature of 55° to 60° Fahr. instead of 65° to 75°, and how much would the individual powers of resistance to sickness increase by following this advice?

But it grows worse. In the good old days people were able, during the winter, to drive in open vehicles or to sit in unwarmed churches without inconvenience to themselves. Nowadays, long columns appear in the newspapers about how cold it is in trams and buses, and in the churches, although, it is to be presumed, clothes are just as thick as formerly.

My advice to these anti-tubercular associations is to bring pressure to bear on all managers and masters that they shall take care to provide proper ventilation in their rooms for their workers :



Young Sunbathers in the Wood.

and impress upon the minds of the working classes how pernicious it is for them to be breathing air that their fellow-sufferers have already been using, and which is, besides, charged with gases, and dust of every sort.

Recommend them to take moderate but thorough exercise with correct deep-breathing in fresh air, even if they can spare only half an hour daily, so that the exchange of matter in one or any part of the body does not absolutely stagnate. The bacilli have good noses, and can find out the weak spot, which they occupy and use as a base of operations for the conquest of the entire body.

Open the eyes of the public, of our authorities and law-givers,

so that exercises out-of-doors will not serve only as amusements and to pass the time away, but also as a means of strengthening the health and the body till it is able to resist the disease, and thereby assisting the whole national community.

If we wish to show clearly the use of sanatoria in the fight against consumption, we ought to look upon them not merely as healing institutions for a few, but rather as educational institutes for the benefit of the whole population.

That many consumptives are released, as relatively cured, from the lung hospitals is undeniable, and this fact is an excellent proof of the power of those methods of cure which include the inhalation of fresh air. Air is virtually the sole factor in the cure. It is a fact that a still greater number of patients could be restored to health if some regard were given in the course of treatment to other important health-factors, such as sun-baths, a thorough skin treatment and rational bodily exercise with deep-breathing, and if, at the same time, offences against the precepts of elementary hygiene were omitted, such as over-eating.

It is self-evident that sun-baths ought to be provided at these sanatoria on a much larger scale. At present, the places reserved for the patients to rest in the open air (which they generally do every day from four to five hours), are provided with curtains or shaded by trees, in order to keep the sun as far away as possible. But the cure would be much healthier and more pleasant if the patients were undressed and made to expose their bodies to the rays of the sun. In the coldest months, if the sun were shining, they could be placed in a kind of hot-house that would, of course, be well ventilated and, if necessary, artificially warmed. Even if the rays of the sun lost some of their power in having to pass through the glass these winter sun and air-baths would have a good effect.

With the exception of slow walking, rational corporal exercises are completely excluded in the treatment of consumption. The reason is not that the patients (especially those in the early stages of the disease) are not in a condition to practise gymnastics. I have often seen consumptive patients undertaking by permission of their physicians, heavy tasks, which were scarcely beneficial to their health, and certainly much more exhausting than many forbidden gymnastic exercises. It is scarcely believable the extent to which invalids will exert themselves at their concerts and various social entertainments. I have seen a patient in a sanatorium play continuously for one hour and a half on the piano!

Those who have experienced for themselves the powerful and beneficial influence of systematic gymnastics on the digestion, as well

as upon the heart and lungs, will understand how fatal it may be if this means of cure is ignored in the fight against consumption.

In the lung hospitals and sanatoria people devote their time exclusively, and at great cost, defrayed by themselves or others, in order to live healthily, thereby to regain their own health as soon as possible. Therefore, it is much to be wished that the whole treatment were more complete than it is at present. One should not be content to check the destructive influence of the bacilli in the lungs, but should make it his aim to strengthen the whole organism and to exercise the body systematically, so that the fight for existence can be recommenced with some chance of success, when the patient leaves the sanatorium.

Thousands of people, also several medical men, have in their private homes cured themselves of consumption by using "My Breathing System," yea, even "My System" and "The Daily Five Minutes." One of the reasons why these "Systems" are not officially used in sanatoria and hospitals for consumptives is probably that, notwithstanding my 52 years of hygienic studies, I am looked upon as a lay-man; and medical etiquette forbids the use of methods invented by lay-men until so many years have elapsed since their death, that it has been forgotten who really created such methods. The fate of *Arnold Rikli*, the inventor of the modern Sun-and-Air Bathing cure, is a good proof of the truth hereof. Even the learned men amongst his own compatriots have quite "forgotten" his name and work.

I will finish this chapter by reprinting the following letter from D. R. Mekta, Medical Officer, Hunza, Gilkit, Kashmir, India :—

"I think it a part of my duty to convey to you the beneficial results derived from practising 'My System.' I am a medical man, aged 25, and got pulmonary tuberculosis at 23½, weight reduced from 108 lbs. to 92 lbs. in three months. The best doctors gave me only two years to live. I resolved to follow your system, and after I had continued it for three months, I was struck to find an increase of 6 lbs. in weight, skin turning from an unhealthy to a healthy appearance, face from yellow to a slight red colour, and size increasing by one inch, and chest by two inches. It is now in the sixth month that I am writing to you. I have *no* sign of the tuberculosis, and weigh 120 lbs. I do not know how to thank you for restoring me to health in so short a period as six months. I will gladly allow you to send my testimonial to the press."

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comfort, especially in warm weather, is delightful. The collars wash easily and do not fray as linen collars do, so that in spite of the slightly greater initial cost, they are decidedly economical in the long run.

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