

The airbath as a means of healing and hardening the body / by Dr. Heinrich Lahmann.

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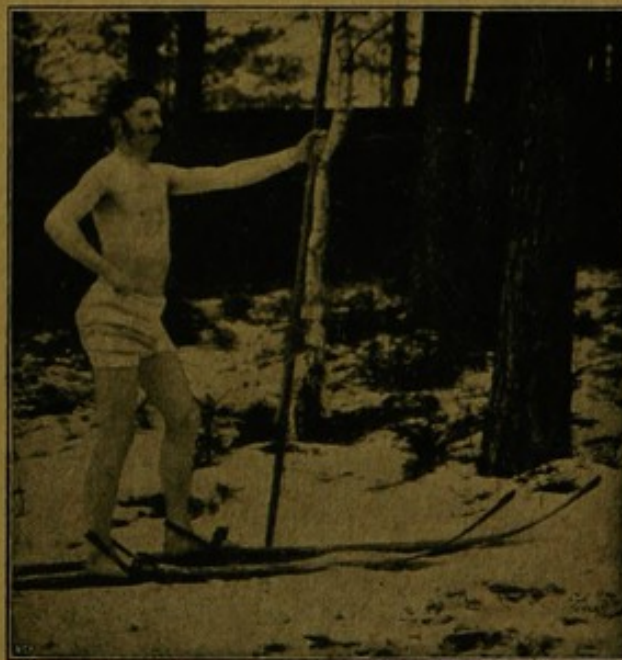
The Airbath

as a

means of healing and hardening the body

by
Dr. Heinrich Lahmann
Weisser Hirsch, Dresden, Saxony.

Second Edition.



Stuttgart 1901.
A. Zimmer (Ernst Mohrmann) Publisher.





In the present time of conflicting opinions in the medical sphere of health, all thoughtful persons who hear, for instance, on the one hand, of competent persons earnestly advocating Serumtherapy, and on the other hand, of other persons, not less competent, recommending water as the only means of health, must arrive at the conclusion that the original premisses from which such opposing opinions can be drawn must be falsely conceived. The adviser of medicaments makes just the same mistake as he who orders the water treatment, in that they continue to treat the patient as one having some clearly specified disorder whilst the primary question they should ask themselves is whether the patient would not be completely set up if, generally, he were brought under the normal conditions of human life. Nowadays when a scourge like Tuberculosis prevails, the latest scientific opinion on this side and on that is to be heard to the effect that the patient must be brought to the normal conditions of life. Therefore we must enquire whether in the case of less ravaging diseases we may not, by following the same prescription, arrive at the goal. But how about our knowledge of the normal conditions of human life?

What people understand by the word "Hygiene" at the present time has long ceased to be the science of health. When anyone asks "How am I to live in order to continue in good health?" he receives such a confusion of answers that he may be congratulated if he has the courage to continue to live in his old mechanical manner for if he pays heed to his multitudinous counsellors he will, in all probability become a confirmed hypochondriac.

How many of us doctors, who certainly understand the matter, can then in all honesty decide the enquirers? How, what, when and how often shall I eat and drink? How, when, how long and how often shall I sleep? How shall I order my house? How shall it be aired and heated? How should I be clothed by day and by night? How should I

work? How restore my strength, how, when, how long and how often should I bathe? How — — — but here we will stop the overwhelming questions for they are beginning to partake of a too familiar character. Upon these "Hows" and "Whats", however, upon all these little things depends life, depends health and depends no less, also, disease.

Will you not believe, as we do, that if we have learnt, through the correct solution of these questions the primary conditions of a healthy life we have also acquired thereby a basis of healing conditions for ailing humanity? Can you not believe, as we do, that through this principle we have been able to attain to a simple, natural treatment of disease in substitution of the ordinary systems of the present day?

Till comparatively recently we have unfortunately considered ourselves above studying scientifically these every day things by which our life is so powerfully influenced. People smiled when Professor Jaeger and my humble self enlarged upon the question of healthy clothing. But people smile no longer now that they see Professor Rubner takes the trouble to write upon the hygienic subject of — — Footclothing.

We know intimately the physiology of many of the brute creation but our knowledge of the living conditions of mankind has been, up to now, so small as to be worse than useless. When one sees the wrong treatment of even healthy humanity — as for instance, growing children — owing to want of sufficient knowledge, it is not to be wondered at that the general treatment of the sick leaves much to be desired. In this the medical advocate of the serum treatment errs to the same extent as the advocate of the water treatment.

In the same degree that a man wishes to strengthen his own body, so he wishes to see his children grow up healthy and strong. He goes to his medical adviser, or, what is unfortunately more usual, he consults one of the many popular guides to health. He is told to "harden the body". "Thorough cold rubbing or Douches are the only means." And so the dabbling goes on! In spite of its instinctive objection, the child is, in the morning and sometimes also in the evening drenched with cold water. During the first six weeks of treatment appearances are in favour of it but afterwards they disappear. The child grows paler and paler, the little hands and feet are often as cold as ice. A catarrh is generally contracted and is not to be got rid of.

Nevertheless we read in all books that the cold rubbings or the douches are wholesome, and numberless persons continue

to take them. "But you also advise the watercure" retorts the mother when I tell her that she has injured her beloved child with the use of cold water.

And indeed water is a valuable means of cure but is it not possible for a man to injure his stomach by overeating himself with even the most wholesome food? Everybody may take cold rubbings or cold baths during one, three or six weeks. Sometimes the skin becomes accustomed to the stimulus but afterwards there is no proper reaction of the quickened circulation on the skin and so the daily cold water treatment acts directly contrary to what is desired, viz. to force the blood back from the skin to the internal organs. The action of the skin, through want of proper circulation becomes insufficient, and upon the mucous membranes devolves the secretory action. That means that these membranes become thereby artificially affected with catarrh. As long as these persons continue to be cold water fanatics they suffer from disturbance of the circulation develop successively the conditions of catarrh. Further, in such cases, as a consequence of the disturbed circulation in the abdominal parts, a sluggish action of the stomach and bowels is set up. In the case of other persons the nervous system in consequence of the daily treatment operating on a sensitive subject, becomes highly irritated by the cold shock especially when through overwork or other causes the patient has become unstrung.

I know many hundreds of water fanatics*) but not a single healthy one. Such people have an unhealthy, sallow complexion, imperfect circulation and a pale skin. They feel all the worse in proportion as their food lacks stimulating force and they have not the recuperative strength to recover. And so they continue systematically to destroy their health. Their unsuitable, unnourishing fare provides a bare sufficiency for normal assimilation of food. The excessive strain under which they suffer — as many do in these days of high feeding, so common in daily social life, makes it more difficult to maintain the balance of bodily waste and nourishment.

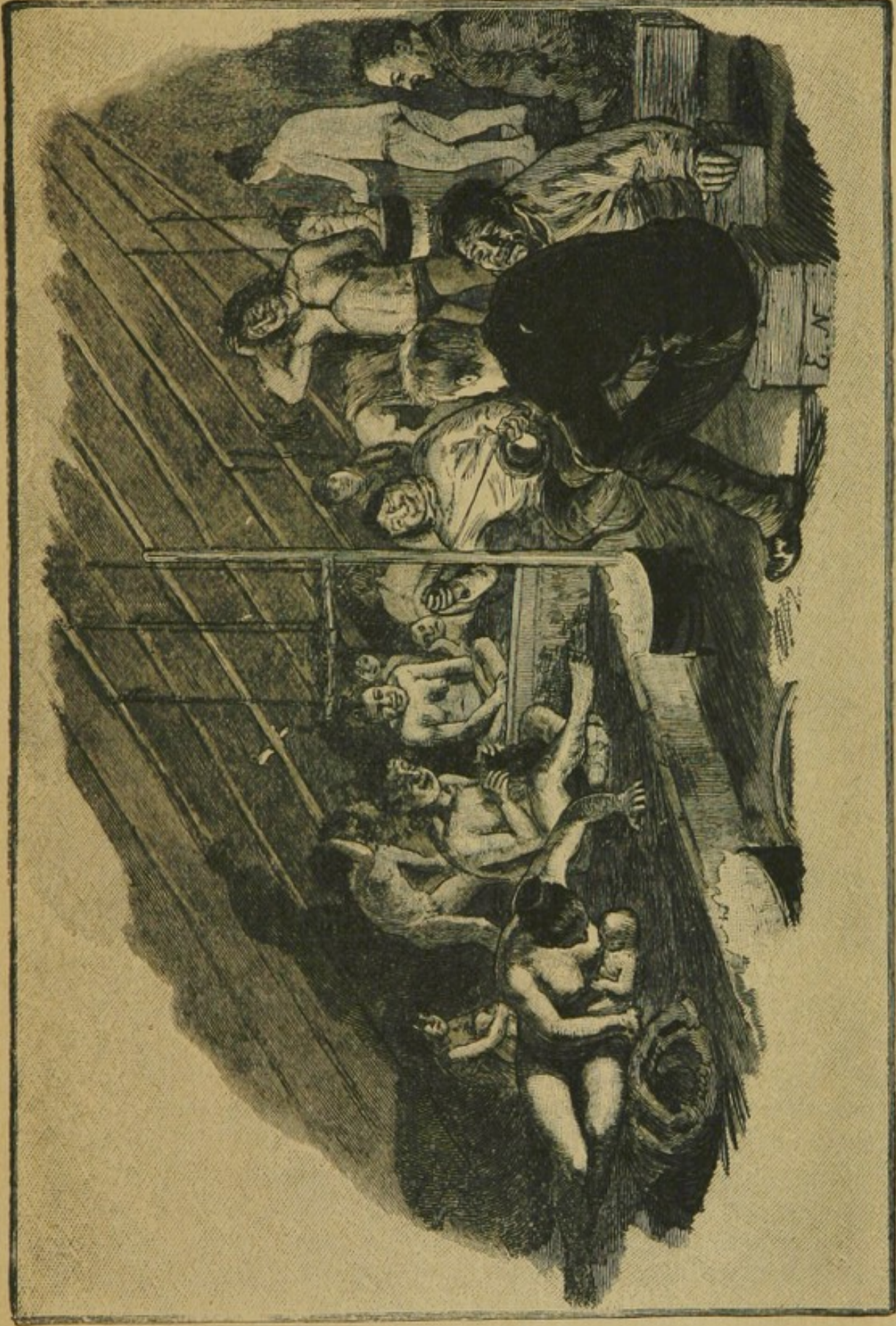
*) We will cite here a typical case. It is that of a strong man of 44 years. As a child he had suffered several times from inflammation of the lungs. For some years he had been "hardening himself by means of cold morning baths" with the result that during the last 10 years he has had two fresh attacks. When he was first examined he was wearing two shirts, and upon undressing in a warm room he become covered with gooseflesh. "And this is what people call hardening!"

How can the body escape punishment when such heavy demands are made upon it daily and it is nervously irritated and insufficiently supplied with necessary calorifics! Only some few persons can stand the daily cold water treatment. They are of phlegmatic character and suffer from over feeding and excessive use of alcohol. It is always a great mistake when people lay down general rules based upon indiscriminate observation. It was also a fault that Preissnitz committed when he applied indiscriminately to every body the same application of his remedy primitively designed for strong peasants, and the same criticism may be offered to Kneipp who experimented upon himself and the well nourished frames of his colleagues: at least such treatment is a mistake in this age of high pressure and nervous excitement. In all these doings it would appear as if knowledge was replaced by enthusiasm and so one enthusiast copies into his books the nonsense of another. At times one cannot help wishing that all these books on water cures and natural treatment were burnt for there is more of falseness than truth about them. More harm than good in our opinion, to put it mildly, is done by following these systems.

The public is absolutely without the means of truly discriminating as to collective or individual cases. It is only by a thorough investigation of the natural living conditions in schools that we can attain the power to redress the evil. The rules of health must be brought home to children in their play. When the adult begins to pay attention to the preservation of health he is apt, in our times of high pressure, to become a fanatic and to prejudice his own and his childrens' health.

The care of health does not begin with cold water nor is the treatment by water the beginning of the cure of invalids, at least not in chronic cases. But in certain acute feverish conditions the water treatment takes a foremost place.

Man is not an amphibian. His proper element is air, not water. The relation of mankind to the ambient air in which they live forms the most important chapter in the book of health. Everybody agrees when the value of pure air is advocated and yet what a cry is raised when in an overcrowded room a window or a ventilator is opened! Why this difference between theory and practice? As a matter of fact most educated people spend the day in unventilated rooms — often foul with tobacco-smoke and pass the night in inhaling an impure atmosphere due to closed windows in their bedrooms! Whence comes this sadly bad practice? Are



A visit to an Esquimaux tent (from Nansen's "On Snowshoes through Greenland.")



the consequences changed if, after full explanation, a cold rubbing is ordered? There remains always the fear of catching cold. One has no objection to inhale fresh air, but to let it play over the skin? Oh, no! And so a man wears superfluous clothing and catches cold in consequence of it because the skin is not able to perform its function. Therefore a cold rubbing or a douche is of little or no use. There is only one means of hardening the body and that is the Airbath — the action of the air upon the skin. I myself came to this knowledge by studying the hygiene of clothing.

Instinctively many other persons, whole peoples indeed — have learnt and practised body hardening by the healthful airbath. The celebrated Dr. Benjamin Franklin, as we can see in his communication to his friend Dr. Dubourg about the year 1750, experienced the good effects of air bathing. It runs as follows: "You know that here the cold bath has been for a long time a favourite means of strengthening the body. But the shock of the cold water appears to me, commonly speaking, to be too violent and I find it far more agreeable for my constitution to bathe in another element, I mean the air. With this intention I rise every morning and sit entirely unclothed for half an hour or an hour in my room and occupy myself with reading or writing. The time varies according to the season. This airbath is not in the least disagreeable. It is quite the reverse. And when afterwards, I creep back to bed before dressing, as sometimes happens, I can concentrate a nights' rest into one or two hours of the most perfect sleep you can imagine. I experience no evil effects from this habit and I believe that not only is my health not prejudiced but that, on the contrary, this sleep helps to preserve it. I should therefore like to prophesy for this airbath a future as a bath for strengthening the body."

Further we learn from the humorous dissertation upon "The Airbath" by George Christoph Lichtenberg*) written about 1794 that he with some of his contemporaries had tried it. He mentions a paper which was written in 1793 by the English doctor Abernethy who occupied himself with enquiring into the relation of the skin to breathing and who considered clothing as a hinderance to this function of the skin. The knowledge of the airbath as a means of preserving, health in the first half of the nineteenth century

*) The fifth volume of his miscellaneous works published by Heinrich Dieterich, Gottingen 1803.

might will be forgotten, and Rikli, Veldes (Austria) his attention having been apparently drawn by these literary notes to the airbath as a means of health, and, in a manner of speaking, newly proclaimed — took the trouble to express the opinion that in our time it was not necessary for anybody to become enthusiastic over such a common thing as perfectly pure air which to the pride of Science, had been the development of the nineteenth century. When however, Nansen related in his "On Snowshoes through Greenland"*) how he saw the Esquimaux of the East Coast taking their airbath in their tents which were imperfectly warmed with blubber oil cooking lamps, the people having thrown off their skin clothes, he contributed valuable material to the literature of hygienic research.

And here I cannot refrain, after having obtained the kind permission of the Editor to reproduce the illustration, from quoting textually the characteristic description given by Nansen. It will be found on page 330 of the first volume "The first thing that attracted my attention was the crowd of naked persons whom I saw standing, lying and sitting around me in the tent. They all wore their Nâtit or housegarment but this is of such small size that it was hardly worthy the name. It consists of a narrow band round the loins and, especially in the case of the women, was of the smallest proportions. I saw no signs of false shame and the unaffectedness with which they conversed was a matter of no small surprise to us Europeans who, accustomed to Western habits, appeared a little out of our element. It will be readily understood that some at least of us could not help blushing as we saw how several girls and young fellows came in to the tent (which was intended for four or five different families) and quite unconcernedly undressed themselves, put on the loin Coth and took their places on the low wooden platform. Our modest confusion will be the more readily understood when one considers how long we had been cut off by sea and ice from association with any but male companions. It made a strong impression on ones mind to see a young mother dissembarrass herself of her clothing and without more ado throw herself on the platform where her baby lay perfectly naked. Then bending on all fours over her little one she gave him the breast. There was something so peaceful and artless, so maternal and teuder in thi

*) "Auf Schneeschuhen durch Grönland." Hamburg, Verlagsanstalt vormals J. F. Richter 1891.

scene that it could not fail to make a deep impression on anyone seeing it whose delicacy had not been destroyed by European influences. She lay for some time naked there; then when it appeared to grow a little chilly she took a coverlet of sealskin which was trimmed with the fur of the newly boru seal and threw it over herself and the child."

The heathenish Greenlanders of the East coast know either by experience, tradition or instinct that the skin as a medium of perspiration, when it is covered by clinging skin garments cannot do its work. So this sluggishness must be prevented by frequent air bathing in tents if they would avoid hurtful influences which would result in skin diseases. These people would long since have died out if they had not kept themselves healthy and robust by the practice of airbathing. Such was in fact the case, as Nansen tells us, on the West coast of Greenland, where, under Danish rule, the population decreased appreciably by consumption because European custom did away with airbathing in tents when it housed the people in stone houses or, more correctly speaking, stone caves.

Our ordinary clothing may be favourably compared to skin clothing but in practice it is not much more highly to be esteemed, for unventilated fabrics and often starched shirts and stiffened linings prevent the circulation of the air. The wearer is, so to speak, enveloped in various thicknesses of material which are, collectively, as impenetrable by the air as a skin. Is it to be believed that we who are born naked can without prejudice go day and night with the whole body covered? Must not the covered part of our skin degenerate? Must not an injury be caused to the general organization when the functions of the skin are, from disuse of a part of the same, not allowed to take place?

The skin is an organ by which the poisonous vapours of the body are exuded. It acts also as an escape for bodily warmth and keeps the body free from the suffering which would be caused by overheating. Can it be said that our clothing is always calculated to meet these requirements? For instance the output of bodily warmth through radiation is, according to Preissnitz*), quite in proportion with the influence of the different thicknesses of body covering. If we put the heat radiation of the bare skin at 100 the radiation, when the skin is covered by a woollen shirt (the air

*) "Grundzüge der Hygiene." Published by J. F. Lehmann. Munich. 1897.

temperature being reckoned at 15° Cel. or about 58° Fahr.) is 73. With a woollen and cotton shirt it equals 60. With woollen and cotton shirt and waistcoat it is reduced to 40. If we add the coat to this the radiation sinks to 33. So that a well proportioned, healthy man, when thus clothed throws off only a third part of the total heat radiation which he would give out were he naked.

As we are born without covering we may be sure that we are not intended by nature to use it. This is demonstrated by the natives of Tierra del Fuego (S.-America) who, in spite of their cold, hard winters and raw, inclement climate, go practically naked. As long as men move about in the free air, the only warmth they lose is by radiation. The loss of warmth by induction hardly comes into question because the air is a very bad conductor of heat. By induction men convey warmth to the surrounding objects they come into contact with, to their bathing water, to their clothing, to their resting places, and, in regard to this, everybody knows the unpleasant contrast in temperature experienced when one slips into a cold bed in the Winter.

The often slow reduction of warmth (consequently without reaction) by induction is generally disagreeably apparent. The giving off of heat by radiation is, on the contrary, in an atmosphere varying between 15° and 18° C. scarcely to be perceived. But what, on the other hand, is of primary importance in the off giving of warmth by induction is, that the radiation of warmth is for us all a necessity of life although this necessity is but imperfectly known, or worse still, not known at all to the average clothed person of today having a degenerate skin and modern ideas as to dress.

Have we not all at times, when in a crowded assembly, experienced the extremely unpleasant feeling that our bodily radiation of warmth — only the third part, remember, for the greater part is suppressed by ordinary clothing — is with the bodily warmth of similarly attired persons being given off and that we are, so to speak, surrounded by so many living ovens by whose warmth we are affected! A strong feverish heat possesses our bodies. The lungs seek by increased action to compensate this. Perspiration breaks out all over us and the weaker persons faint. And all this is due to the stoppage of the heat radiation of the body. Similar effects are produced under the greater bodily strains such as hard work, mountain climbing and walking. The blood rushes towards the surface of the skin in order to throw off the heat but the clothing hinders it and hinders it

all the more because it is itself already overhetaed. Thus the strong labourer strips himself instinctively to his shirt when engaged in heavy toil. And when a man does not so strip himself, especially when he is a gymnast or a soldier marching in close order and subject to the radiating heat given off by his companions, he runs the risk of sunstroke. And thanks to our perverse manner of dressing we are always comparatively running the same danger and may at any moment die of congestion caused by the heat. Is not that an unreasonable risk to run?

And as the bodily strain is produced, so we find is the mental condition affected. At least it is so with me, for when I write (as I do at this moment), with both head and heart involved, I feel a strong current or wave go through the whole body and it become necessary for me to pause and then continue my work — in airbath costume.

Further, as already stated, the skin is the organ by which vapours are given off by the body. These are indeed the most poisonous waste products of the body escaping through the skin. We have, it is true, other organs of secretion, the lungs, the kidneys, the intestinal canal with the liver, but the action of the lungs must be considerably interferred with and the accumulation of carbonic acid thereby caused, much increased before there is danger to life. We know of a case in which an animal whose blood bore the repeated transfusion of urine before death supervened. The perspiration of the most healthy man resulting from exhaustive work has shown itself to be fatal when transfused into the veins of dogs or rabbits. Perspiration contains a larger proportion of water than urine but, according to Dr. Arloing, its poisonous property is four or five times greater. That blood poisoning through the skin is no imaginary thing but a matter of fact has been proved by exhaustive physiological experiments. If, for instance, we apply varnish to the bare skin of an animal, it dies within a short time, of blood — poisoning with suppression of perspiration. That these physiological facts have been so often misinterpreted in physiological books shows that the science of physiology is still incomplete. Experiments alone will not suffice. Thought directed to correct interpretation is, after all, the principal thing.

When we wear insufficiently ventilated clothing or when, in consequence of an impeded radiation of warmth, the blood rises to the surface of the skin, its action becomes in a more or less important degree interferred with. This is not a fatal matter but the exudations of the skin which thus cannot

escape may cause suffering from rheumatic pains. Moreover these poisonous exudations being prevented from escaping naturally, may, by affecting the mucous membranes of the bronchial tubes, set up acute chronic catarrh, even inflammation of the lungs. They may, further, affect the kidneys, giving rise also to inflammation etc. One may often notice that the uncovered parts of the skin are often improperly treated and therefore rendered as inactive as the covered part. In some cases we may observe that the skin of the hands and face shows a disgusting deposit of all sorts of matter thrown off by the skin. Here let us speak of the airbath as a means of beautifying.

Only very exceptionally can we find a man who at some time in his life had not to complain of pimples, black-heads or occasional eruptions on the face and neck. Many an otherwise beautiful countenance becomes, through these undesirable skin exudations, through freckles and similar disfigurements, quite spoilt. What an endless amount of care is bestowed by the fair sex upon the complexion! What untold sums of money are paid for all kinds of doubtful cosmetics.

Very often persons suffering from a bad complexion have a wonderfully tender skin all over the clothed body so that it is wonderful to see how the skin of the face acts as the place of exudation for the whole body.

Now it should not be difficult to realize that the skin of the face, which is subject to a high degree to varying air temperatures, snow, wind and the rays of the sun, becomes greatly affected by these different influences. These skin influences act just more or less in bringing about congestion of the blood in the face. When the blood contains various kinds of uncleanness, that is to say waste products thrown off by the kidneys, the liver and the digestive canal the action of the greater part of the skin is impeded, the increased action of the blood impregnated with these waste products sets up a stronger or milder form of inflammation which may cause a stoppage of perspiration, derangement of the digestive function through chemical action upon the nerves of the skin.

That these waste products may not only affect the skin of the face but also that of the whole body to which they are brought into contact by the ebullition of the blood and are thus able to do much mischief is abundantly shown by the disproportionate frequency of scrofulous, catarrh and rheumatic diseases of the eyes, ears, nose and the parts about the throat. We find evidence of the evil also in the occurrences

of sick headaches, neuralgia, tic doloroux and other nervous affections of the face, to say nothing of premature grayness of the hair nor of baldness.

It is true that the prevention, if not the cure of many of these ills may be effected by stimulation of the skin caused by these rubbings, douches, baths etc. But if one continues to encase ones body in the multitudinous folds of modern clothing, there remains the face which is exposed during many hours to exterior stimulation and comes badly out of it, for the shock of the cold water cure can only last for minutes and the subsequent action in a short time ceases, whilst during the remaining time of twenty three hours daily every influence of the seas of light and air which surround us is withheld from the skin.

Are we born with clothing? No. Then why should we continue to punish ourselves by wearing an outside husk of clothing which shuts out the air? Is it a matter of no importance what this skin sheath is and how many folds it contains?

An overwhelming number of painful cases utter an eloquent and clear No! in answer to these questions. Now then, how to find a way out of the difficulty and to reconcile nature with cultivated custom?

This should not be too difficult if only we would not accept as correct what is done by the thoughtless multitude and moreover if we would take every step with care so as not to wander from the truth.

It may be taken for granted that if we went unclothed, that noble part of the human body, the face, would be as little subject to prejudicial influences as the faces of unclothed savages or of the beasts. The same stimulating influences of the fresh air would, whilst acting upon the whole surface of the trunk and limbs, cause the whole body-surface to be equally stimulated and so rendered capable of throwing off in like measure all its waste products (which when they remain in the body do not fail to make their poisonous presence known).

There can be no doubt that diseases of the respiratory organs and air passages as well as the diseases affecting the growth of the hair, have, during the last sixty years largely increased. I can affirm in regard to this that the mechanical development of linen and half linen fabrics is largely responsible. Instead of the ventilating home woven linen shirts worn by our forefathers, we wear a shirt of closely machine woven material which tends to become closer and less ca-

pable of ventilation, whilst the materials used for linings are closer than ever and impermiabile by the air. So must the active property of the skin be impeded in its function, and as the mucous membranes must take over the work of the skin, a condition favourable to catarrh is set up. If we do not by means of a reasonable, ventilated form of dress and by means of airbathing as an additon to our daily habits, give a stimulus to our skin, (the most important organ in regard to waste products) we make it possible for the coming generation to become more and more liable to tuberculosis, not to mention other ills. We can see just in this way, during the last two generations how common baldness has become among all kinds of people and especially among the so called educated classes.

Let us think for a moment of a man's ordinary clothing! He wears a stiffened and highly polished shirt which is firmly closed at the neck with a high collar. He wears also a stiff waistcoat strongly lined and, lastly, upon this lie the layers of stuff forming his coat. In a general way the man's shoulders have to support at least seven layers. It is no wonder that the poisonous exudations of the body cannot escape and that blackheads and pimples appear on his neck whilst, on the other hand, the blood highly charged with poison streams bowards the free part of the skin, the scalp which in consequence of the increased work thrown upon it, becomes seriously affected and fails in its function of absorbing the necessary nourishment hrough the roots of the hair.

Women whose under and upper clothing have larger neck openings fare much better and are able, thank Goodness, to preserve their hair longer.

It must be conceded that a reform in clothing both in regard to the necessary ventilation and to the proper radiation of body warmth and poisonous vapour, is of paramount importance. Under this important heading one should read my "Reform of clothing"**) which is a useful treatise fully dealing with this matter. Further, the reader will, from the preceding explanations, have been able to form the conclusion that the best form of clothing can at the most only prevent proper radiation of heat and that as a corrective for this unwholesome state of things the airbath is a healing factor in the recovery of health.

*) Dr. Lahmann: „Die Reform der Kleidung“. Third edition (with an additional chapter on the reform of womens clothing). Publisher, A. Zimmer, Stuttgart, 1898.

The activity of the skin, both as regards heat radiation and the throwing off of waste products is despendent upon the movement of the blood through the veins and arterics. Inversely the circulation becomes greater if the throwing off of waste products and radiation of heat are increased, for according to an old physiological rule founded on experiment, a stronger circulation takes place in the more active organs of the body than in the less active ones. That the skin in our case is improperly forced into inactivity must be admitted.

That the maximum of circulation is a matter of the first importance is shown by the following instances:

A young unmarried woman of 27 (fo 9793) weighing 67·2 Kilos (in her clothes) suffered, after undergoing the Kneipp treatment, from cessation of menstruation. The cessation extended over 5 months. Sluggishness of the circulation brought on congestion of blood in the abdominal parts (abdominal plethora) and was followed by nervous weakness of the digestive organs. Sick head-aches resulted and a tendency to rheumatism was developed. The hands were not exactly cold but their circulation was imperfect and they were yellowish and transparent. The change in the composition of the blood in the extremities of the body showed more traces of lymphatic humours than blood (of which fact I was careful to satisfy myself). The blood colouring matter of the blood taken from a finger averaged 45 to 50⁰/_o. The lady commenced the treatment in the beginning of January. In her case there was nothing to be hoped for from a simple water treatment, that she fortunately understood. (Many persons do not even agree to this but follow a stereotyped course of treatment with disastrous results.) She elected to try, above all, the airbath treatment. She began the airbaths, after remaining some days in a room, (Winter air bath), in the open air as the winter of 1897—98 was very mild. On the 19th day of her treatment, after six months cessation, menstruation was renewed without trouble of any sort. Its duration was three days. Two days later her weight had increased to 69·4 Kilo. The patient, although showing a reduction of bulk, looked more robust. The Hamoglobin (or blood colouring matter) in the blood varied between 45⁰/_o and 50⁰/_o. The evident general improvement in health led to the conclusion that no prejudicial disturbance of the organs which were overcharged with blood, was to be feared although the continuation of the small quantity of colouring matter in the blood was worthy of consideration. We said to ourselves: the small proportion of colouring matter in the blood taken

from the finger must be only a seeming indication because the disturbed state of the circulation so long in existence and the outside appearance of the hands do not yet show any special alteration. Let us stimulate the circulation a little. A steam bath was ordered. The colouring of blood from the finger is 45⁰/_o. A strong cold rubbing was applied and the blood colouring remained at the same figure. Then followed a hot bath (40⁰ C.) of ten minutes duration. Although the temperature of the skin had been raised some time, the blood colouring remained still at 45⁰/_o. Now the patient took an airbath (on the preceding days the examination of the blood was made with this object) in the open air of + 4⁰ C. Duration 10 minutes. Immediately after this the colouring of blood from the finger showed 85⁰/_o. (The same from a healthy man shows 90⁰/_o.) This example is more eloquent than any long winded description could be.

In the result of a raised average of circulation operating on the skin during and after the airbath, the cold stimulus of the air will of course also participate, that is when the air is cool. Then it acts naturally like the cold water treatment by primarily forcibly drawing the blood to the skin. The repulsion and the secondary expansion of the chief blood vessels then bring about the reactively raised circulation. But the air is such a bad conductor of heat that in regard to this, 4⁰ C. of cold air acts just as 20⁰ C. of cool water and is therefore too weak. It is a different thing when moving air prevails and a continuous fresh supply of air plays upon the body. But with the movement of the air another important moment follows. Respiration as is well known by physiological experiment, exercises a powerful influence in connexion with circulation. Increasing the circulation by means of artificial respiration in cases of insensibility through faintness or hypnotism is known to have a rapid, reviving effect upon the whole of the nervous system. It is therefore no matter of surprise that an airbath, be it simply in wind and weather or under colder conditions can produce so powerful an effect upon our whole organization. Whilst the radiation of warmth in the still air of, say, 16⁰ to 20⁰ C. of a warm room shows no appreciable effect on the skin a greater retrogression of skin temperature shows itself when the airbather is exposed to the moving air outside, of a temperature of + 4⁰ C. Indeed it is always a matter of no little surprise to the uninitiated that the apparently cold skin retains such a disproportionately high temperature just because the blood seeks to restore the balance by increased movement. To illustrate this, let examples

speak for themselves: A boy of 8 years has, let us say, at 7 o'clock in the evening a skin temperature at the breast of 35.7° C. A girl of 5 years who for more than half an hour has taken an airbath in a room of 20° temperature has at the same time a skin temperature of 34° C. A man of about 40 had in the evening a skin temperature at the breast when clothed of 35.6° C. After an airbath of half an hour's duration, quietly sitting in a temperature of 16.5° C. his skin temperature registered 33° C. On other days in a room warmed to 20° C. after half an hour's work at the writing table in airbath costume his skin temperature was 34° . We will compare this with an airbath in the open air at 4° C. temperature of air (windy). The skin temperature in the case of a man showed, before the airbath 34° C. under the clothing (Midday). After ten minutes airbath the skin temperature is 28.4° C. and after 20 minutes 26° C. In the case of a boy of 8 years accustomed to airbathing the skin temperature remained during the same time 31.4° C. Habit is second nature even here. This same boy cannot stand even river or sea baths. He becomes quite blue and recovers warmth with difficulty. Cold baths would bring on asthma immediately. As he takes airbaths in wind and weather and is made to bathe in hot water he has become strong and healthy.

In spite of these apparently strong applications with an airbath of $+4^{\circ}$ the temperature of the skin rises quickly under exercise of the clothed body or under the influence of a warm room, to its normal figure.

Now let us make this action clear. The raising of the warmth at the surface of the skin by radiation hastens essentially the generation of compensating heat, that is a high chemical consuming operation (Oxydation) in the organs. In consequence of this the waste products in their effort to find an outlet are put actively in movement, a part becoming completely destroyed, another part of the waste products not less certainly remaining and becoming as quickly as can be a source of illness in the form of blood poison. The increased circulation acting on the skin thereby increases its activity and hastens the expulsion of the increasing waste products which exercise such a prejudicial effect especially on the nervous system. The increased circulation acting on the skin causes a discharge from the internal organs, of stagnant, sluggish blood. This, as has been proved*) is very wholesome

*) It would be very desirable if, in the new popular sanatoria for the cure of consumption which are now being established everywhere, the airbath were recognised as a primary means of treatment.

for the digestive organs and not less so for the mucus membranes of the respiratory organs. As the assimilation becomes greater so a compensating action takes place in the overworked tissues leading to an increased appetite especially in the case of thin and emaciated patients for such persons have always relatively to their bulk or volume the largest skin surface. It is not surprising that patients of this temperament thrive excellently under the airbath treatment whilst, under the cold bath cure, so many of them fail to derive benefit. Many a grazier (without knowing the connexion) by means of an increased heat radiation has raised the power of assimilation of his cattle by sheltering them during the Winter in warm sheds. The young thrive much better and those which are being fattened for the market keep up their appetites. Thus the practice of unreflective persons confirms our theory.

Often is the chemical, internal action of the body, caused by the airbath, so powerful that many persons show indisputable signs of feverishness. Some of them perspire freely whilst others give off strongly acidulated urine. Others again have an acute eruption such as nettle rash. People with impure perspiration, which, owing to poisonous matter, is often accompanied by a foul breath and irritability of the temper lose both these inconveniences. Numberless sufferers from periodical attacks of gout and its distressing conditions experience immediate relief after an airbath. The fact that a skin which has become accustomed to contact with the air is proof against weather influences and so renders the person free from colds, should make us consider whether we should not take the condition of the skin of the face as a model for the rest of our body. The skin of the face is the most tender skin of our whole body and can notwithstanding bear heat and cold, wind and weather with impunity. And why is this? Because it is accustomed to contact with the air. Let us make the remainder of our skin the same (for this we do not require to go quite naked but only, so far as is necessary for the purpose, provided we wear ventilated clothes and we take, morning and evening, an airbath of a quarter or half an hour's duration in our rooms as the Esquimaux do.) In this way will our whole skin become equally hardened so that it can withstand the cold. So will it become really impervious with an imperviousness it could never acquire by an everlasting water splashing process. Of course that patient is best off who can take his airbath *al fresco* and everyone could take it in the warmer seasons but in a variable climate

like ours the habit, as a continuous one, must be acquired by degrees, the bather beginning when the sun is high and accustoming himself gradually to the earlier and cooler hours. Thus by little and little he is enabled to continue through the colder seasons. And it is not a little remarkable that it is the light frosty weather, especially in the cooler seasons, which makes the airbath so invigorating, often much more so in fact than in summer when coolness follows a hot day. A person suffering from porenness of blood and nervous disorders who, when fully clothed is affected by the frosty air of winter has only to take an airbath for five minutes and he will soon find himself warm because his clothes feel warm to the cooling skin. This feeling of warmth however causes an expansion of the blood vessels of the skin and consequently an improved circulation of the warm blood.

It appears indeed monstrous that now when hardening the body so as to make it cold-proof, is preached to the cultivated people of our climate they cannot take off their clothes and sit for a few minutes (5 to 20) in the open air without "catching their death of cold." And is it possible that they can recover their health by this very means? Yes, but it is so difficult to convince the average European of this that he is convinced only when he has tried it upon his own body.

But those who have once proved the physical and moral influence of the airbath not only feel mentally and physically better but they are really so.

To what extent the confidence of delicate and nervous men can, by means of the airbath be improved, we had ample proof in the mild Winter of 1897—1898. Of what use was it for the patients to take a Winter airbath in the Winter garden? As a matter of fact nearly all those who did so were beginners. The others had very quickly discovered that a short alfresco airbath was far more agreeable than one in a closed though ventilated room.

In the cold winter weather we should take our airbath in our rooms as the Esquimaux takes his in a tent, and, at several degrees above zero in our mild climate it is far casier to take an airbath in the open air than in an Esquimaux tent previously heated to some degrees and full of foul air. The only difference is that we remain but a short time in the open air whilst the Esquimaux take their airbath during hours as the temperature of the tent compared with the outside temperature is a high one and appears warm to them.

When we consider the accompanying picture it will scarcely appear conceivable that these people depicted as taking their airbath in the driven snow are no inhabitants of Tierro del Fuego but simply men like ourselves and representatives of cultured nations.

We know as a matter of fact that but a few weeks previous to the taking of this photograph these different patients, just like the majority of our readers, would have thought it simply a piece of madness to tempt Providence in this sinful way. And yet we find in this picture persons of mature age as well as some who are still youthful who were willing to testify by their presence to the efficacy of the airbath.

An airbath in the deep snow appears much more dangerous than it really is.

A rainy airbath in cold weather is unpleasant, an airbath in the snow is, on the contrary, to those accustomed to airbaths full of pleasurable sensations. This we can readily understand if we will think for a moment. The whirling snow flakes cause no inconvenience to the skin of the face. In the case however of a heavy rain lashing our faces we are very glad to seek shelter as quickly as possible.

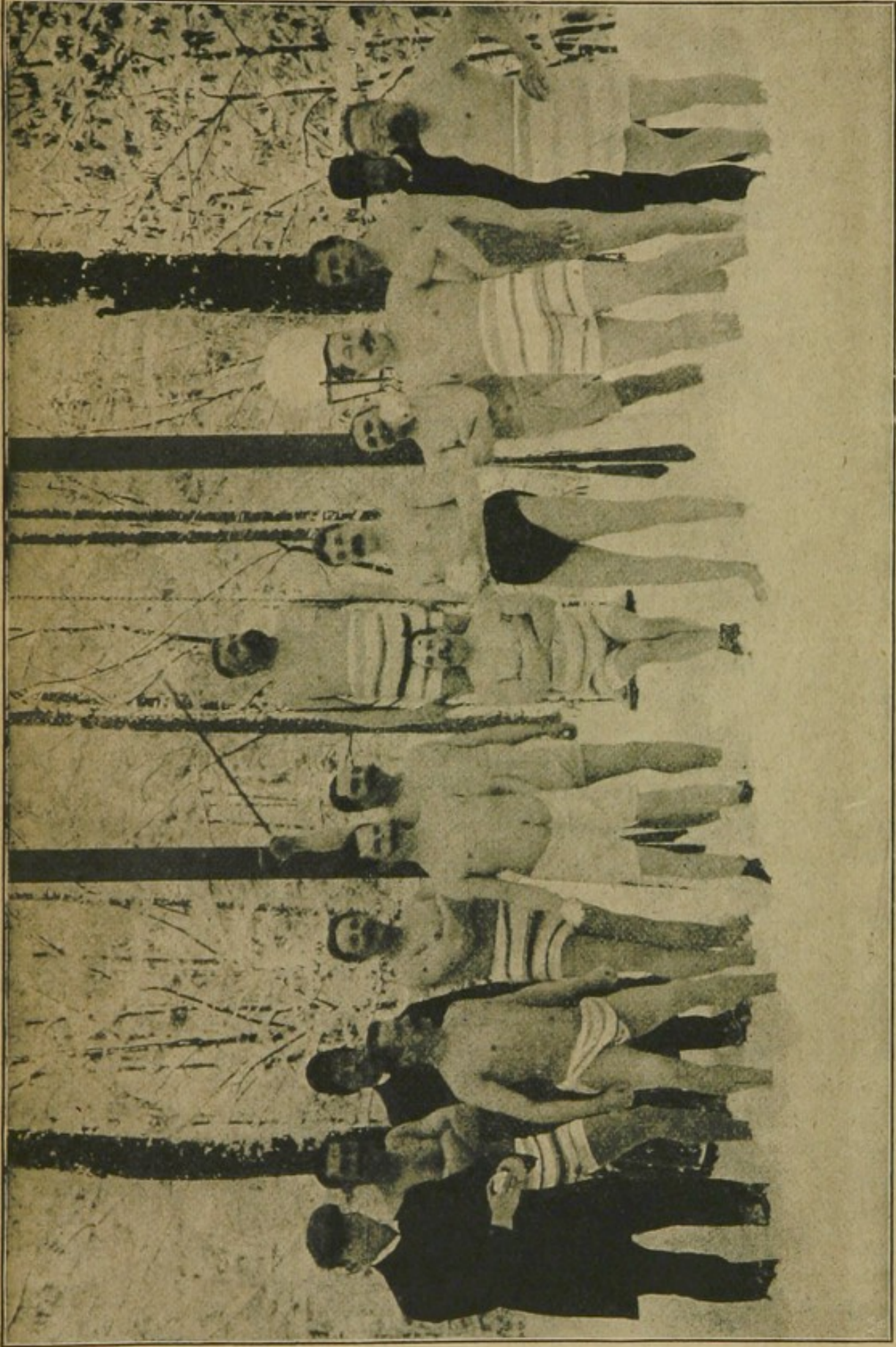
In order to understand the airbath we must always remember the comparison of the skin of the face. As soon as ever we have, through airbathing, brought the skin of the body into the same condition as the skin of the face it will be able to support just what the delicate skin of the face can bear.

The average nervous man will object that a man living the exhaustive life of the present day is so different to the man living in a purely naturel state that he cannot of course be expected to respond immediately to the system.

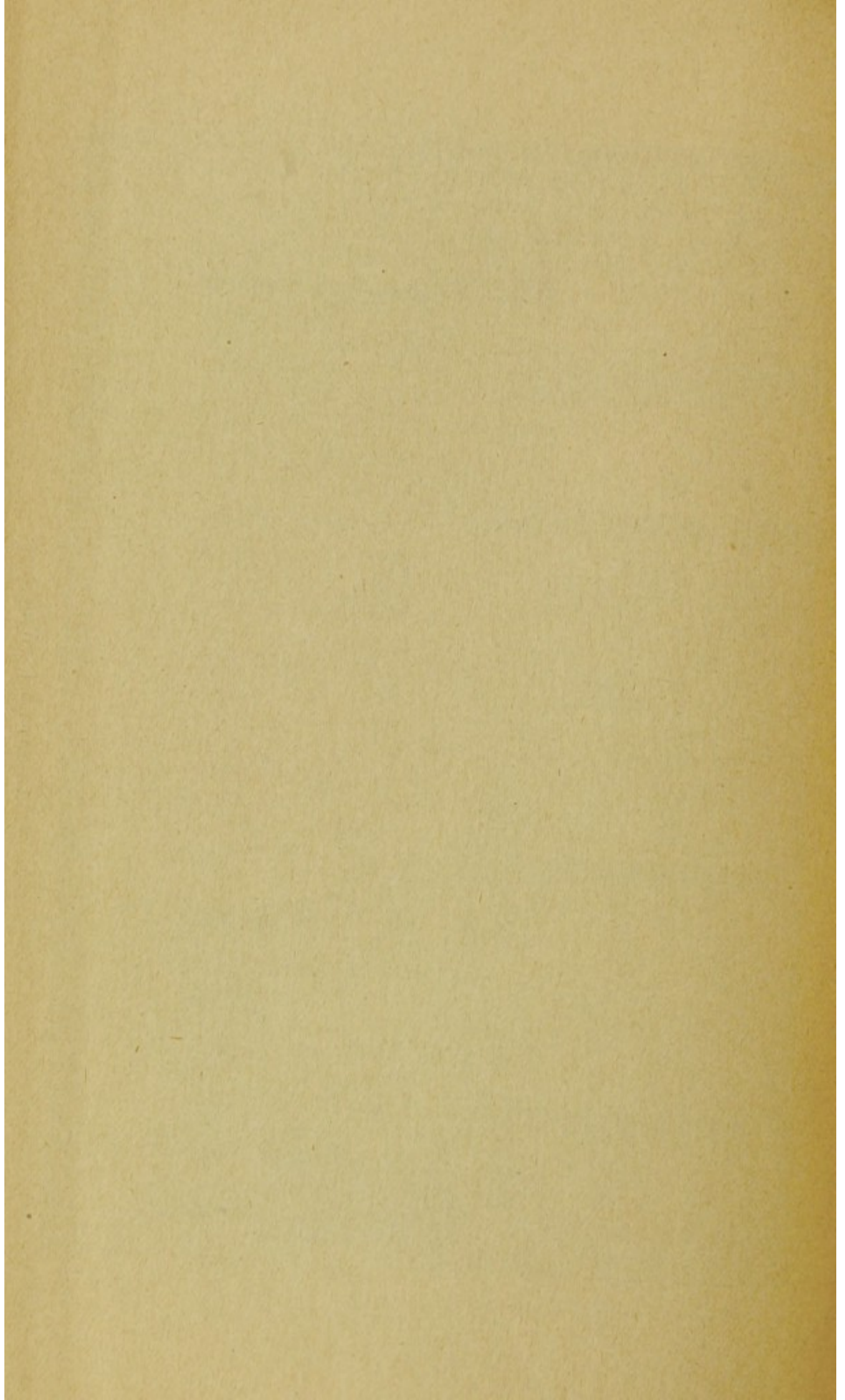
The reply to this objection is found in the accompanying little group of patients who mostly by the system of airbathing have been cured.

I choose advisedly "Winter cases" because they demonstrate more clearly that the bridge between modern civilization and the resources of Mother Nature is far from being destroyed and that we can never come to any harm when we throw ourselves on her maternal care. We may also learn from cases of airbathing that only by a return to the natural living conditions of man can we enter upon a new life and so escape the sickly conditions of modern civilized life.

Fo. 9694. Female of 29 years. Weight 42.5 Kilo when clothed. Diagnosis, emaciation, poverty of blood Neu-



An airbath in Winter.



raesthesia of the digestive and vascular nerves, (through cold caused by overcharge of blood in the internal organs). Downward movement of right kidney. Irritable humour. Sleeplessness. The patient took airbaths from 3rd November till 17th December always al fresco.

Weight 12th Nov. 45 Kilos., 19th Nov. 46·5 K., 2nd Dec. 47·9 K., 17th Dec. 50 K. Further, this delicate patient stood the Winter airbath so well that she actually increased her weight by fifteen pounds in six weeks.

Fo. 9794. Female 39 years of age disposed to rheumatism. Constant liability to take cold, hysterical temperament. Weight 75 K. Although in January the weather was mild and the patient took airbaths almost always in the open air. Result: after 3¹/₂ weeks the patient became perfectly hardened and weighed about 2 K. less. Her face from being coarse and bloated became reduced and more delicate looking and altogether more youthful. Her temper showed equal improvement.

Fo. 9799. A Geheimrath of 67. Very gouty disposition and depressed in spirits. "Suspicious", irregular pulse. Inclined to apoplexy. Sluggish assimilation with slight appetite. Weight 8 January 86·7 K. He commenced taking his airbaths with sullen indifference. His appetite improved. His weight went down on the 2nd February to 84·2 K. consequent upon strong stimulation of the digestive organs and throwing off of accumulated secretions. The patient quickly became sensibly younger. Temper very much improved, becoming almost humorous. His intended retirement from public service could therefore be postponed.

Fo. 9803. Female, age 23. In third month of pregnancy. Downward back pressure of charged uterus. Severe congestion at the lower organs. The matrix raised after eight days, after which suppression of the congestion. Upon the relief of congestion the patient took airbaths in the ordinary course. I choose this case simply to show that a woman who under ordinary treatment would be wrapped in cotton wool and irritated with over attention, can, even in January, stand an al fresco airbath.

Fo. 9841. Male 47 weighing 101 K. and very strongly built. Rheumatic gout troubles. Irritable temper.

Nicotine poisoning. The patient took airbaths in the open air in January of up to half an hour's duration. Spirits much raised. Body circumference considerably reduced. Weight remains almost the same as the body has become specifically heavier.

Fo. 9792. Female, 27 years. Severely rheumatic condition. Skin eruption. Scorbutic inflammation of the mouth. After her journey the patient suffered from a feverish cold which after the first airbath was accentuated but disappeared after a weeks treatment. The prevailing weakness of constitution was much helped and relieved by the airbaths. General health wonderfully improved. Her appearance which was that of a woman of 35 rapidly assumed a more youthful character. Weight which was 65 K. on the 4th January had fallen on the 20th to 63·7. On the 11th February it had risen again to 66·7. The patient's figure had now assumed more graceful proportions, showing again the immense influence of the airbaths on the action of the great organs of the body. Her normally weak rheumatic constitution made her liable to take cold. During the first part of the treatment the reduction in weight testified to the increased sluggish secretions thrown off. Afterwards the weight rose to above the original figure and the body became less and less and bloated and with this, more robust and of increasing hardening and strength.

A lady (unmarried) of 40, long an invalid with a delicate constitution thus expressed herself: "The airbath is the best part of the treatment. Each time it makes you feel as if you had drunk champagne" An airbath in January and February is a cheap substitute indeed for champagne!

Anyone can take an airbath in the Summer. In Winter I am often surprised at the courage of the patients for certainly it requires some courage to break through the long accustomed fear of taking cold. As soon as a man has taken the first airbath he is converted to our belief.

I have chosen the foregoing cases for reference because they relate to persons who, on account of their rheumatic-catarrh disposition, would be strongly prohibited by ordinary methods from anything like exposure for fear of disastrous results. We have seen that these are not to be feared; quite the contrary.

It is even a matter of fact that our patients who take airbaths become thereby free of catarrh. People can at least recognise catarrh of the nose or throat with its secretion of matter which appears with a cold in the head or chest and they know that it and its unpleasant accompaniment may be relieved at once by airbaths and may be got rid of in a few days. If ever anyone in our house has a catarrh or anything of that kind it is always some one of the staff or one of the physicians because we have not always the time to look after

the proper activity of our skin in the same manner at the patients do.

It is self evident that through the custom of airbathing, patients may receive considerable advantage from a course of the treatment. No one need any longer be afraid of sleeping with open windows for those who do not fear an airbath will not fear even to get up and take an airbath in their bedrooms when unable to sleep for a window more or less open has no terrors for them. And that is the basis and principle of a successful airbathing treatment. How can the action of the oxygen effect its purpose on the increased working of the organs and attain its full power of combustion without a sufficient supply of air and especially is this necessary during the night.

Whilst some people continue to expose themselves to taking cold in overheated baths through profuse perspiration when undressing, and to do themselves harm by imperfect perspiration in the often foul air of the bath room, others, who are accustomed to the habit of airbathing will not hesitate to bathe with the window open and thus obtain from the bath its greatest advantages, for the requirements of full breathing activity, the need for the oxygen, are increased during the water bath.

We have no wish to puff our system by references to and pictures of the airbath as taken in snow and cold. It is much more to the point to show that the mild Winter of 1897—98 showed an extended usefulness of the airbath in the open air, as the air temperature remained for the most part some degrees above 0° (C.). Nevertheless for the average man and nervously anxious persons, who are just as afraid of taking cold in the milder seasons, the airbath remains a horrible phantom.

What I want to show by my examples is (in spite of the effeteness following civilization and even of what an ordinary sick person will maintain when he wishes to compare various opposing conditions) what must be done in order to become perfectly well, that is, not only to have the appearances of health but to have arrived at the point when the capacity of resistance is complete. We do not wish for a bodily condition which requires the assistance of artificial heat and is incomplete without it. What we want is a state of health which will enable us to withstand the heat of the Equator or the cold of the North Pole with the same indifference. We strive not only to render our patients healthy but also to teach them what is necessary for the retention of good

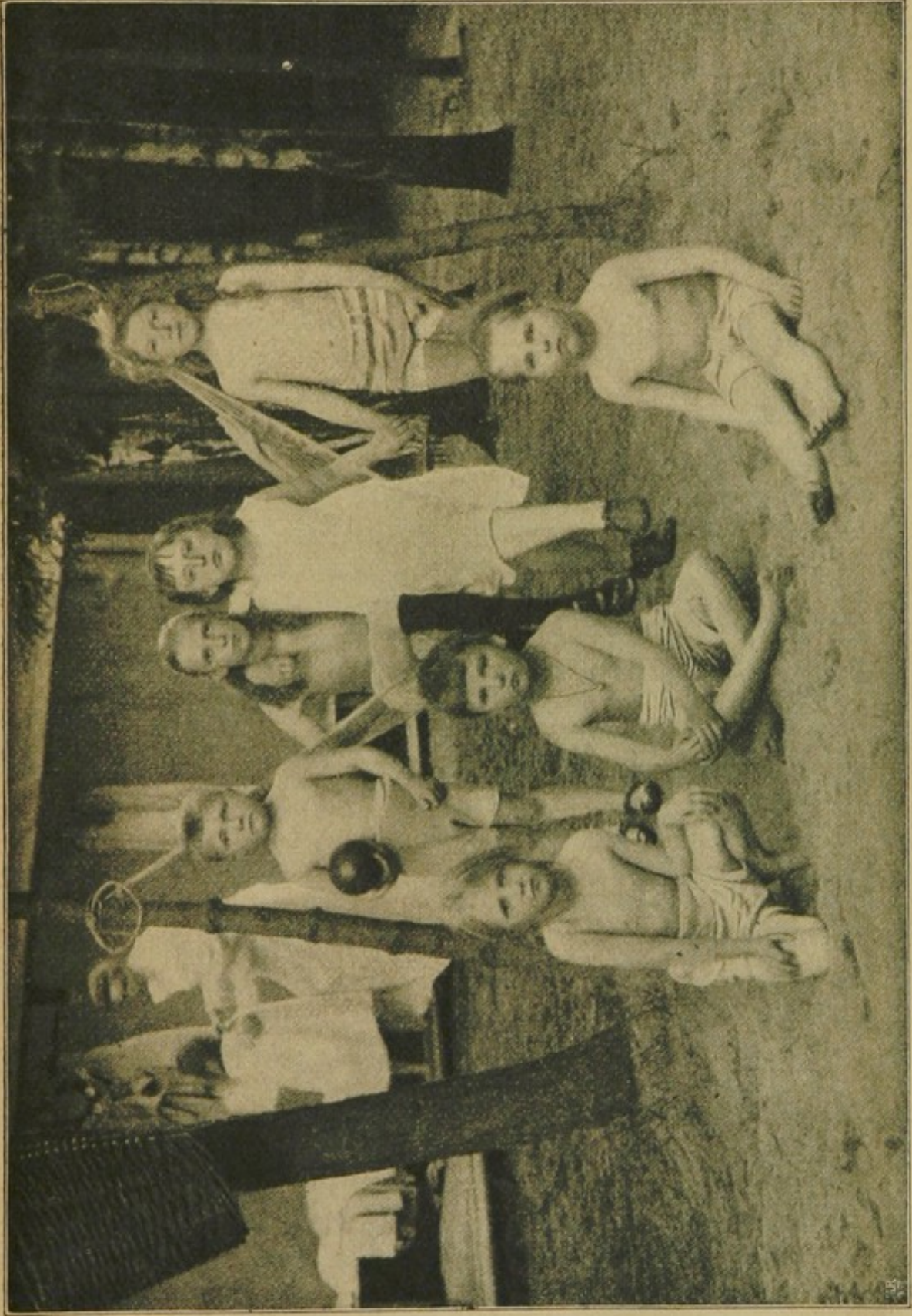
health and that they should learn it for the sake of their children and the coming generation.

It would be a very desirable thing for our young people if they could be brought up in practice as well as in theory like the ancient Greeks who revelled in airbaths in their gymnasia where they carried on their exercises unclothed.

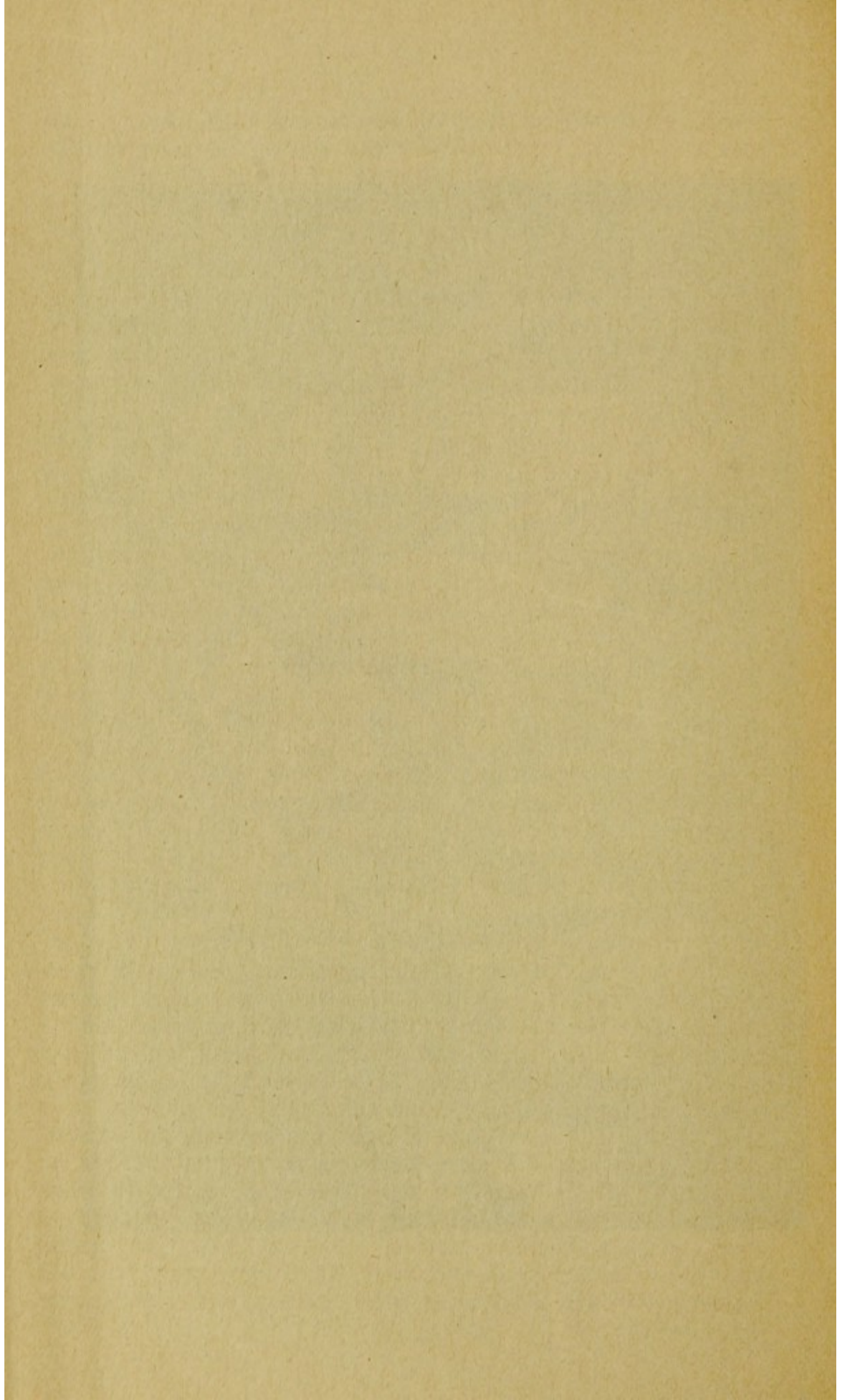
I make my children play and exercise every evening between supper and bed-time on the bare boards, clad only in bathing drawers.

Uninitiated visitors may be perhaps not a little astonished at the sight just as Nansen and his companions were when they went into the Esquinraux tent at Cape Bille-But after the first surprise they generally decide to do the same by their own children. The advantage is self evident to everyone even though he be unacquainted with the theory of airbathing. How overheated children become when they play with their clother on especially in a warm room in the winter! how excited they get and how difficult it is to make them go to sleep! By this airbathing of children before bedtime one may get rid of these inconveniences. Further the unconsciousness which the innocent children of both sexes show in their harmless play appears not as a mere conventionality but rather as an innocent ignorance without any shade of prudishness as soon as nakedness has become a common everyday matter. Finally, and this is almost the most important point, parents thus have the opportunity of really seeing their children, not only covered from head to foot by their clothes but as they really are with all their bodily perfections and perhaps bodily imperfections too. Thus they can take in time and correct any childish deformity and we shall hear no more of the Doctor's exclamation when he has a child of fourteen years or so brought to him for treatment for some spinal deformity "How is it that you have only just found out this?" Of course the reason is that the child has never been seen without his clothes. Such a thing ought never to be possible.

In summer one may become a child again in places where the custom is to bathe in the open air and in doing so to indulge primarily in baths of light and air. For children the principal thing is to play about naked and this is a much more beneficial than bathing in lakes or rivers. What a difference there is in the complexion of children who bathe in the open air compared with that of the children who can only bathe in the public baths without the advantages of light and air! The adult may seek in the morning and



Childrens' Summer Airbath.



evening like the Esquimaux in his tent refreshment in an air bath in his room and no less has he the occasion to take advantage of the fresh summer air, if he so wishes, where it can be properly done. Properly sheltered garden lawns and the like, however, are not at everybody's disposal.

A further sanitary influence of the airbath by no means to be undervalued we have still to refer to and it is the influence of daylight, for whether a person takes airbaths as a part of the regime of his daily life or employs them as a means of cure, it is not only the bath itself he is dependent upon but the sun must also do its work.

To speak of the important part played by light at the present time when every newspaper grows eloquent on the subject of light therapathy and medical electrical establishments are constantly before us, is not necessary except very briefly.

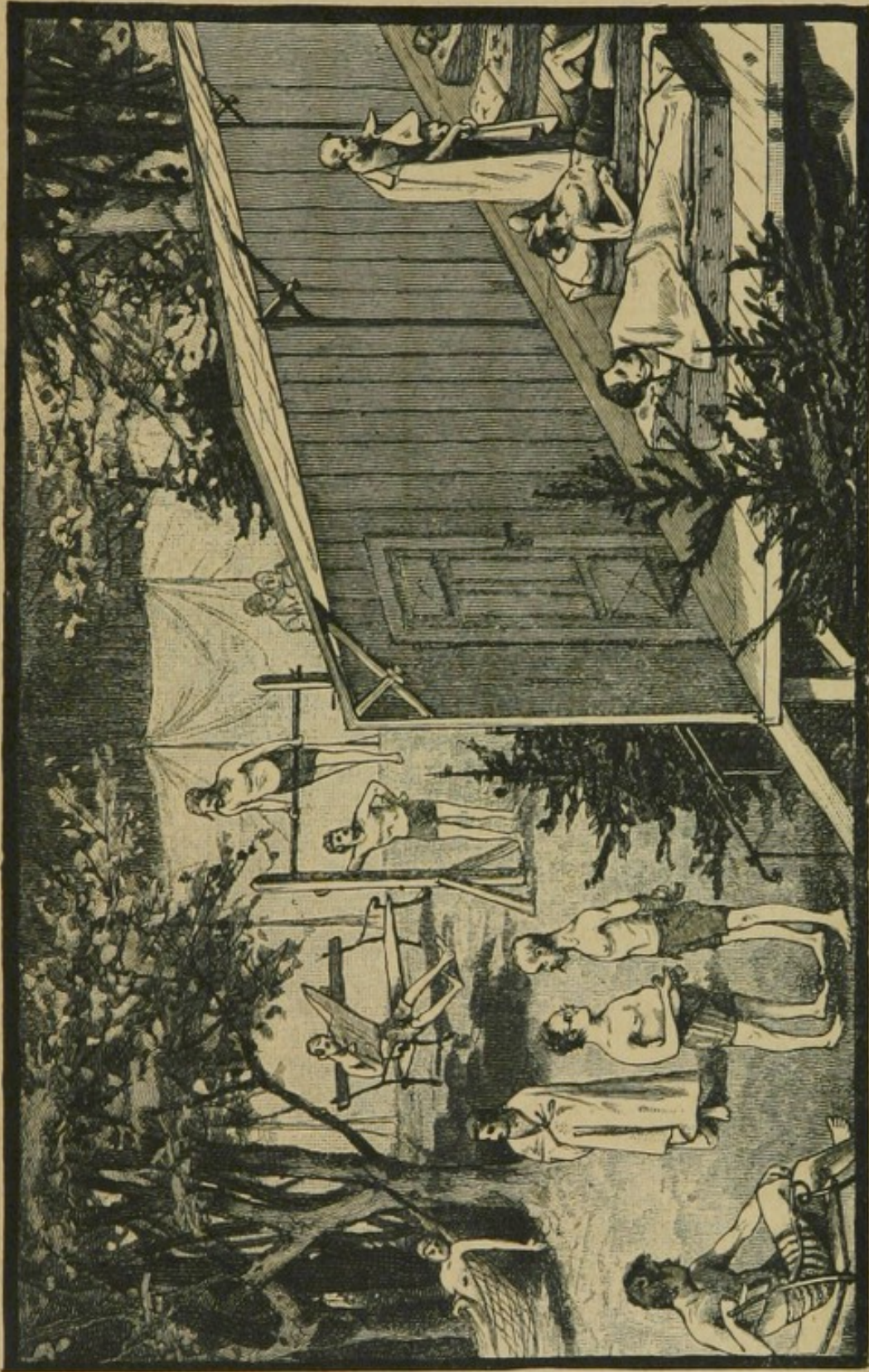
We know that the plants which we keep during the winter in the cellar bear yellow instead of green leaves when we bring them out of the darkness. We know also how pale the dwellers in small rooms in towns appear as compared with people who live in the country. For as only the light makes possible the development of the green colour in the leaf so it is only under the influence of light that the Haemoglobin becomes an essential part of our blood which has to distribute the oxygen to all the organs when and as it has been passed through the lungs. Miners and many persons whose work has to be done in the night afford us clear instances of blood poverty due to the want of active blood colouring matter in their systems. If further evidence were necessary we might point to the degenerated kinds of subterranean creatures which have become quite white.

Of course the thoughtless, impetuous person will overshoot the mark the moment he pursues a new idea. At the present time the rage is for the electric light bath and its praises are sung on all sides. To the uninitiated it is a matter of indifference that the electric light is, properly speaking, a weak, a very weak substitute, for sunlight, that even on a dull day the natural light has far more lightstrengthening power than a room flooded with rays of the electric light and that therefore we stray from the right path when we seek to replace daylight by the electric light for medical purposes, certain cases excepted. Sunlight! pooh! he can do without it! but the comparatively weak and poorly produced artificial substitute he finds quite worthy and suitable for his requirements.

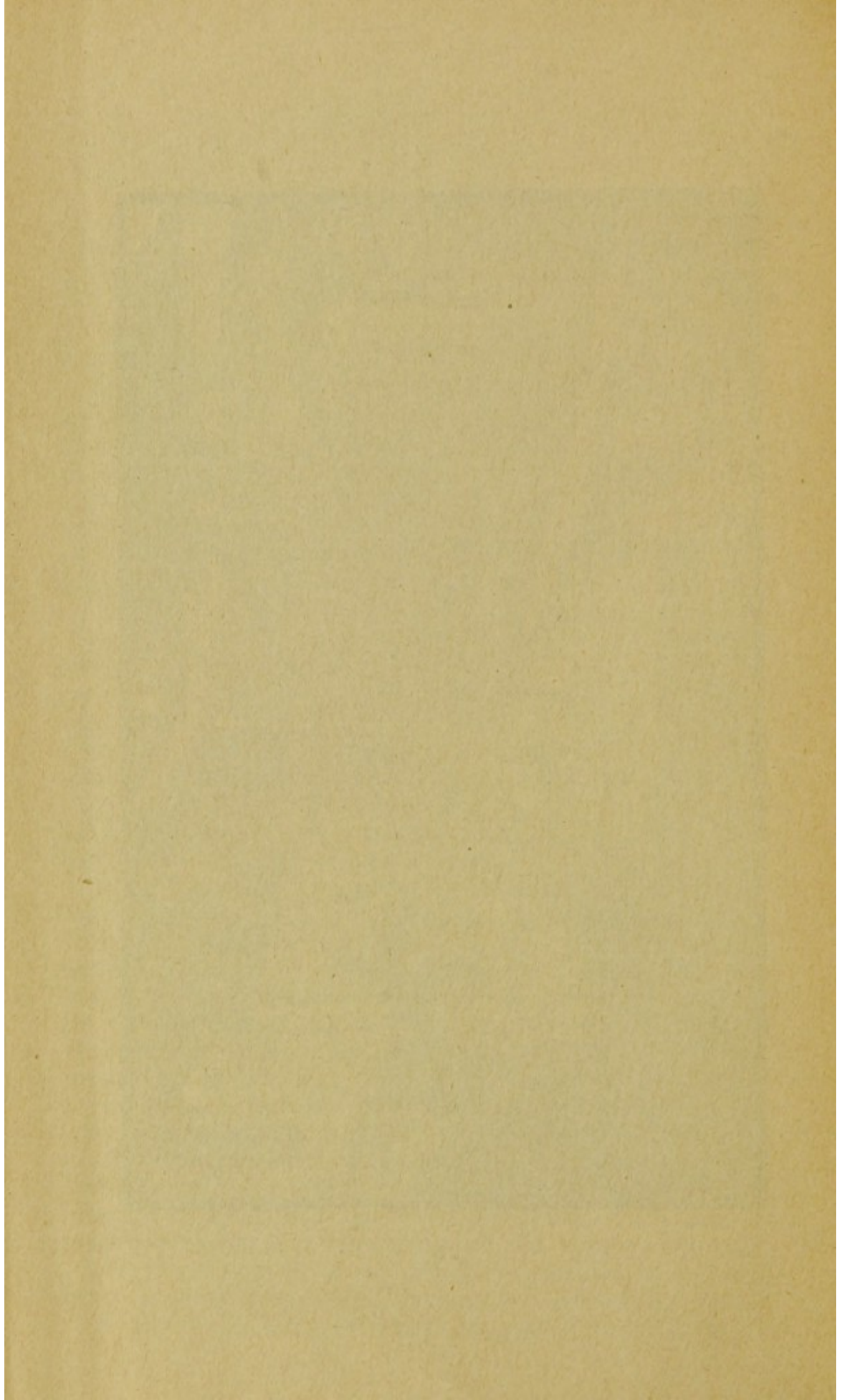
If people really understood the principles of light influence they would not be satisfied with the brief influence caused by electric baths. They would soon enquire, as we do, why do we not longer bathe in the sunlighted air and in the sunlight bath? and why do we not provide ourselves with garments which the light may penetrate in the way that air penetrates ventilating clothing? But here people take their stand by the general preference for coloured clothing (and that dark material repels the light we may learn from photography), and they even sometimes wear coloured underclothing whilst they ought to wear light colours and so attract the sun's influence.

Has it ever strack any one that a period of mourning has affected many a mother and many a daughter in regard to their general health as shown by their pale faces? You may perhaps be under the delusion that this pallor is due only to grief. It is not so. What we must blame first and foremost is the black clothing which shuts out the light from the skin. It is an artificial pallor which we see and its cause may be compared with that of the plants which have been kept in a dark cellar. I am always urging upon my patients that they should wear gray for mourning. Already many men have shown their independence of conventionality by wearing only a black band on the sleeve. Under the influence of light upon the skin the assimilating function receives a new stimulus for we know by physiological experience that under the effect of light the influx of oxygen and the effective process of carbonisation in the body are increased.

Let me insist once more that not only does the assimilating function receive a new stimulus, that is, that decomposition of matter takes place owing to the passive poison being disturbed and brought into circulation, but that also the blood charged with this matter through the influence of the air and light is more forcibly carried to the surface of the skin so that it can, as shown above, more easily be expelled in the manner already described. In order to bring this home to us, let us repeat that in the case of many persons the face is the place to which all impurities of the blood fly and so many a human face shows an acute and chronic eruption. Why is this? It is only because the stimulating influences of the air, temperature, light, wind etc. act upon the skin of the face and cause a constant influx of the blood to this part so that the impurities of the blood are carried here. And thereby we may quite easily understand that certain constitutions which are more plentifully supplied with these impu-



Air and sunbathing in the Summer.



rities will, with the circulation of the blood show similar poisonous eruptions over the whole surface of the body and so we get Urticaria, Nettle rash, Erythemen and so on. A not insignificant percentage of airbathers (10%) present cases of advanced Erythem which is not seldom accompanied by severe itching, overheating of the skin and sometimes by various feverish general symptoms. Rubbings with slices of lemon with when necessary, baths heated from 28° R. 35° C. to 32° R. 40° C. relieve the itching. The heated feeling generally disappears in 3 to 8 days and the general health is reestablished within the same period.

Often in Summer when one cannot take the airbath in the early morning or in the forenoon or when one cannot seek the shade of the trees (which is desirable), one should, just as in the case of the sunbaths, court the constant influence of the warm rays and the direct chemical action of the sunlight. The sun will cause in the one case as in the other, a more or less mild tanning of the skin and it will be found that the symptoms of Erythem will be more frequent under the influence of the warm Summer air as they will in very sunny Summers and this produces sometimes even severe inflammation of the skin.

Similarly after the proper Erythemic diseases such as measles and scarlatina, which by reason of lymph thrown off in the form of perspiration cause fissures in the dried skin, due to the subsidence of the inflammatory swelling which do not heal (for their elasticity is destroyed by the maintained tension of the skin) but through off sealing are thrown off, and so it is also that after the air and sun baths, the Erythemen scales off.*)

My patients know very well by report that skin eruptions with and without scaling of the epidermis are quite as likely as not to result from air- and sunbathing and as the latter occurs often only after the treatment, we doctors hear only by chance of it. For instance, in the middle of October 1896 I received a letter from a patient who in 1893, 94, 95 and August to September 1896 stayed at my establishment, making a visit of one month every year. He was a man of 63 suffering from longstanding constipation and consequently upon the tainted blood, was affected by considerable nervous prostration. His heart was always weak: the skin in 1893 was very dry and flabby, becoming

*) Compare, Dr. Lahmann: Febris erythematosae after "air and sunbaths in "Allgem. med. Central-Zeitung No. 25 of 1897.

however better. He wrote: "Every time I return here after your treatment and especially if I continue to take airbaths, I have been affected with a kind of eruption on the back and especially on the feet and legs, accompanied by a reddening and sloughing of the skin. I notice also a swelling of the feet which extends half way up to my calves. The latter always disappears without trouble but this time it will not go away."

For this reason he makes the enquiry and sends us a description of the scaling which has supervened upon the Erythem. He had never mentioned it after his previous visits.

It is clear that under such circumstances, especially when the occurrence of the eruption follows after a long interval, physicians who are not accustomed to our cure can make mistakes in their diagnosis.

I have already discussed in the Review just mentioned a characteristic case in which after a course of air bathing, scarlatina was wrongly diagnosed, owing to deferred scaling, and the patient, a lady, was kept in the hospital for four weeks. In reference to the foregoing explanation upon the process of scaling, it is necessary to call the careful attention of our colleagues, in order to prevent the possibility of false diagnosis, to the fact that these eruptions occur often a long time after the airbath treatment.

The Use of the Airbath

must necessarily vary according to the time of year and the place where it is taken. Damp and windy places are, for the open airbather for more unfavourable than dry places sheltered from the wind. I may mention here as an instance for the consideration of our patients, our sheltered airbathing places which are free from fog, dry and fairly sheltered from the cold wind. Habitues can here take their airbaths in the open throughout almost the whole year with the possible exception of a short time during the Winter. An airbath of only ten minutes duration in the colder season stimulates the circulation, the activity of the skin and the function of the organs of the body quite as much as one of an hour's duration in the Summer, for the reaction or responsiveness

of the air influence (after practice, be it understood) is stronger. It is understood that with practice the free circulation of the blood to the skin is a distinct benefit, or is about to become one (for as newly born children, we all acquired an excellent air responsive skin) so that the slighter cold effect of the air may not cause any continued convulsion in the blood vessels but that it may at once promote a responsive quickening of the circulation.

A fleeting cold feeling (goose flesh) may however be felt but it need not be feared if it is at once followed by an agreeable feeling of warmth. In times of frequently recurring or continued frosts the airbath should be interrupted and the habitués, after dressing, must, by means of active bodily exercise, restore the heat of the body.

The visitor may himself distinguish, in so far as it relates to the majority of men with a sensitive, nervous system ("vasomotorische Neurasthenie") good and bad days and must on the latter shorten the duration of his accustomed airbath and he will on many winter days have to rub his hands and ears if they become cold although the blood circulation in these parts may some times be better on the colder days.

In the Summer every body may take the first airbath in an air temperature of 15° to 20° R. (= 19° to 25° C.) and remain from ten to thirty minutes in the open air without fear, and this may be soon prolonged to one or two hours duration. In Summer the airbath is considered as an agreeable "cooler" not only by stout and full blooded persons but also by those suffering from poorness of blood because it often brings about warmth after the cold. But if it should continue hot during a long time and the patient should then at 15° R. (19° C.) take an airbath many a sufferer from "vasomotorische Neurasthenie", many an aenemic will shiver. Therefore in view of this, the advice to sensitive subjects in the warmer seasons is this: Take the airbath only the first time at eleven to one o'clock, extending the time by degrees earlier and later so that in the warmest days the bath may be taken when the sun is low for instance at between seven and nine o'clock in the morning or between four and seven o'clock in the afternoon. In this way one is able on colder days to bathe at a similar temperature at midday without feeling the cold too much.

Our sensitiveness to temperature is a relative one, for instance when we are accustomed to the severe cold of Winter we find water heated to 18° hot to the hand whilst in the

heat of Summer the same would appear to us as agreeably cool. In like manner the temperature of the airbath will vary in its feeling according to the time of year. In the latter part of Autumn when we have as the highest day temperature 15° R. (19° C.) an airbath of 12° R. appears quite agreeable to us. In the Spring or in the warmer Winter days we find a midday temperature of 8° R. (10° C.) so invitingly warm that we do not hesitate to take a short bath in the open air. For habitués the moderately frosty weather when at night and also when in the shade the glass shows some degrees below 0° , the middle hours of the day in the sunshine with an air temperature of about 4° R. (5° C.) are always suitable for a short bath in the open air (10 minutes).

But in these days of haste and pressure when a patient has little time and opportunity to devote to his health and thereby frequently undermines his constitution it will not do for us to picture to him the hero he might become. We must warn him against overdoing it. **Therefore he must in the cooler times of the year always begin with airbaths in a room.** By that I mean that a man should go into a comfortably warmed room ($12-15^{\circ}$ R. = $15-19^{\circ}$ C.) two or three times daily and, unclothed, go through some gymnastic exercise or light skin friction for ten or twenty minutes. As soon as the patient observes that the skin becomes pink and that he can stand an airbath in the morning in a cool room from five to eight minutes, he may further ventilate his room and finally take his airbath with the window open. When he, after some weeks progressive practice has accustomed his skin fully to the regime, when he has thus acquired a good appetite and a general feeling of well being and health with an increased muscular power from these practices, then he may in the Winter or Spring sunshine take a ten minutes bath in the open air at a minimum temperature of 8° R. (10° C.) and later this may be extended to a further five minutes. If however it should happen that on some days his general condition of health is not quite so good or that his circulation is inclined to be sluggish, then he must again take his bath in the room, as he must also do on cold and unfavourable days.

The airbath does not require to be taken in the open air if only it be taken day by day in a room and one is careful to seek a lasting airbath by means of ventilating clothing. It is true that it is not only more pleasant but more stimulating, at least in the more favourable seasons, to

be able to take an airbath under the open sky and therefore the use of the arrangements for open airbathing as well as on occasions, open air river bathing and so on (when for sufficiently good reasons), are permitted.

I would prefer that everyone should take his airbath in a room from day to day rather than, neglecting his skin throughout the whole year to become during a few holiday weeks a fanatic playing at airbathing.

In rainy weather an airbath can only be borne by those who on account of sluggish action of the great organs of the body are able to stand cold douches when prescribed. All other persons should be careful to retain the heat of the body.

In Summer when the sun is powerful, the airbather should retire to the sheltered port of the airbathing place so that he may not become too accustomed to warmth and so feel the cold more on cool or frosty days. Further he must be careful not to stay too long and expose himself to the too strong influence of the fierce light as by so doing he is liable to be affected by the "Sunbatherythem" with fever and reddening of the skin.

There are many cases of persons with a disposition to rheumatic gout or with constitutions injured by the absorption of poison into the blood who have acquired a more or less severe condition of Erythem (Inflammatory reddening of the skin) simply by the use of airbaths taken in the sunshine the reason being that their long neglected skin is suddenly called upon to deal with the accumulation of poisonous matter.

In the event of such reddening of the skin the bather must rub the affected parts with lemon juice or with diluted brandy. Many find hot baths also servicable. In any case it is better to avoid such unpleasant consequences by taking the precaution to bathe in shady places sheltered from the powerful rays of the sun. Persons with very sensitive skins may use a red veil.



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