

WHITE (J.C.)

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AN INTRODUCTION
TO THE STUDY OF
THE INFLUENCE OF DIET IN THE
PRODUCTION AND TREATMENT
OF
SKIN DISEASES

BY

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PROFESSOR OF DERMATOLOGY, HARVARD UNIVERSITY

READ AT THE ELEVENTH ANNUAL MEETING
OF
THE AMERICAN DERMATOLOGICAL ASSOCIATION

(Reprinted from

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AN INTRODUCTION TO THE STUDY OF THE INFLU-
ENCE OF DIET IN THE PRODUCTION AND
TREATMENT OF SKIN DISEASES.¹

THE question of diet in the etiology of cutaneous disease has always been regarded as important. Most writers on dermatology speak of it as such in their general discussions of the subject, and in relation to the causes and treatment of many individual affections. The medical profession at large also looks upon the subject as a most important one, as shown by their occasional published statements, and especially by the advice given to their patients. The public, too, holds a similar opinion, even a stronger one, as manifested by the universal questioning with regard to the supposed connection between this or that article of food and the cause and cure of the various affections about which we are consulted. The subject is one of ancient and immediate, as well as of universal interest, and it will be my simple object in this brief paper to enquire what we really know about it.

How may this be best arrived at? Shall we adopt in some measure the views which prevail among mankind in general, on the ground that such popular beliefs must rest on some positive foundation? Shall we accept generally entertained opinions of our profession unquestioned with regard to certain particular articles and whole classes of food, as reliable deductions from prolonged and trained observation? Shall we feel assurance that we may find, finally, in the writings and publicly expressed statements of dermatologists of all nations, a body of experts from which there should be little occasion to appeal, a satisfactory consensus of opinion, and some well-established knowledge? Let us analyze the information furnished by these sources:

1. *Popular views.*—It might be assumed that man, approaching with infinitesimal slowness toward his present state

¹ Read at the 11th annual meeting of the American Dermatological Association.

of civilization had retained in some measure that so-called instinctive part of his early nature, which, it is believed, enables the animal to discriminate between the harmful and the good in its natural food supply, and that in the ever-widening sources from which this has been derived, from his savage state upwards, a protective judgment founded on experience in this direction would have been evolved to a proportionate extent, so that now the accumulated and recorded evidence of individuals would have established a positive basis of distinction between the harmless and the injurious in relation to the causes of all diseases, certainly of those of the skin, the morbid changes in which are exposed to the eye of every one. It would be needless to seek backwards for the basis of such views among the savage tribes of the past, for men of many differentiated stocks exist upon earth to-day in their most primitive state, and under the widest differences of dietary conditions, and their customs and their diseases have been studied and recorded by numerous and careful observers. The savage has learned everywhere by experience to distinguish between what is good for food and what is dangerous to life in the vegetable and animal kingdoms, but his observations have gone much deeper and taught him the remedial virtues existing in many plants, as well as their virulent principles, which he extracts for his use. Skin diseases have been found to exist among all savage tribes and under the widest range of diet; the root-digger, the blubber and raw-meat eater, the exclusive fish eater, the strict vegetarian, etc., but waiving for the present the consideration of how far such peculiar or such restricted forms of diet may have to do with the causation of these diseases, it may be stated that no evidence exists that the occurrence of these affections has been attributed by the savages themselves to their customs of eating. It is among civilized nations, those amongst whom we live and practice our calling, that we find firmly held opinions concerning the relations of certain common articles of food to the occurrence of skin diseases; upon the broader question of classes of diet they have no fixed views. It is difficult to determine, however, how far such opinions, whether right or wrong, are self-formed, or are the relics or reflections of those previously or at present held by physicians. But it is astonishing to see how few are these articles, about which any widespread beliefs or prejudices exist, judging by one's personal observation in the matter. They may be enumerated in a very small compass.

Butter is generally regarded as a creator of "humors." In

a great majority of the cases of the more common affections of the skin, especially eczema and acne, I am asked if it is not bad for the disease, or if it should not be prohibited, or I find that its use has been forbidden to the patient by some household authority. So general is this belief in all portions of the country from which my patients are drawn, that I always try to anticipate such enquiry by stating in my directions for treatment that butter may be eaten in unlimited quantity. It is difficult to determine how such a prejudice against this substance could have arisen and been perpetuated, unless its former use in a "strong" or rancid state, or its entering into the composition of so many "rich" and indigestible dishes, or its employment as a frying medium, may have given rise to disturbances of digestion, but under these conditions it is no longer butter. It may be stated without exception that uncooked butter is a perfectly harmless food, so far as the skin is concerned.

Oatmeal forms an essential part of breakfast of a large proportion of the inhabitants of the northern United States and Canada. It is raised for this purpose in vast quantities here, and imported also from Scotland. It is eaten in the form of porridge and cakes chiefly, with the addition of milk, cream, sugar, molasses, or butter. It is commonly believed to be "heating," to be the cause of eruptions, and is often abstained from under this fear by those who have skin diseases. Is there any foundation for this belief? I know none. It is eaten by vast numbers of people from infancy upwards, who never exhibit the slightest disturbance of the skin; and the cutaneous affections, in the causation of which it is so often regarded as a probable factor, are those of the most common occurrence among all classes and races, including those who never use it. I have for years sought for an explanation of this prejudice among my patients who entertain it, but I have in no instance found a reason why any individual should hold it. I have repeatedly looked for some effect in removing it from and adding it to the diet of patients with affections, which it is supposed to influence, but I have never seen the slightest ill result from its free use. I believe it to be entirely harmless in itself. Of its supposed value above other cereals in the dietary table it is unnecessary to speak.

Buckwheat.—This seed of *Fagopyrum esculentum*—a polygonaeous plant introduced from Europe—forms at certain seasons of the year a favorite article of food, especially with the young.

This is to be explained by the custom of obscuring its disagreeable taste by mixing it with other meals, and by smothering it in sugar, syrups or molasses. It is commonly looked upon as promoting the production of certain skin diseases, especially acne. I doubt if it have in itself any direct action of the sort, but it is not unlikely, considering that it is fried in fats, that it is mixed with all kinds of "raising" substances to make it "light," that it is eaten in haste while hot, that with it great quantities of saccharine matters are consumed, that the buck-wheat cake may aggravate, or possibly even give rise to acne pimples by producing disturbances of digestion in those disposed to the disease.

These may be taken as examples of the popular prejudices which generally prevail concerning certain articles of diet. The list might be slightly extended, and no doubt similar views concerning other common foods exist in other parts of our own and other countries, alike groundless and inexplicable. Who can suggest for example a reason for the popular belief that tomatoes are a cause of cancer? Yet this *vox populi* rests upon just as real data as any evidence which exists to sustain these other beliefs. For many of them our profession is directly responsible, and they are in fact still openly upheld by it.

2. *Professional Theories.*—It would be impossible, as just stated, to distinguish the views held by the laity upon this subject from those which have originated in and are still maintained by the profession in general, and just as impractical would it be to attempt to specify what are the loose and crude theories held by the latter, and what the well-founded opinions which have been adopted on the expert authority of dermatologists, for it is doubtful if any such of wide acceptance exist. I have examined the chapters on etiology in all recent general treatises on skin diseases, and it is surprising to see how little, beyond what is vague and unproven in this direction, they contain. In connection with those on the causes and treatment of individual diseases more specific statements are occasionally made, but even upon these points opinions differ widely, and are with few exceptions unsupported by any presentation of evidence. Among writers of different nationalities a very great diversity of views exists. A few examples will best illustrate this most unsatisfactory state of our art.

Fish is looked upon as a suspicious or positively dangerous food in all skin diseases by nearly all patients, by physicians generally in many cutaneous diseases, and prohibited in a few

affections by some dermatologists. How much truth underlies these views? Who among us can state that he has observed a single instance in which it could be scientifically demonstrated that it had directly produced a disease of the skin, or aggravated or interfered with the cure of one already existing? Possibly the law of exceptions would rule here to the extent of recognizing that fish may, at times, irritate individual stomachs and thereby provoke a fugitive erythema or urticaria, but so may any other article of food. A distinguished practitioner and well-known dermatological writer of France tells his patients with eczema that they will continue to have the disease as long as they eat fish, and that they cannot recover unless it be abstained from; in other words, he believes that eating fish causes eczema. Is this a fact? There are certain ways by which this question might be satisfactorily answered. Is it known that persons who occasionally or daily eat fish as part of a mixed diet are more liable to have eczema than those under similar conditions of life who seldom or never eat it? Are nations that live largely or exclusively upon fish more liable to eczema than those that rarely eat it? Or, stating it in another way, do maritime peoples have eczema more than those inhabiting the interior of continents? Has eczema become more prevalent in our inland states since fresh fish has been distributed to them so profusely under the recent system of rapid transportation? Do patients with eczema, those in whom it is supposed to have been produced or aggravated by fish-eating, recover by the simple omission of this diet alone? Do not, in fact, patients recover from eczema who continue to eat fish? And how can the physician who believes that they do not, know that his patients recover more rapidly, or in larger proportion than those who are permitted to eat it? Does he treat a series of cases upon fish diet, and another without it, but otherwise identically? When information upon all these points has been satisfactorily rendered, then I shall admit that an authoritative opinion upon the question may be formed; so far as my personal knowledge covers them, it leads me to the opposite conclusion that there is no evidence that the eating of fish causes eczema, or interferes with its favorable course under treatment.

So, too, with regard to meat. A general opinion may be said to prevail in the profession that meat is at least to be avoided in the diet of patients with inflammatory affections of the skin, and there are some dermatologists who ascribe to it an impor-

tant agency in their causation. We find statements by them in this direction expressed in the most positive terms, as if the question had been settled by experimentation, the methods of and deductions from which were open to the judgment of all. It is not strange that in the absence of any such presentation of evidence all sorts of views should be expressed in the discussion of the subject, as positive against as for, according to the training, residence, etc., of the individuals taking part in it. Is it likely that the physician practicing among the exclusive beef or mutton eaters of certain parts of the world should hold the same opinion as to the causes and treatment of eczema, for instance, in this regard, as his confrère among the rice eaters of India? Should any one in the land of mixed eaters attempt to form or express an authoritative opinion upon this point without regard to the data to be derived from both these sources? Not many years ago a well-known writer upon skin diseases, A, proclaimed that psoriasis could be cured by an anti-meat diet. This method was undoubtedly tried by many who found in it nothing to warrant a farther trial. More recently a similar paper, by B, has appeared, strongly advocating the treatment of the same disease by an exclusively meat diet. If either of these publicly expressed opinions be correct, the other is of necessity without foundation. It is not my present purpose to show that both are probably incorrect, but to call attention to the faulty methods and insufficient evidence on which a large part of what is written concerning the therapeutics and dietetics of cutaneous diseases is based. If A were in absolute charge of a skin ward of a hospital, and would report the changes which took place in twenty or more cases of psoriasis during a six months' residence under an exclusively anti-meat diet, without the use of any therapeutic measures, externally or internally employed, the patients presenting the usual varieties of the disease according to duration, extent, intensity, etc.; and B under similar circumstances would observe the effect of an exclusively meat diet, we might derive from the publication of such results some positive knowledge. But A and B are not entitled to form independent opinions; their experience must be combined.

Another faulty system of theorizing has largely prevailed among dermatologists in the therapeutical relations of the subject. To the firm believer in diathetic etiology, the selection of a dietary consistent with such belief is both an easy task and a necessity. If eczema, for example, is to him merely a local tissue

expression of gout, and he finds in the treatises upon this disease a table of articles of food to be avoided, it becomes a very simple matter to draw the conclusion that these substances also give rise to eczema, and are to be prohibited in its treatment. Of course, there should first be established the connection between these two affections by evidence that all reasonable students can accept before any judgment can be formed as to a common system of dietetics for both. In fact, the ratiocination upon this question is often as follows: Dr. X, a distinguished physician, tells his patient with eczema that his diet and treatment are to be so and so, because his disease arises from the fact that he is gouty. The patient says, "Why, I never had a symptom of gout in my life." The doctor replies, "That makes no difference; you must have gout, because otherwise you could not have eczema."

Methods of Study.—Until proper methods of study are generally recognized and insisted upon, and such narrow and fallacious systems of reasoning are abandoned, I believe that we shall make no advance in the dietetics of skin diseases, and that no writer, however eminent otherwise as a dermatologist, should be regarded as authority upon this question. In what way should we, then, approach this study? As a science of even general dietetics can hardly be said to exist, the study in the beginning must be of necessity largely empirical. First, we may endeavor to ascertain through reliable travelers, missionaries, many of whom are educated in medicine, and resident physicians, what diseases of the skin prevail in extraordinary frequency, severity of type, or unusual form among tribes or communities, where a restricted diet of any kind has been long followed. Thus, among the natives of the northwest coast, fresh salmon forms the only food for several months, and dried or smoked salmon the exclusive or larger part for the rest of the year. The Eskimo lives almost wholly on blubber and raw meat, and other northern people mainly on pemmican. The inhabitants of some immense inland plains subsist almost entirely on fresh beef or mutton. Some tribes find their nourishment in the milk of animals. Millions of eastern people have no other diet than rice and a little fat. Other forms of starch eating are the potato of the Irish, the oatmeal of the Scotch, the macaroni of the Italians, and the *poe*, taro, yams, etc., of Pacific islanders. The Grahamites and vegetarians amongst ourselves afford scattered individual examples of diet with but little animal and no flesh food. Many other well-known instances of

exclusive and peculiar systems of diet might be mentioned, but these will suffice to show the opportunities which exist for the study of their influence in the causation of skin diseases. Of course, without the fullest information in relation to all the other conditions of life of the people studied, no inference whatever could be drawn from the facts of diet and of skin disease co-existent in any such instance. The uneducated mind drew the inference that salt meat and scurvy associated on shipboard stood in relation of cause and effect, the absence of the lime juice or its equivalent, as the real etiological factor, was not appreciated. Let us beware that we do not observe the same faulty method of induction in attributing similar positive action to any article or class of foods in our study.

Another enquiry of value would be, What change in the type or character of skin disease has accompanied the introduction of new diets among nations of advancing civilization, or what new cutaneous affections have followed thereon? This should be conducted with the same care to exclude the manifold errors which would surround a partial investigation of the question.

From such difficult and broad ethnological questions we must descend to the more limited fields of research afforded by individual cases, open to all dermatologists in some measure. It is only those who are fortunate enough to have direction of large wards for the care of cutaneous diseases, however, who can carry on experiments upon these points with satisfactory exactness, and whose results can be received without serious questioning. How or where, outside of such establishments, can any physician carry out any practical scheme of testing the effect of variations in food, or of any restricted system of diet upon the aggravation or amelioration of a skin disease? Where else could he hold control of a patient long enough for such experimentation without the necessity of introducing into the case the complication of simultaneous internal or external medication? No; the conclusions of every dermatologist upon such points, drawn from observation of peripatetic dispensary or private practice, however extensive these may be, are to be regarded as of comparatively little value, as a rule, on this account. He may at the most say: "I cure my patients in this and that affection, on this or that diet, more quickly and easily than I formerly did on different diet;" but it would be essential, before accepting such statements as in any way conclusive, to know that no change whatever had also been made in the therapeutics

employed then and now. Unless a minute and complete report of both series be furnished for analysis, any conclusions offered may fairly be regarded as impressions, not as proofs. It is not at all strange that opinions based upon such methods of study should forever be met by like but antagonizing statements of other observers. I would not be understood as meaning that the observations of the individual dermatologist are of no value, only that sweeping conclusions are generally of this character.

Laxity exists, too, in the meaning of terms used in classifying so-called injurious articles of food. There are some which may be of themselves directly provocative of cutaneous disturbance, and there are others which act only indirectly upon the skin by first disturbing some other parts of the economy. If an indigestion may cause abnormal action in the integument, and some article of food give rise to the former alone often, and never to the latter without the gastric disturbance first, then such a food cannot be said to be primarily or directly the cause of the change in the integument. Clams for example, when eaten by some persons, produce symptoms of severe gastric irritation, and in a certain percentage of these a subsequent disturbance of the skin more or less general. This latter action is no doubt sometimes the result of the impression primarily produced upon the stomach, and the dermatosis is indirect and secondary. But if meat is spoken of as causative of cutaneous disease, such effect, if true, is inexplicable by such action on its part, for it is not claimed that it produces indigestion. Fish, when boiled or broiled, may be eaten with impunity, but, when fried, may give rise to disturbances of the digestion and the skin. It is not the fish which has provoked the trouble, but the overheated fat incorporated with it. It is important, therefore, in discussing the relation of foods to the etiology of skin diseases to recognize such distinctions, and to state as definitely as possible whether articles in question are accused of being specifically injurious, that is of acting in some unknown way directly upon the skin to its disadvantage, or whether they act thus secondarily as promoters of indigestion, or by otherwise disturbing the economy.

I know no better way of approaching this individual method of study than to endeavor to state simply my observations concerning some articles of food which have seemed to me to be in any way injurious to the skin, subject, of course, to the criticism of individual opinions above stated. I shall not attempt to explain how they act, because in most instances I do not

know, nor shall I try to classify them on any physiological or chemical basis. My black list is small, as will be seen.

Alcohol.—For my present purpose I shall consider this to be a food. There is no older or more widely held popular opinion in connection with our subject than that the excessive use of alcoholic drinks paints itself upon the face of man. The flaming portrait by which Shakspeare has immortalized the countenance of Bardolph, the tavern talk of successive eras of writers, and the expressions so commonly in use at the present day, “grog blossoms,” “toddy blossoms,” etc., are sufficient illustrations of it, and yet many a bearer of a “jolly red nose,” who has never used alcohol at all, suffers the false judgment of his fellow-men. There can be no doubt that excess in alcohol drinking may give rise to a permanent enlargement of the facial capillaries, indicated by a diffused hyperæmia of varying shades of redness, and by a visible enlargement of individual twigs, but how far it is directly accountable for the follicular inflammation and elephantiasis of the parts, which at times accompany this angioma, is somewhat doubtful. Professor Hebra used to say that he could distinguish between the brandy drinker and the wine drinker, even between those who drank Rhine and Austrian wines on the one hand, and those who used the stronger vintages of Hungary, Spain and Portugal, by the appearances of the face. But besides these tendencies to rosacea on the part of those who drink too freely, so well understood, I have noticed other changes in the skin from the effects of alcohol. I often see in my out-patient department at the hospital persons of both sexes presenting excessive grades of dermatitis in the form of diffused impetiginous, ecthymatous, and even furuncular efflorescences, sometimes generalized, but mostly confined to the limbs, especially the lower legs, which exceed in the intensity and depth of the inflammatory process all ordinary forms of acute dermatoses. So characteristic are these appearances that I am seldom disappointed in the reply when I ask if the patient have not recently been drinking spirits in excess. They generally follow a spree of several days' duration. I have known lager beer in a great many instances to produce acne about the lower face, chiefly in women. So susceptible are some persons to this action that a single glass will be followed within twenty-four hours by a moderate crop of small pimples on chin and cheeks. It would be wrong, however, to ascribe this effect to the alcohol positively, because beer contains so little of this and so many other elements, and an equivalent amount of wine fails

to produce it in such persons. There can be no question, too, that alcohol greatly aggravates the intensity and course of most inflammatory affections of the skin, both by quickening the cutaneous circulation and by its stimulating presence in the capillaries of the affected parts, so that its use in such diseases should be strictly forbidden.

Acid Fruits.—I feel sure that at certain seasons acute eczema is produced in some persons by eating fruit containing abundant acid. I have noticed this during strawberry season, and later at the time of the ripening of pears and grapes. So noticeable is this action of strawberries, that I expect a decided increase in the number of my patients with eczema in June. The type of the inflammation is generally erythematous and papular, in patches or diffused, but it presents no peculiarities in seat. The proportion of persons affected in a similar way by the autumn fruits above mentioned is not so large, but I think there can be no doubt of such occasional action on their part. I have repeatedly observed an aggravation of an existing eczema when they were eaten, and always forbid their use in this disease. I have not recognized any such injurious effects from eating any other fresh fruit, native or imported, even in the most acid lemons and oranges.

Strawberries, moreover, often excite an urticaria, as is well known. Many persons cannot eat them at all without the most violent agitation of this kind ensuing. They are sometimes very freaky, however, in this respect, of which my own experience is an illustration. While traveling in Switzerland, thirty years ago, I found myself, for the first time in my life, a victim of urticaria. It recurred frequently, before I discovered that it always followed the eating of wild strawberries. During my boyhood, passed in Maine, I had only eaten the wild fruit, and always without bad results. On my return, the next season, I visited Maine again, and ate the native berries without harm, and supposed that possibly some peculiarity in the Swiss species was the explanation of the cutaneous disturbance. Ten years later there was a summer when the cultivated fruit repeatedly produced an urticaria upon me, although they had never done so before, nor have they since then. Four years ago I was again in Switzerland, and ate the native berries from curiosity, for they were far from agreeable to the taste, but they produced no visible effect upon my skin. So variable is the action of strawberries or individual susceptibility to their influence.

Apples sometimes produce, especially in those liable to fol-

licular inflammation, an acniform efflorescence about the mouth. In children a larger form of eruption, clustered vesicles or shallow, impetiginous or ecthymatous lesions upon the lower face, resembling some kinds of so-called impetigo contagiosa, is thought to result from apple eating. This affection is well known in the country in late summer and autumn, and is called "apple humor." Sweet cider is supposed to produce similar effects. I do not mention this action of apples as positively demonstrated, but as worthy of observation.

Nuts.—It is well known that some nuts, especially the European walnut, produce an irritation of the lining membrane of the mouth in many persons. They may also give rise to herpetiform inflammation of the lips and bordering skin, and sometimes produce an acne, due no doubt to their indigestible nature when eaten in excess.

Shell-fish and Crustaceans.—Lobsters, crabs, mussels, oysters, clams, etc., all occasionally give rise to urticaria, but in fact rarely, when we consider in what vast quantities they are eaten. Some persons can never eat them in the smallest amount without being thus affected; in others the effect sometimes follows their ingestion and sometimes does not; while the majority of mankind may eat them always without harm. This action is not necessarily dependent upon the degree of gastric disturbance produced by them, for this is often excessive without the slightest cutaneous irritation, and more often the urticaria is developed with no perceptible symptoms of indigestion accompanying.

There are other meats which exceptionally produce similar effects, the skin or stomach of everybody apparently having their individual *bête noir*. One of the few instances of giant urticaria I have seen was a gentleman who, during two or three years of his life, could not eat the least bit of roast turkey without having an urticaria, sometimes of the ordinary forms, but on several occasions presenting swellings varying in size from a pigeon's to a small hen's egg, and lasting several hours.

I am perfectly aware in how unsatisfactory a way I bring this paper to a close, but its ending is in this respect consistent with the state of our knowledge of its subject, and my purpose and excuse for presenting it in such form are that it may the better illustrate how much remains for us to do to elevate the dietetics of cutaneous disease to its proper position in our special science.

