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Publication/Creation

New York & London : G. P. Putnam's Sons; The Knickerbocker Press, 1901.

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ECZEMA

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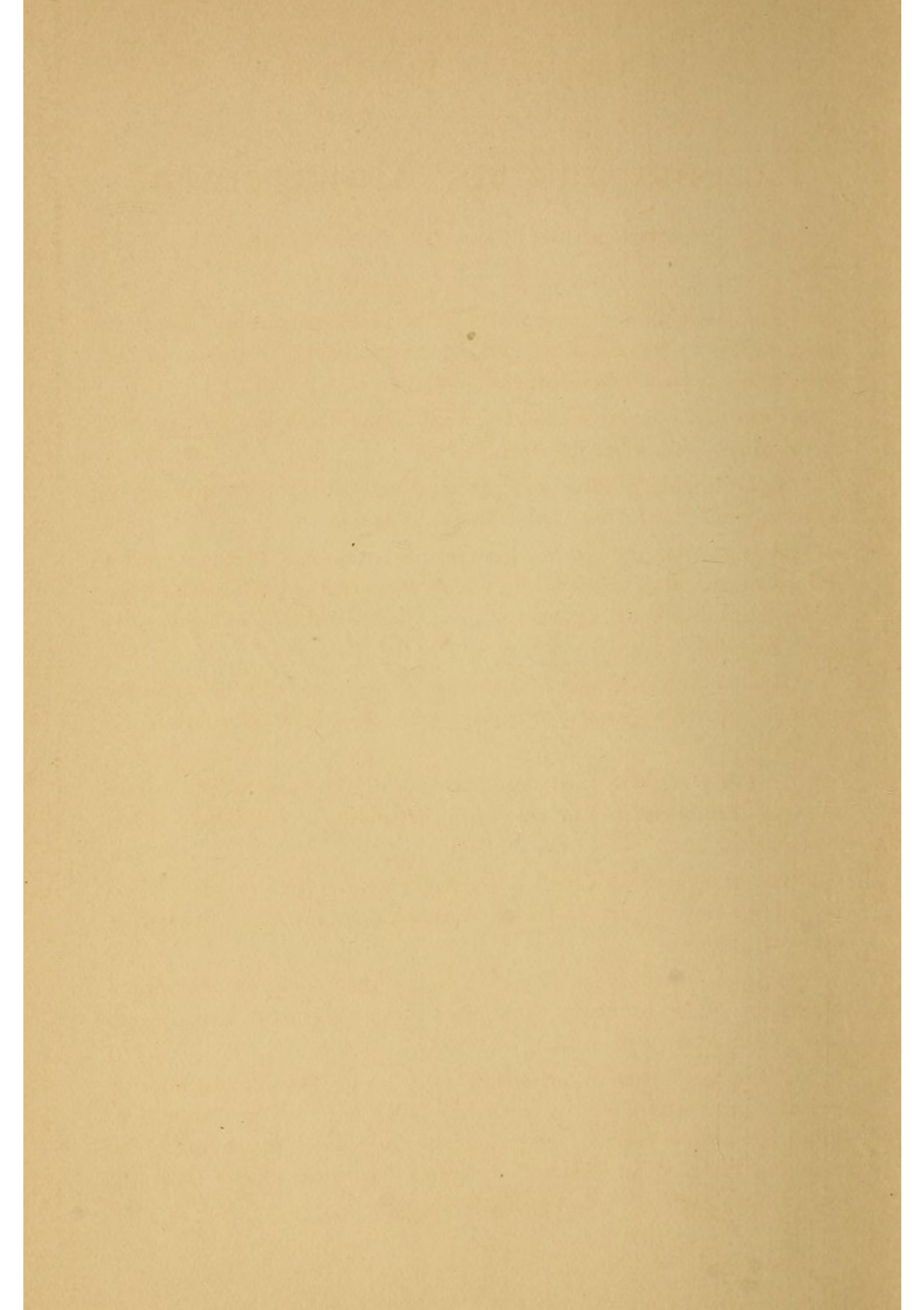
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ECZEMA

WITH

AN ANALYSIS OF EIGHT THOUSAND
CASES OF THE DISEASE

BY

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PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL; DERMATOLOGIST TO
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NEW YORK HOSPITAL, HOSPITAL FOR RUPTURED AND CRIPPLED
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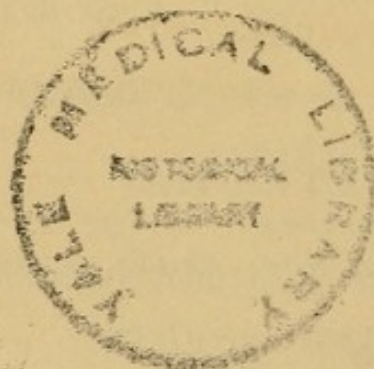
ECZEMA AND ITS MANAGEMENT

ENTIRELY REWRITTEN

G. P. PUTNAM'S SONS
NEW YORK & LONDON
The Knickerbocker Press

1901

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TO THE
MEMORY OF MY FATHER

THE LATE
HENRY D. BULKLEY, M.D.,

FIRST PRESIDENT OF THE NEW YORK DERMATOLOGICAL SOCIETY,
LATE PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE,
AND ONE OF THE FIRST TO STUDY AND LECTURE ON
DERMATOLOGY

IN THIS COUNTRY

THIS VOLUME IS AFFECTIONATELY DEDICATED

“ To be a successful practitioner in the treatment of eczema, a medical man must be an accomplished physician ; to manage the local treatment with success he must also be an able surgeon. . . . In a word, the highest and best qualities of medical art and science must be put in practice with foresight and discretion for the treatment of an eczema.”—*Erasmus Wilson*.

“ The influence of organic or functional disease of important organs is a matter requiring to be more distinctly appreciated, in so far as these throw more work upon the skin, and lead to debility, or to the impurification of the blood current. . . . This shows that the dermatologist must comprehend the nature of disease in general ere he can treat eczema successfully.”
—*Tilbury Fox*.

PREFACE

THE aim of the present volume is to give to the practitioner such a view of the subject of Eczema as shall lead to its ready recognition and successful treatment. While founded largely on a former work, *Eczema and its Management*, this is essentially a new book, entirely rewritten with many additions. Some of the previous matter has been omitted and much of it condensed, and a wider knowledge and experience has led to clearer statements; but the principles are the same, and the twenty years which have elapsed since the first edition appeared have served to confirm the writer still more strongly in the views then expressed in regard to the true nature of the disease.

The book is still to a large extent a personal one, and the endeavor has been to present those points in diagnosis and therapeutics which experience has proved important. While, undoubtedly, all are influenced more or less by the work of others, it is not always possible to state definitely just the source of this or that information. No attempt, therefore, has been made to quote authorities nor to refer to literature ; indeed a volume double this size would not suffice if justice were done to all.

Much attention has been given to the subject of

differential diagnosis, necessitating a certain amount of repetition, as it was desired to make the sections relating to regional Eczema as complete as possible.

Therapeutics have also been very thoroughly considered, minutely so in certain instances, and it is hoped that the practical directions given may be found to be of value.

Considerable space has also been given to Diet and Hygiene in Eczema, in the endeavor to inculcate the principles upon which these are to be based; for our knowledge of these subjects has not advanced far enough to allow of specific directions in regard to particular lines of diet, nor as to special hygienic measures, nor in reference to specific mineral waters.

It is realized that there are many shortcomings in this book, but the writer has endeavored to honestly present the subject in such a manner that those who will take pains to master all its parts will be able to recognize and master the disease. The large and continued sales of former editions would seem to indicate that such a work was needed; while their very favorable reception by the press in this and other countries encourages the writer to believe that he has not wholly failed in his attempt to supply a need of the profession.

4 East 37th Street, New York.

PREFACE TO THE FIRST EDITION

THE aim of the following pages has been to present the general practitioner with as clear a guide as possible to the recognition and management of eczema. To this end the author has endeavored to give minute directions in reference to many of the features which daily experience has shown to be of great importance in regard to the disease, and to meet the difficulties which have presented themselves in practice, and which have developed from contact with physicians in consultation and in class instruction. He has further endeavored to answer many questions which have been put to him from time to time, both by physicians and patients, and which have been jotted down during the past two years while this work was in progress.

The book, therefore, is a personal one, representing the views and experience of the writer; and omission of frequent and particular reference to the opinions and statements of other writers has not occurred from any neglect or from any disregard of them, but has resulted from a desire that the pages should not be occupied with references which might not be required by the practitioner. The author

acknowledges fully the special writings of Wilson, Anderson, and Tilbury Fox on Eczema, and also the assistance gained from text-books on Dermatology, especially from such classical works as those of Duhring in this country, and Hebra, Wilson, Fox, and Hardy abroad. But it is often difficult for one much occupied with a subject to state definitely where or how his knowledge has been gained, and in the present writing it would be impossible to define how far the influence of this or that writer had modified or altered the views here put forth.

In regard to the emphasis which is laid upon the constitutional origin and relations of eczema, it is proper to state that, although the writer was educated in the Vienna School, and although local pathology was further inculcated by his own translation of Neumann's *Handbook of Skin Diseases*, he has still felt constrained to urge to the utmost the constitutional, as opposed to purely local, pathology and treatment, because he is confident that success in dealing with the disease can be thus best attained. The teachings of the late Dr. H. D. Bulkley, together with hospital and dispensary practice in general diseases, coupled with close observation and study of skin diseases in private and public practice, have led the writer to take the constitutional view of eczema and many other diseases of the skin, which view further experience and study daily confirm.

In the complete consideration of the subject in hand it is necessary to have a certain amount of repetition, for which indulgence is craved. The different chapters of this book have been written at intervals during the past several years, and many of them have been presented before different medical bodies as separate essays, and the writer has been able to profit by the ensuing discussions. Chapter VI., upon the Constitutional or Local Nature of Eczema, is largely a reprint of the essay which the author was invited to read before the International Medical Congress at Philadelphia in 1876, to open the discussion upon the question, "Are Eczema and Psoriasis local diseases of the skin, or are they manifestations of a constitutional disorder?" Many of the sections have already appeared in print in the medical journals, but they have been worked over and the whole put into a shape which will, it is hoped, make it valuable both as a work for study and also for reference in time of need. There will therefore, be found some repetition in the different chapters, in reference to the matters of etiology, diagnosis, and treatment; but this has appeared to be unavoidable, as it was desired that each chapter on regional eczema should be as complete as possible.

In regard to the chapter on Therapeutics, giving formulæ, a word may be said. While it is acknowledged that it is better to have principles upon which practice can be based, yet in the treatment

of diseases of the skin, and especially of eczema, there is so much uncertainty in the minds of those who have not had much experience in this direction that it was thought best to give the exact formulæ which had been found of value in practice, hoping that if they were not employed they might still convey a hint which might help in selecting and applying a remedy for the diseased skin.

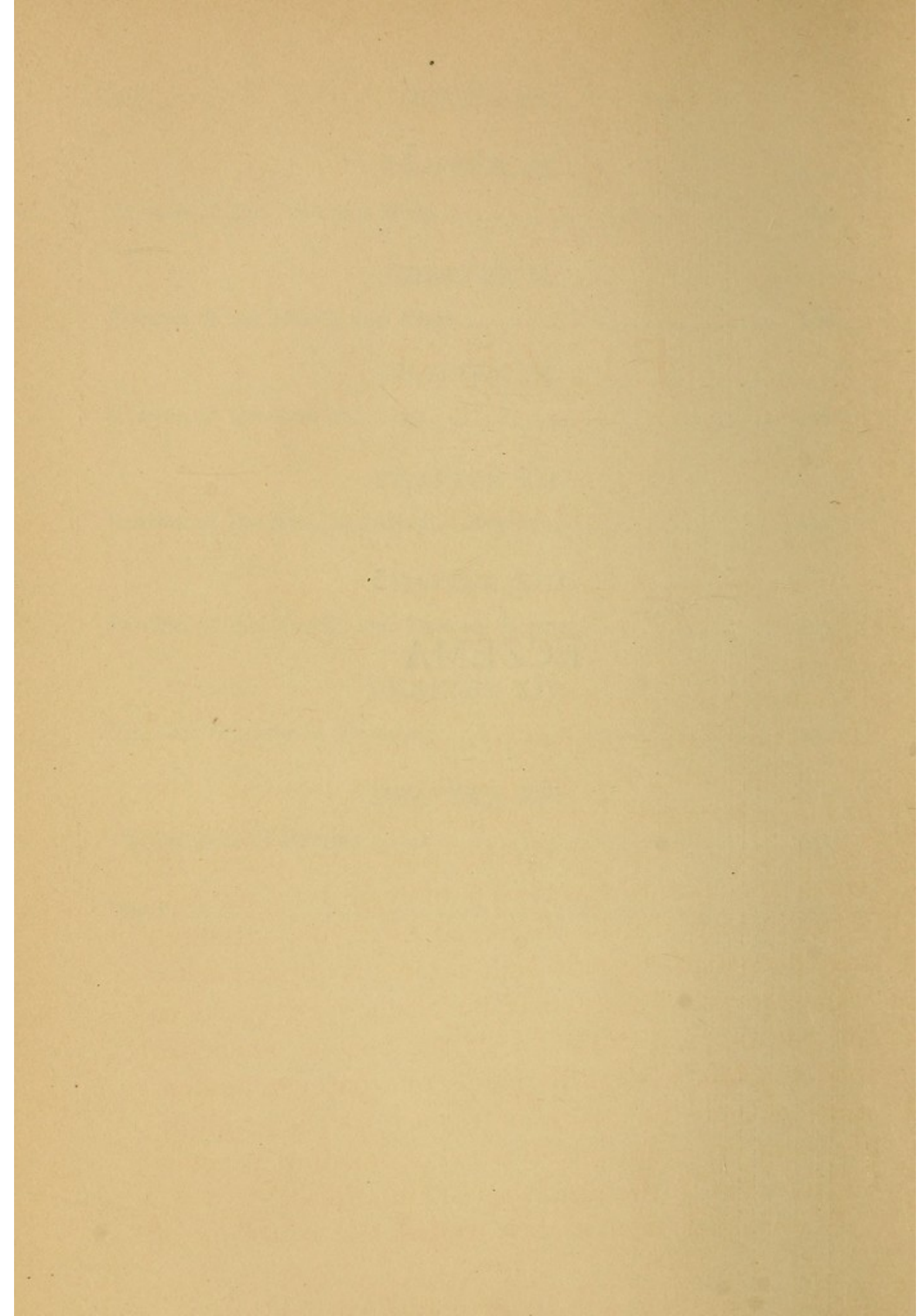
The basis of this volume is an essay on *The Management of Eczema*, which the author read before the American Medical Association in 1874. A small edition was reprinted and put on sale; this was exhausted very shortly, and there have been so many demands for it that a more full and complete treatise on the same subject has seemed to be demanded. While not claiming to be exhaustive, the author believes that he has in the following pages given the facts in regard to eczema so fully that a careful study of them will enable most physicians to manage with success this disease, which is very frequent, and yet which does not seem to be thoroughly understood by every practitioner.

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ECZEMA



ECZEMA

CHAPTER I

GENERAL CONSIDERATIONS: DEFINITION OF ECZEMA

AMONG the many pathological changes to which the skin is subject there is one form or variety, of an inflammatory nature, to which the name eczema has long been given and which clinically will always be of great interest to the practising physician. Much speculation has arisen in regard to its true nature, which will be discussed later, and attempts have been made to show that eczema is not an entity. Whatever conclusions may be reached in regard to the pathological character of the lesions which we shall consider under this name, or whatever demonstrations may be made in regard to the exciting causes of the eruption, all who see much of practice will agree as to the essentials of the disease.

Eczema has been rightly called the keystone of

dermatology, and he who fully masters its management is not only skilled in regard to treating one of the most common and distressing of all cutaneous diseases, but has acquired a knowledge of the principles of dermatological practice which will assist in the treatment of many, if not all, other maladies of the skin.

Eczema is a protean disease, as will appear later, and individual cases may differ so greatly from each other that it seems hardly possible that they are of the same nature; and at times the diagnosis may be very difficult, as it can closely simulate many other lesions of the skin.

Eczema is often most rebellious. Again and again the eruption may seem to be conquered, when it will crop out afresh either in the original or some new place. Or there may be periods of dormancy, when the skin becomes perfectly normal and after months, it may be, there will occur a fresh attack. Some of the blame for the severity and persistency of the eruption is undoubtedly due to the patients themselves. Eczema frequently being a chronic state, they too often become weary and chafe under the restraints and annoyances of treatment long before the disease is cured; and relapse follows relapse, relief being sought for only when there is distress from the itching or pain, or when the eruption becomes troublesome on exposed parts.

But, on the other hand, some of the responsibility

often rests on the physician. Many of the cases are too lightly regarded and are thus suffered to run on for weeks, months, or even years, with little or no treatment other than palliative measures, no determined effort being made to alter the conditions of life upon which the disease depends; the importance of this will appear later.

The opinion is often expressed that the eruption will cease of itself when certain periods of life are passed, as nursing, dentition, puberty, the menopause, etc., and so the case is neglected until the eczematous habit is acquired in such a degree as to render the case much more obstinate. Many cases are also left untreated from the fear that if the eruption is cured in one part it will go to another, or from a dread lest the disease may "strike in" or "be driven in"; thus the eruption is sometimes considered salutary in relieving the system of some supposed peccant material. It would hardly seem necessary to mention such points in the present enlightened age, were it not that they are constantly brought to my notice not only by patients but by physicians; they are alluded to in order to deny the foundation upon which any such fears may rest, as will abundantly appear elsewhere.

The former belief that a disease on the skin is the result of some poison seeking exit from the system is found in some of the terms still employed to designate this class of maladies; thus, the general term

eruption is from the Latin *erumpere*, which signifies to burst forth, and the name *eczema* is from the Greek ἐκζεῖν, to boil over.

While eczema is an exceedingly common affection, forming a large share of the skin cases ordinarily met with in general practice, it will be seen later that the term should not be loosely applied. It represents a definite eruption which should be accurately diagnosed from the other one hundred diseases which may affect the skin, if treatment is to be satisfactorily applied; the term eczema should never be applied in a general way as a synonyme for cutaneous disease.

Distinction should also now be made between simple *dermatitis*, transient in character, due wholly to local causes, such as poison ivy, chemical and mechanical irritation, etc., and true eczema, although the one may often very closely resemble the other: a local dermatitis may, however, often be the starting-point of and lead up to true eczema.

With advancing knowledge the field formerly covered by eczema is also becoming more restricted by the isolation and withdrawal of such eruptions as lichen planus, dermatitis herpetiformis, impetigo contagiosa, etc., which were formerly classed as eczema: on the other hand many cases which were formerly called chronic erythema, chronic erysipelas, lichen, and impetigo are now acknowledged to be erythematous, papular, or pustular varieties of eczema. Clinical research has demonstrated that the

lesions of eczema are multiform, and we no longer look for the vesicle as a necessary element in every case of the eruption. The external lesions are secondary elements or results of a deeper disease state, whose earlier phenomena are nerve and capillary disturbance.

While it was first stated that eczema should be differentiated from simple, local dermatitis, it is nevertheless itself a dermatitis or inflammation of the skin of a peculiar and catarrhal nature; but, as will be shown later, it has constitutional relations, pertaining both to the skin itself and the general system, which must be recognized and taken into account in treatment, in order to obtain satisfactory and permanent results.

Eczema may, therefore, be defined as *an acute or chronic, non-contagious, inflammatory, polymorphous, constitutional disease of the skin, accompanied with itching and burning.*

As further features of the disease may be mentioned the tendency of the eruption to exude a serous discharge, which stiffens linen and dries into scales and crusts, and in later stages an infiltration or thickening of the skin, which then cracks, producing painful fissures. A word may be added in regard to the polymorphous character of the eruption, which is sometimes puzzling. In former times eczema was regarded as a vesicular disease, but it is now recognized that it may run its course without a vesicle ever

appearing; the eruption may be erythematous from beginning to end. Or, again, the predominant lesions may be papules, and the eruption remain papular even to the end : in other cases the pustular element predominates. In many cases there will seem to be almost no primary lesion, but only an outburst of serum, which strips the skin of its epithelium and leaves a raw, exuding surface which refuses to heal. In comparatively few cases will the eruption appear and remain vesicular, although about the fingers it will sometimes exhibit vesicles in a striking manner. In some cases there will seem to be only the infiltration, patches of thickened tissue, of various sizes, forming deep in the skin and remaining most obstinately, often with troublesome fissures. In all the forms of eczema itching is a troublesome feature, and scratching plays a prominent part in the development of the eruption ; it is less pronounced in cases exhibiting pustular lesions.

As will be seen later, nerve disturbances form an important element in eczema, and the cellular and capillary disturbance induced thereby account for many of the symptoms. Much prominence has lately been given to local agencies, especially micro-organisms, in the production of the lesions, but all who advocate this agree in regard to predisposing causes, which, as will appear later, are most important to consider in relation to permanent relief from the disease.

In our opinion, then, eczema is not purely a local disease of the skin, but is a state or condition of the system, of which the skin lesions are the outward manifestations, just as joint inflammation is one of the indications of the gouty state. The true nature of the systemic changes which underlie the skin disorder will be discussed later, and will be found to be essentially one of debility: in many cases the gouty habit appears to be at the bottom of it, in others a scrofulous or strumous condition, in still other instances the whole difficulty can be apparently traced to nervous disorder or depression. The part which local causes, including parasites, may have in inducing the appearance of the eruption in particular localities or at special times, will be discussed later.

CHAPTER II

FREQUENCY OF ECZEMA: STATISTICS OF 8000 CASES — NATURE OF ECZEMA

FOREMOST among all diseases of the skin, eczema affords the largest number of cases in all published statistics. The relative frequency with which it appears varies somewhat according to the source whence the statistics are drawn. In Hebra's clinic in Vienna, where young children are seldom seen, the percentage has sometimes fallen as low as sixteen per cent., but many public clinics in this country and Europe have given from twenty-five to thirty-five per cent. of all skin cases as eczema.

Among something over 200,000 cases of miscellaneous diseases of the skin, collected from the leading cities in this country by the American Dermatological Association, there were 60,940 cases of eczema, it forming 29.75 %; the next most frequent disease was syphilis, yielding 11.77 %.

My own statistics, gathered from personal cases, observed in private practice and in my clinic in the New York Skin and Cancer Hospital, are given in

the accompanying Table I.: for convenience of estimating percentages I have taken an even 4000 from each. Those in private practice occurred among 12,826 cases of miscellaneous skin diseases, giving a percentage of 31.18. The 4000 in public practice occurred among 12,043 cases of miscellaneous skin diseases, the percentage of eczema here being 33.21; the average of the entire 8000 cases of eczema occurring among 24,869 cases in private and public practice was 32.12, which represents fairly well the frequency of eczema in New York during the past twenty-five years. This percentage is a little less than that reported in the edition of this book twenty years ago, the difference being accounted for in part by greater care in diagnosis, and in part by the exclusion of lesions which were formerly classed as eczema and are now recognized as other diseases. It is quite possible that with the advance of science the proportion of eczema to other affections will be further diminished, but at present it may be safely regarded as forming about one third of all cases of skin disease.

Eczema affects the sexes almost equally: thus, of the 8000 cases there were 3968 males to 4032 females. It is interesting to note that in private practice the males were in excess, forming almost 56 %, while in public practice the figures were almost exactly reversed, the females forming a trifle over 56 %.

This table presents many interesting points for

study, bearing on the etiology of the disease, but want of space prevents a full consideration of the subject: attention may be called to a few of those which are most striking and important.

TABLE I.—AGES OF 8000 PATIENTS WITH ECZEMA
Private Practice Public Practice

Males.	Females.	Total.	Ages.	Males.	Females.	Total.	Grand Total.
127	66	193	Under 1	234	177	411	604
47	42	89	1-2	85	65	150	239
39	27	66	2-3	66	65	131	197
22	20	42	3-4	59	60	119	161
15	25	40	4-5	53	52	105	145
250	180	430	Infantile	497	419	916	1346
54	70	124	5-10	95	122	217	341
54	87	141	10-15	65	96	161	302
69	139	208	15-20	75	161	236	444
125	188	313	20-25	129	204	333	646
169	176	345	25-30	138	187	325	670
224	154	378	30-35	135	146	281	659
238	149	387	35-40	105	149	254	641
214	145	359	40-45	74	145	219	578
187	121	308	45-50	81	161	242	550
203	119	322	50-55	115	178	293	615
139	70	209	55-60	72	118	190	399
120	66	186	60-65	56	91	147	333
77	44	121	65-70	32	44	76	197
60	28	88	70-75	41	22	66	154
30	13	43	75-80	11	11	22	65
12	7	19	80-85	5	2	7	26
3	4	7	85-90	0	0	0	7
2	0	2	90-95	0	0	0	2
7	3	10	Unknown	5	10	15	25
2237	1763	4000		1731	2269	4000	8000

It will be seen that no age is spared, from the cradle to the grave, although certain periods are

much more subject to the disease than others. The youngest patient in private practice was a male infant four months old, but in public practice some were seen even as young as one or two weeks of age. The oldest patient was a male something over ninety years of age.

About one sixth of the entire number of cases, namely, 1346, were under five years of age, coming within the definition of infantile eczema: and of these 604, or nearly one half, occurred during the first year of life, while very few cases, but 145, were recorded during the last year of this infantile period. It is interesting, however, to compare the figures from private and public practice, for in the latter the number of cases was more than double that in the former: from this it may be concluded that while dentition often plays an important part in causing outbursts of eczema in certain cases, the errors of diet and hygiene common among the poor are of very great importance as factors in the true etiology of the disease.

It is noticed that during this infantile period the males are in considerable excess, and in private practice, during the first year of life, the number was about double that of the females. This difference is possibly accounted for, in part at least, by the influence of sexual irritation, from elongated and adherent prepuce and retained smegma.

Coming to the second period of five years it is

seen that there were but 341 cases, or about one quarter of the number occurring during the first period of life ; as the skin becomes accustomed to its surroundings, and also as there is less gastro-intestinal disturbance, there is much less tendency to the eruption. But here again the eruption is much more common among the poorer classes, owing largely to dietary errors. It is to be noted that the females are now in considerable excess.

Taking the decades, after this period, some instructive points appear. It is seen that during the next two decades the females are largely in excess, forming fully sixty per cent., or one half more than the number of males, showing clearly sexual influence during the developmental period. It is interesting to note that in the period between twenty and thirty years of age the numbers seen in private and public practice were exactly equal, namely, 658, showing that at this time of life the operative causes seem to be about the same in all classes of society.

But a very remarkable difference in the figures becomes evident after the age of thirty. The private patients are now found to be greatly in excess, and the largest number is reached in the quinquennium between thirty-five and forty. But it will further be noted that this excess is caused largely by the increased number of males. In this period, between thirty and forty, when the nervous

strain of life bears so heavily on men in the upper classes of society, the eruption is more prevalent than at any other similar period, except in early infancy. It is of course recognized that other elements contribute to produce the disease at this time of life, such as indulgence in eating and drinking, etc., but from careful study of very many of these cases the nervous element seems to be a very prominent agency in inducing the eruption.

It is curious enough that the figures from public practice during these decades confirm this, though in a different manner. From twenty to forty years of age the females are seen to largely preponderate, and to superficial thought this might seem to controvert a neurotic theory. But it is to be remembered that among the poorer classes, the women, during this period, too often have to bear the brunt of life, while the average working man plods along and is relatively careless as to circumstances; he is, therefore, in quite a different condition from those who in the higher walks of life are struggling hard for wealth, position, or fame, while it is the women who are found to be nervous, weak, and exhausted from childbearing and family cares.

Beyond the age of forty, eczema is seen to diminish in frequency pretty regularly, especially among the private patients. It would be interesting, if it were possible, to discover why such irregularities occur in the figures of those in public practice;

doubtless causes could be found in occupation, mode of life, etc.

TABLE II.—COMPARISON OF PERCENTAGE OF ECZEMA PATIENTS AT DIFFERENT AGES, WITH THE PERCENTAGE OF INDIVIDUALS ALIVE AT THOSE AGES AS SHOWN BY THE CENSUS

Ages.	Per cent. living, at all ages.	Per cent. of eczema patients.	Relation between the two.
Under 1 year of age.....	2.2	7.5	+ 5.3
1-2 years ".....	2.0	3.0	+ 1.0
2-3 " ".....	1.9	2.5	+ 0.6
3-4 " ".....	1.8	2.0	+ 0.2
4-5 " ".....	1.8	1.8	0.0
Infantile period.....	9.7	16.8	+ 7.1
5-10 years of age.....	8.7	4.3	- 4.4
10-15 " ".....	8.4	3.8	- 4.6
15-20 " ".....	8.2	5.5	- 2.7
20-25 " ".....	7.9	8.0	+ 0.1
25-30 " ".....	7.5	8.4	+ 0.9
30-35 " ".....	7.2	8.2	+ 1.0
35-40 " ".....	6.7	8.0	+ 1.3
40-45 " ".....	6.3	7.2	+ 0.9
45-50 " ".....	5.9	6.9	+ 1.0
50-55 " ".....	5.4	7.7	+ 2.3
55-60 " ".....	4.8	5.0	+ 0.2
60-65 " ".....	4.1	4.2	+ 0.1
65-70 " ".....	3.3	2.5	- 0.8
70-75 " ".....	2.4	1.9	- 0.5
75-80 " ".....	1.5	.8	- 0.7
80-85 " ".....	0.7	.3	- 0.4
85-90 " ".....	0.2	.09	- 0.11
90 years and over.....	0.07	.02	- 0.05

A better understanding of the relative frequency of eczema at different periods of life may be learned

from Table II. In this there are found, in the first column, the percentages of individuals alive at each of the periods of life, as determined by the life insurance companies from analysis of statistics furnished by the census, relating to many millions of people. In the second column are given the percentages which the cases of eczema at each period of life bear to the total 8000. In the third column the relation between the two is expressed by the difference between the figures, with a $+$ or $-$ according as there are more or fewer cases than the proportion of individuals living at that period.

By this table we see that during the first five years of life eczema is relatively enormously frequent, representing 16.82 %, while the proportion of those living at this time is only 9.7 %, an excess of 7.1 %. During the next five years, however, the figures are quite reversed and eczema is seen to be relatively very infrequent, the difference between the figures being represented by -4.4 . The next period, from ten to fifteen years of age, presents relatively the fewest cases of any quinquennium -4.6 %, a trifle fewer than the preceding. After twenty years of age the proportion is seen to increase, until between the ages of fifty and fifty-five there are relatively the most cases, in proportion to those living at the time, that are found in any period except the first, the difference being represented by $+2.3$, the proportion being even larger in private

practice: this was certainly an unexpected fact. After the period from fifty to fifty-five there is quite a drop, and soon the disease is again less frequent proportionately to those living.

TABLE III.—DURATION OF ECZEMA IN 1055 PRIVATE CASES

Duration.	Males.	Females.	Total.
Under 1 week.....	5	3	8
1 week.....	5	7	12
2 weeks.....	17	12	29
3 ".....	16	10	26
1 month.....	16	14	30
2 months.....	51	25	76
3 ".....	31	25	56
4 ".....	25	18	43
5 ".....	12	6	18
6 ".....	28	22	50
6 " to 1 year.....	66	57	123
1 year to 2 years.....	74	55	129
2 years to 3 ".....	50	38	88
3 " " 4 ".....	25	23	48
4 " " 5 ".....	25	9	34
5 " " 10 ".....	50	29	79
10 " " 15 ".....	31	21	52
15 " " 20 ".....	18	7	25
Chronic.....	89	40	129
	634	421	1055

It will be understood, of course, that the figures in these tables represent the ages of the patients at the time of the first visit, as taken from the books of record in private and public practice, and do not refer to the time of the first development of the disease. It would be interesting if this matter could be

fully presented, but the public records were not sufficiently accurate to admit of it, nor could it be satisfactorily determined in regard to all the private patients. The preceding table shows the duration of the disease in something over one thousand patients with eczema. By duration of the disease is not meant the length of time which any one attack or exacerbation of the eruption had lasted, but the period during which the patient had suffered from the malady to a greater or less degree before coming under observation.

It will be noticed that relatively few were seen very early in the disease; about two thirds of the cases had lasted six months or more before coming for treatment; a considerable number were recorded simply as "chronic," and several instances were observed where the disease had lasted from infancy or childhood up to forty, fifty, or even more years of age.

Much interesting and instructive material could be obtained by further tabulation and analysis of the records of these cases in regard to many points, such as the location of the eruption, frequency of relapses and their causes, the relation of the disease to sexual life and to nervous and digestive disturbances, the concurrence of eczema and other diseases of the skin, etc.; but want of space forbids further elaboration, and the results will be more or less presented in subsequent chapters.

Mention, however, may be made of the subject of heredity, as the impression is quite general that the disease is very commonly acquired by transmission, while it is not at all borne out by facts recorded. In the accompanying table (IV.) are given the records pertaining to near relatives of one thousand cases of eczema in private practice. No consideration is given of hundreds of patients who simply asserted that their family was free from the eruption, but mention is only made of those where specific statements are recorded that such and such relatives are free from the disease or are affected.

TABLE IV.—RELATIVES OF 1000 PRIVATE PATIENTS WITH ECZEMA

	Free.	Affected.	Total.
Parents.....	1415	292	1707
Children.....	1046	127	1173
Brothers and Sisters.....	1119	256	1375
Grandparents.....	8	57	65
Uncles and Aunts.....	5	49	54
Cousins.....	—	14	14
Grandchildren.....	8	7	15
Nieces.....	1	2	3
	3602	804	4406

It will be here seen that out of 4406 relatives of 1000 eczema patients, in private practice, but 804 were said to be similarly affected—only about 18 per cent. Of 1707 parents only 292 were said to have

eczema, or 17 per cent. ; of 1173 children, but 127, or 12 per cent. ; of 1375 brothers and sisters, 256, or 19 per cent. ; a total of 675 among 4255 near relatives, or less than 16 per cent. of all.

It is readily seen, therefore, that eczema is not distinctly a hereditary affection. I have sought for evidence of heredity among large numbers of patients in public practice, and in addition to the constant denial obtained in regard to the existence of other cases in the family, I have repeatedly remarked to those about me how very rare it was to see a mother and child both affected, and how constantly it was observed that other members of the family accompanying eczema patients were entirely free from the disease. It must also be remembered that other elements besides heredity should be taken into consideration when searching for evidence as to the inheritance of eczema. Members of families are apt to be under the same influence of diet, hygiene, etc., as well as exposed to the same atmospheric and other irritants, and this, as well as any other disease, may be developed in each individual, *de novo*, quite independent of any relations which they bear to each other.

NATURE OF ECZEMA

Some years ago eczema was universally regarded as of internal origin. Since the time of Hebra, however, there has been a tendency to claim it as a local

disease, produced largely by external irritants; and still more recently it has been strongly claimed as a parasitic eruption, due to micro-organisms acting locally, which latter, however, have not yet been clearly isolated and demonstrated.

As in so many matters in life, the truth lies between the two views; and, while it must be recognized that local agencies can excite the eruption and much relief can be obtained by proper local therapeutics, a wide observation must convince any one that there are constitutional aspects which are of importance in its management. Increasing experience leads me to place ever-increasing reliance on internal and constitutional measures in this disease, and careful study has failed to convince me of the correctness of arguments which have been brought forward in support of the wholly local nature of the eruption.

It need hardly be said that in arguing for a constitutional origin and nature of eczema, there is no necessity of returning to the older or humoristic doctrine of the disease; but it is quite possible to keep entirely within the bounds of modern physiology and pathology. The skin lesions are not the result of "bad blood" seeking exit, and the eruption is not a safety-valve whereby peccant material escapes from within.

It is granted that the lesions of eczema are local foci of inflammation, much like those which can be

excited by local irritants. But it is claimed that eczema, as recognized clinically, is something more than inflammation of the skin, such as follows the application of local irritants, whose effects subside as the cause of irritation or inflammation is removed and the part properly protected. True eczema occurs and re-occurs without apparent external causation; and, as will be seen later, this constantly happens in response to certain constitutional conditions, especially disturbances of the digestive and nervous system. Eczema is often seen to persist indefinitely under purely local therapy if there is no change effected in the constitutional conditions present, and to yield under the same local treatment when these are properly attended to.

Dermatitis, or local inflammation of the skin, of various grades and from an infinity of causes, is therefore to be clearly and definitely distinguished from the eruption here treated of as eczema, although individual instances of the one may closely resemble certain phases of the other. While artificial dermatitis may lead up to, and be the starting-point of eczema, in one disposed thereto, it is quite impossible to produce a true, chronic eczema by any amount of artificial stimulation in every person, nor indeed in any one who is not thereto disposed, either in his or her own person or family.

To this disposition or condition of the system, including that of the skin, which renders it liable to

take on the lesions to be described, the term "eczematous diathesis" or habit has been given—which after all is but a cloak for our ignorance of the true essence of the disease. Scientifically it means but little, but for practical clinical work it is convenient; it may be taken as representing a totality of symptoms or conditions of the economy which find their expression in a peculiar and definite tendency to the changes in the skin which are known as eczema. As will be seen later, these morbid changes of eczema, while multiform, have still essential features which distinguish them from other forms of disease of the skin. We will endeavor to present briefly the reasons for regarding the disease from a constitutional point of view as opposed to the claims of a purely local origin of the eruption.

The first argument which may be presented for a constitutional origin of eczema is implied in what has preceded, in regard to the action of local irritants on the skin. In the vast majority of individuals the effects of local irritation are local and transient, and quite incapable of exciting an eruption of true persistent or recurrent eczema; this only occurs in a relatively small proportion of persons, in whom there is some other element at work. Take the example of the poison ivy, which is one of the most active of skin irritants, and in how very few of those who are poisoned each year does true eczema result. Few realize that even Hebra, the great

exponent of local pathology, realized and acknowledged this not long before his death.

That I may not be charged with misunderstanding the teachings of this master, with whom I long studied, I will quote a section from his chapter on "The Etiology of Eczema," in the second edition of his book* (Bd. I., p. 462). After repeating much that had been said in the first edition to show the local nature of the disease, and after stating his disbelief in any diathetic cause, he however says: "While, therefore, we cannot accede to any peculiar, herpetic dyscrasia, we must, on the other hand, confirm the fact that certain conditions of the human organism, partly transient, partly permanent, at one time increase and at another time diminish its susceptibility to agencies producing eczema. These physical conditions are called a disposition, or predisposing cause, *momentum disponens*, to distinguish them from the direct exciting cause, or irritating agencies: and we are obliged to recognize these elements in the etiology of eczema, because experience confirms their recognition.

"For example, we see an eczema on the hands and forearms of a young girl who has been engaged in washing soiled linen, and we declare that the origin of the eczema is in the action of the lye, soap, hot water, and friction. Now, at the same time with

* Hebra, *Lehrbuch der Hautkrankheiten*, Zweite Aufl. Erlangen, 1874.

this girl there are many other females washing the same linen in the same lye, using the same soap, etc., without acquiring eczema. Indeed, this very girl who now has eczema, has for many years been exposed to the same influences without becoming affected. What is the particular cause of her present susceptibility? A careful examination of her general condition will give the explanation. The girl, who before was healthy, robust, and regular in her menses, has now lost her appetite, has become sluggish and languid, her appearance is pale and bloated, her menstruation is profuse; in a word she has become chlorotic and thereby eczematous. The remedies suitable for the chlorosis are now employed: the appetite and power of work return, the menses become regular, and the eczema disappears in spite of the continued washing and exposure to the influence of the agencies causing it. The same observation is made in reference to pregnant and nursing women; also in those suffering from chronic sexual disturbances. The latter must always be looked upon as favoring elements (a *momentum disponens* or predisposing cause), which induce a *status minoris resistentiæ*, and allow an otherwise ordinary skin irritant to become an exciting cause, a *momentum excitans*."

After again claiming that we need no blood explanation of eczema, Hebra adds: "In order not to be misunderstood we will, however, here again state that every eczema is not caused by local irrita-

tion, but that it may be occasioned by diseases of the rest of the system."

Such clear and unqualified statements as to the constitutional nature and origin of eczema are unexpected from one so prominently known in connection with local pathology, and show that wide experience leads to the clear recognition of this aspect of the question.

There are many points in the natural history of eczema which point clearly toward a general or constitutional base of the eruption, which will be presented in the next chapter, on the etiology of the disease. We may here note the element of symmetry. This is often a very striking feature, in which eczema stands in striking contrast to the recognized local affections, such as epithelioma, keloid, parasitic diseases, etc., which are rarely if ever bilaterally symmetrical. Relapses in eczema also furnish further indications of its constitutional nature; for fresh attacks of the eruption are constantly found to follow various systemic derangements, while the same exciting causes often fail to produce the eruption when these latter are absent.

The observed relations of the eczematous eruption to certain other general conditions or disease often point very strongly to its constitutional character. As will appear in the next chapter, certain evidences of an acid or gouty state are constantly noted in connection with attacks of eczema, and the

alternation of bronchitis and asthma with eczema in these patients or their families is often very striking. The relations of urinary changes to eczema will also be dwelt upon, likewise the often very apparent connection between neurotic conditions and eczema.

It is not a little interesting to note that those who claim boldly the local origin of the eruption, and even those who assert its parasitic nature, all agree that there are, or must be, some other elements or conditions of the system which render the skin liable at times to take on this peculiar form of eruption. Now, it is only just this that the modern advocates of constitutional origin claim: namely, that in order to secure the best results in the treatment of eczema more attention should be paid to the general systemic conditions which are at the real bottom of the eruption, for no one denies that various local agencies, many of which we are yet ignorant of, can and do act as the immediate excitant of the eruption in any one locality.

In regard to the possible parasitic origin of the eruption there is yet even more need of recognizing these constitutional relations. For the question is quite different from that relating to the ordinary and well recognized animal and vegetable parasitic eruptions. The scabies insect and pediculi will cause inflammatory lesions on any skin, and ringworm, favus, and even tinea versicolor will probably develop on almost every one on whom they are suitably

planted. But experience proves that the matter is quite different in regard to eczema: it certainly is not propagated from one to another in any such way, nor can it be transferred artificially. If micro-organisms play an active part in eczematous eruptions they have as yet eluded the most diligent and earnest search of many microscopists. It cannot be doubted that when the skin is diseased and furnishes an abundant nutrient material, the many varieties of micro-organisms which are found on every healthy skin may luxuriate and contribute to the inflammation; but as yet no proof has been afforded which is satisfactory to the writer that they take the initiative in producing the eruption. It is granted by all that micro-organisms are almost omnipresent, and so must be ever ready to produce the eruption; but how seldom do they accomplish this, and how localized are the effects compared to the wide diffusion of the alleged microbic elements!

The arguments in favor of a constitutional cause of the eruption, as opposed to a purely local etiology, may be summed up in the following propositions:

1. Eczema is a disease, *sui generis*, and is not to be confounded in any way with other states, wholly local: such as artificial dermatitis, the eruption from lice, scabies, etc.

2. Eczema cannot own a double independent causation, at one time local and at another constitutional; but, with many other diseases, it may have a

twofold cause, namely: (1) a *predisposing*, internal, or general, and (2) an *exciting* or local cause of the particular eruption at a special time.

3. Eczema in many of its features resembles the accepted constitutional diseases more than it does those recognized as local.

4. The skin lesions of eczema, as also its microscopical characters, more nearly resemble those of the general and constitutional diseases affecting the skin than those of purely local affections.

5. Eczema is very properly likened to catarrh of the mucous membranes; it is very probable that some proportion of the mucous attacks, known as catarrh, are eczema of this tissue.

6. Eczema resembles gout and rheumatism in certain respects, and is dependent upon a somewhat similar, although as yet unknown, constitutional cause; many of the skin lesions, as ordinarily observed, must be looked upon as the *local results* of the disease, removable by local means.

7. There as yet exists no microscopical or physiological proof that eczema is the sole result of local cell disorder, either congenital or acquired; but from our present knowledge of independent cell activity and from the intimate connection between nerve elements and the cells composing the skin, it is highly probable that cell action and nerve influence are important factors in eczema.

8. Local causes may at times play a very im-

portant part in determining the eruption of eczema, but are incapable alone of producing the disease. In the larger share of instances no sufficient local cause can be made out.

9. Local treatment alone is often insufficient to remove the lesions of eczema, and cannot prevent or delay relapses; its occasional success does not demonstrate the local nature of this affection.

10. Constitutional treatment, alone and singly, can cure many cases of eczema, and prevent or delay relapses in a certain proportion of cases; by constitutional treatment is intended every agency not properly placed among local measures.

11. The total weight of evidence and argument is that eczema is a manifestation of constitutional disorder, and not a purely local disease of the skin.

In the next chapter will be studied the elements which experience has shown to be of importance, from an etiological standpoint, in dealing with this eruption.

CHAPTER III

ETIOLOGY OF ECZEMA

IN the preceding chapter it was found that the weight of evidence and argument was strongly in favor of a general or constitutional nature and causation of eczema, and that local agencies played only a secondary part, as exciting causes of the eruption at times, and were quite incapable alone of producing true eczema. A wide experience with the disease will show also, that the influence which local causes exert in the production of the eruption is often very difficult, if not impossible, to trace.

It remains to enter more fully and definitely into the etiology of eczema, that light may be thrown upon the treatment and prevention of the disease, both as to individual attacks and recurrences.

While we cannot point out with certainty the single, true cause of the disease,—why one person will have the eruption and another under apparently the same conditions will escape,—we can, from clinical observation, state very definitely many of the conditions accompanying the eruption, which the

best observation has demonstrated to have much to do with its genesis and continuance, and which, moreover, are often very important to consider in connection with effective treatment.

The dependence of eczema upon constitutional causes has been well expressed by Brocq,* who remarks that "eczema, perhaps more than any other affection, seems to be a reflex of the life and of the functioning itself of the human organization, with all its complexity."

When considered from this broad standpoint, it will be seen that the remark of Wilson is not too strong: "To be a successful practitioner in the treatment of eczema, a medical man must be an accomplished physician; to manage the local treatment with success, he must also be an able surgeon. . . . In a word, the highest and best qualities of medical art and science must be put in practice with foresight and discretion for the treatment of an eczema."

It is not to be understood that the etiological elements to be mentioned are always prominent features in the case: for this is far from being true. It not

* Brocq of Paris (*Annales de Dermat. et de Syph.*, Jan., Feb., and March, 1900) has made a long and exhaustive study of the subject, reviewing all literature. In conclusion he recognizes the various forms and phases of the disease, as commonly described, and also the internal and local causes which have long been recognized and which will be dwelt upon later.

infrequently requires the most patient and searching investigation to determine the particular disturbance of one or another organ, or system, which may have a bearing on the eruption. Patients are commonly so engrossed with the local disorder of the skin, and so convinced that it alone is at fault, that it is sometimes quite difficult to conduct a proper inquiry for the real causative elements, and to secure proper attention to the same.

CAUSES OF ECZEMA

I.—Predisposing Causes.	
(A) INHERITED STATES. (B) ACQUIRED STATES. (C) ACCIDENTAL CONDITIONS.	Tissue debility. Eczema. Struma, scrofula, lymphatism. Gout and rheumatism. Neuroses. Bronchitis, asthma. (1) Assimilative derangements..... (2) Eliminative derangements..... (3) Neurotic derangements..... (4) Vascular derangements..... (1) Faulty nutrition.... (2) Disturbing occupation..... (3) Disease.....
	Dyspepsia..... } gastric. Auto-intoxication. } intestinal. Hepatic disorders..... } gout. Lithæmia..... } rheumatism. Anæmia, chlorosis, cachexia. } lithiasis. Intestinal..... } constipation. Renal..... } erroneous excreta. Pulmonary..... } deficient. Dermal. } deranged. Neurasthenia. Neuroses. Cardiac..... } organic. Peripheral..... } functional. } varicose veins. } disturbed circulation. Erroneous food and drink. Excessive " " " Deficient " " " Sedentary. Requiring long standing. Confinement in bad air. Exanthemata. Exhausting sickness. Malaria. Accidents. Surgical operations.

II.—Exciting Causes.

[illegible]

This list, which has been made up from personal experience in dealing with cases of eczema, covers considerable ground, but it is believed that at one time or other each element mentioned may be of importance in dealing with cases of this nature. These will now be considered in detail in the order mentioned.

As in every other disease, the etiological elements of eczema belong to two main groups: (1) *Predisposing causes* and (2) *Exciting causes*. The second group is readily divisible into two other sub-groups, namely, (a) *internal* exciting causes and (b) *external* exciting causes, as shown in the accompanying table.

I. Predisposing Causes.—The conditions which may lead up to eczema are seen by the table to be many and varied, relating to almost all the functions of the body. Some of them are of greater importance than others, but all have been observed by the writer at times to have more or less influence in certain cases. They are: (A) *Inherited states*; (B) *Acquired states*; (C) *Accidental conditions*.

A. INHERITED STATES.—The influence of inheritance in predisposing to disease cannot be questioned. As physical, mental, and moral qualities are inherited, so are disease tendencies, and very much relating to the origin of eczema must be referred to hereditary influences. These, as will be seen, are of various kinds, all tending to produce a

quality of skin tissue which readily takes on the eczematous action.

1. Tissue Debility.—The first causative element to be mentioned is a certain debility or weakness of tissue which predisposes to eczema. Unquestionably some families are more prone to skin diseases than others; in them the skin as an organ appears to be weak and easily affected, just as in other families the lungs, liver, kidneys, heart, etc., are especially liable to be diseased. In general, those with light complexions and hair are more likely to be affected than those of darker hue.

2. Eczema.—Eczema is not essentially an hereditary disease; for it is the exception to see many cases in the same family, and among a large number of cases analyzed in private practice I found, as previously stated, that less than seventeen per cent. exhibited this feature, among many thousand near relatives. But, on the other hand, cases are constantly met with in which it is distinctly hereditary, and in these whole families are sometimes affected, not only in one generation, but in several.

3. Struma, Scrofula, Lymphatism.—Scientifically, it is difficult to define just what is included under this head, or exactly the influence which it has on the genesis of eczema. But, practically, those who see much of this eruption, especially among the poor, recognize a type of cases to which this term is unconsciously applied, and in which the patients are

especially liable to eczema of a rebellious character. They generally have enlarged glands, not infrequently chronic nasal catarrh, otorrhœa, ophthalmia, etc., and a thick, pasty skin, readily taking on infiltration, which is slow to subside. Such subjects acquire eczema on the slightest provocation, again and again.

4. **Gout and Rheumatism.**—The relations of the gouty state as an exciting cause of eczema will be considered later; here we have to do with the inherited condition as related to the tendency to the eruption. In many instances gout or rheumatism and eczema may be observed to alternate in different generations and branches of a family in such a manner as to leave little doubt that there was a close connection between the two. The patient who has inherited a strong tendency to gout or rheumatism may, early in life, escape all active evidences of joint inflammation, and suffer immoderately from eczema.

5. **Neuroses.**—The direct relations of neurotic states as exciting causes of the eruption will be considered later; the predisposition to eczema of those with neurotic family histories or with inherited neuroses, is here referred to. The proof of such connection is often difficult to establish, but experience shows that patients with such a history are very prone to recurrent attacks of eczema of a peculiar type.

6. **Bronchitis and Asthma.**—As will be seen later, these conditions are not at all infrequent in eczema

patients, and when acquired by inheritance are often accompanied by a cutaneous surface easily affected by changes of temperature and very liable to eczematous inflammation.

B. ACQUIRED STATES.—The various systemic derangements which more or less predispose to eczema relate to very many of the minor ailments, constantly observed in those with no eruption. But wide clinical experience by many observers has demonstrated that they are elements of importance in connection with the causation of the disease, in many instances.

These acquired states or conditions of the system may be grouped under four headings: (1) *Assimilative derangements*; (2) *Eliminative derangements*; (3) *Neurotic derangements*; (4) *Vascular derangements*.

I. Assimilative Derangements.—These all relate to functional disorder of one or more organs, more commonly of a chronic type.

1. Dyspepsia.—This may include a large number of derangements of the gastric or intestinal functions, and is constantly seen to be a precursor of eczema. The effects referred to now are such as have to do with chronic conditions, whereby an impairment of nutrition has resulted, which the skin has shared in, and has thereby lost its power of recuperation under injury, and readily takes on the eczematous state. In many cases the faulty

digestion has resulted in a condition whereby the next mentioned cause is operative.

2. *Auto-intoxication*.—The immense importance of fermentative changes which take place in the intestines, and produce toxines, through bacterial influence, is beginning to be widely recognized. It is believed that just as this, acting acutely, can cause urticaria and some forms of vesicating erythema, so its long continuance can predispose to eczema. The subject will be alluded to again under internal exciting causes.

3. *Hepatic Disorders*.—Although it is not the present fashion to recognize very much the part which functional derangement of the liver plays in disease, no one who observes eczema patients very closely will fail to discover many symptoms described by older writers which cannot be otherwise explained. It would occupy too much space to dwell upon the various manifestations of this condition familiar to all. It is so constantly observed that certain subjects with eczema exhibit them, before or with each recurrence of the eruption, that it is impossible to deny their causative influence.

4. *Lithæmia*.—That the acid or gouty state has much to do in causing eczema is an old and very common observation; exactly how it operates in the causation of the eruption has never been demonstrated. But a careful study of a sufficient number and variety of cases of eczema, with close observation

of their physical state, will certainly show that in a considerable proportion of them there is an acid state of system, which will be observed to vary pretty directly with the condition of the skin and the eruption. It is not so very common to find the active expressions of real inflammatory gout, rheumatism, or stone, but in many there is a history of such and, in the far larger number, the more slightly expressed symptoms which are recognized as leading up to these conditions. The urinary changes will be considered later.

5. *Anæmia, Chlorosis, Cachexia*.—It is not at all uncommon to recognize these conditions with each attack of eczema, as mentioned in the quotation from Hebra, in the preceding chapter. Patients subject to the eruption will often remain quite free from it until, from some cause, a more or less profound anæmia has set in, recognized either by actual blood count or by the well-known physical symptoms. An eczema may then develop and prove most rebellious to all local treatment until there has been a profound change for the better in the physical state of the patient. As the anæmic condition improves, the eczema yields.

II. **Eliminative Derangements.**—These relate to disorder of the four great emunctory organs of the body: (1) *The intestines*; (2) *The kidneys*; (3) *The lungs*; (4) *The skin*. Abundant clinical evidence exists to show that imperfect elimination of the

waste products of the body stands in a vital connection with disease of various organs, and many cases of eczema exhibit this in a very striking manner.

1. *Intestinal Derangements.* — Constipation is a most frequent predisposing cause of eczema, and it will be seen later that it also often acts as an exciting cause. The imperfect removal of waste products not only tends to leave the blood current loaded with excrementitious products, but also favors the reabsorption from the intestine of the same, as also toxins produced by microbic action. In infants especially are seen the results of other erroneous intestinal excretions, where with green and undigested passages we have a recurrence of eczema, with a tendency to improvement as the troubles are corrected.

2. *Renal Derangements.* — Too much importance can hardly be placed upon the relations between deficient and deranged urinary secretion and chronic states of ill-health; the urine indicates very accurately the state of the blood current, and consequently the nutrition of the system. We are not yet in a position to define with any degree of accuracy just what changes in the urine belong certainly to the eczematous habit, but it may be stated that evidences of a deranged secretion are a constant accompaniment of very many cases of the eruption.

The changes in the urine are commonly those of a deficient excretion, in regard to the quantity of both its liquid and solid elements. Often patients

are found to pass less than one half of the normal quantity of urine, with a high specific gravity, and again it may be abundant but of a low specific gravity; constantly it will be found that the amount of solids excreted is very far below that normally belonging to the body-weight. The urea is often below the normal, as are also the phosphates and chlorides; the suiphates are in excess. Sugar and albumin are found only casually, and casts are seldom seen; uric acid, urates, or oxalates are frequently present. It will continually be found that as the urine becomes deranged the eczema is worse, while under treatment for the relief of these conditions the eczema yields.

3. *Pulmonary Derangements.*—Little is known in regard to the relation of the exhalation from the lungs and disease, but there are certain pulmonary disorders which are not infrequently associated with eczema in such a manner as to show that there is some relationship between them. These are bronchitis, asthma, and hay fever; it will continually be seen that they occur in these patients coincidently or alternately with the eruption. Imperfect aëration of the blood in the lungs may also play an important part in predisposing to the debility which leads up to eczema.

4. *Dermal Derangements.*—The importance of the proper action of the skin as an organ is not sufficiently recognized as an element of health and vitality, and

must never be overlooked in connection with eczema. We know little in regard to any variation in the character of its secretions, but there can be no question that they do vary from time to time. The irritating nature of sweat in the folds, as in the groins, beneath the breasts, etc., is a frequent cause of eczema in these regions. When the skin is dry and harsh from imperfect excretion, eczema is very apt to develop in many localities. Excessive or deranged action of the glands has certainly a relationship to seborrhœic eczema.

III. Neurotic Derangements.—These relate to: (1) *Neurasthenia*, and (2) *Definite or irregular Neuroses*, which have been abundantly shown by many to have a very definite effect in predisposing to or producing eczema. The latter will be seen to be effective as exciting causes of eczema in the next section.

1. Neurasthenia.—As is known, this is often the result of some of the derangements of assimilation and elimination, and so may appear only as a concomitant of the resulting eczema. But when produced by over-work or worry, by sleeplessness or nervous strain, neurasthenia often proves an efficient, predisposing cause of eczema, as could be shown by numberless cases. The nervous element of eczema is always a prominent feature, and anything which reduces the nerve vitality renders the tissues of the skin prone to take on eczematous action.

2. Neuroses.—Whether hereditary or acquired,

nerve disorders tend to induce eczema. Many instances are on record of its occurrence from structural changes, as after injury, amputations, etc., and also in very immediate connection with neuralgia, in such a manner as to leave little doubt as to the causative relationship.

IV. Vascular Derangements.—These may be either (1) *Cardiac* or (2) *Peripheral*, and, while not so very frequently seen as predisposing causes of eczema, the etiological connection may sometimes be traced in a very striking manner.

1. Cardiac Disorder.—Organic disease of the heart is not often thus traced, but sometimes the impeded circulation caused thereby will act in determining eczema of the extremities. Functional derangements of heart action are not at all uncommon in eczema patients, due often to the same causes as the eruption. How far their disturbance of circulation can aid in producing the skin changes cannot be stated, but as a perturbing element to the nervous system they cannot be without influence.

2. Disturbed Circulation.—The effect of varicose veins in inducing eczema of the lower extremities is well known, and often it may be quite impossible to cure the eruption without mechanical support to them; surgical operations on dilated veins will sometimes be very effective in this regard. The effect also of hæmorrhoidal congestion in causing eczema of the anal region is very well recognized. Congestion

of other parts, as of the face, is also often followed by eczema. A feeble and deranged circulation, indicated by cold and flabby extremities, is also not infrequently associated with eczema.

C. ACCIDENTAL CONDITIONS.—A number of very different elements are included here, which are often seen to be instrumental in bringing on the eruption of eczema. These relate to: (1) *Faulty nutrition*; (2) *Disturbing occupation*; and (3) *Disease*.

I. **Faulty Nutrition.**—Here are included (1) *Erroneous*, (2) *Excessive*, and (3) *Deficient food and drink*. While there are few definite data in regard to the actual production of eczema by specific forms of diet, no one who has carefully observed and recorded the facts relating to many of these patients in private practice can doubt the very intimate relationship between the eruption and the nutrition of the patient. This is abundantly observed in infantile eczema and may be noted at every period of life.

Erroneous, Excessive, and Deficient food and drink.—In the next section these will be more fully considered in connection with the exciting causes of the eruption. They are here mentioned as indicating their influence even when slight, and extending over a long period of time, in predisposing to the eruption.

II. **Disturbing Occupation.**—Occupation will be seen later to play a considerable part in the production of eczema in the way of exciting the eruption, but it may also act as a predisposing cause in the several

directions of being (1) *Sedentary*; (2) *Requiring long standing*; and (3) *Involving confinement in bad air*.

1. *Sedentary Occupation*.—Not only does this act in a prejudicial way, by inducing a sluggishness of the system, constipation, etc., which predisposes to eczema, but sometimes it will be observed to operate in a very striking manner. Occasionally the sudden change from an active outdoor country life to the city, and a sedentary life, will be followed by the gradual development of eczematous lesions, which will often persist until the habits of life are materially altered in the direction of exercise.

2. *Occupation Requiring Long Standing*.—While a sedentary occupation operates, in one manner, disadvantageously to eczema, occupation requiring long standing acts quite differently and often very strikingly. Thus, laundresses, car-drivers, clerks, wood-turners, and others will often be troubled with intractable eczema of the lower extremities, even if there is not a very marked varicosity of the veins. The mechanical pressure of the column of blood gives ready cause for the exudation of fluid, while it hinders the absorption of effete matter by the capillaries and lymphatics. It is interesting to note that those occupations which call for activity on the feet do not produce these results: the mechanical aid in propelling the venous blood, given by the contracting muscles, balances the result of pressure. Thus, while laundresses are often incapacitated with

eczema of the feet and legs, girls doing upper housework are seldom thus troubled; while car-drivers are affected, car-conductors are less frequently so; postmen who walk many miles daily are seldom troubled, etc.

3. *Confinement in Bad Air*.—Acting as a depressant of the vital powers, this is often seen to predispose to eczema, and need not be further dwelt on.

III. **Disease**.—Various conditions of disease and accident may act as predisposing causes of eczema, such as (1) *Exanthemata*; (2) *Exhausting sickness*; (3) *Malaria*; (4) *Accident*; and (5) *Surgical operations*. They all operate as depressing agencies, and time and again have been observed to be followed by eczematous eruption.

1. *Exanthemata*.—These often operate apparently as predisposing causes of eczema, as the eruption is not infrequently seen to develop either for the first time or to recur shortly thereafter. The weakening of the power of skin resistance by their influence probably accounts for their operation. Vaccination is sometimes followed by eczema.

2. *Exhausting Sickness*.—Eczema is often seen to develop or recur after many illnesses, and the grippe is especially prone to be thus followed. No explanation is offered except that of vital exhaustion, and especially in the line of neurotic debility.

3. *Malaria*.—Some writers have endeavored to place malaria as an active predisposing cause of

eczema, but I have never been able to satisfy my mind that there was any very definite connection. Among hundreds of patients seen in the hospital with malarious affections, eczema was exceedingly rare. But not infrequently a malaria cachexia will seem to be at the bottom of an eczema, which will be cured only after a very active treatment with quinine.

4. *Accidents*.—Not infrequently eczema will develop soon after accidents, in such a manner as to indicate some connection, probably through the nervous shock. Sometimes also a limb which has been the seat of an injury, such as a fracture, will for a long period exhibit the eruption, either alone or to a much greater degree than elsewhere.

5. *Surgical Operations*.—Not only may eczema develop beneath and around surgical dressings, but sometimes the shock and depression from them will be shortly followed by a general or localized outbreak of the disease elsewhere than at the offending part.

II. Exciting Causes.—These are seen to be of two classes: (A) *Internal exciting causes*, and (B) *External exciting causes*. Under each of these is a large and very divergent number of influences, all of which, however, at one time or another may become active agents in calling forth the eruption.

A. **INTERNAL EXCITING CAUSES.**—In this class will appear many of the elements already mentioned

as predisposing causes, and many of them need not be dwelt upon again at large. But it is well to recognize that these same disorders, which when long existing may induce the disease, can, when they exist in an exaggerated degree, lead to an outburst of the eruption. They will be considered under the heads of: (1) *Defective nutrition*; (2) *Defective hygiene*; (3) *Defective assimilation and excretion*; (4) *Neurotic conditions*.

1. Defective Nutrition.—The relations of diet to the production of eczema are most important and appear to be but little appreciated by the profession; they will be considered more fully in the chapter on diet and hygiene. Suffice it to say here that in erroneous, excessive, and defective diet are to be found the efficient causes of very many of the cases, both in those which appear to have some hereditary influence at work and in multitudes where no such influence is traceable. This is clearly seen in the case of infants, where the eruption often resists treatment until there has been an entire change in the alimentation of the patient.

In older children and adults this is also constantly observed, and occasionally acute outbreaks of the eruption can be pretty directly traced to errors in eating or drinking. The use of alcohol may often precipitate an attack, and the same is true of the abuse of tobacco. In the easier walks of life, as seen in private practice, there is often an excessive

consumption of food, which by clogging the system generates the eruption. Among the poorer classes the eruption can be often traced to a debility arising from deficient nutrition, and the eruption yields to a full and nutritious diet.

2. Defective Hygiene.—Erroneous *clothing, bathing,* and *exercise* often act as exciters of the eruption. In infants it is constantly seen that an eruption of eczema will develop from overheating, with a mass of wraps, or from a chilling of an unprotected surface; and the same may occur in older life. The eruption is frequently excited by injudicious bathing, and overheating by exercise can bring on the eruption quite as much as the derangement of the system resulting from the want of proper exercise.

3. Defective Assimilation and Excretion.—It is no uncommon occurrence to see eczema develop coincidentally with or consecutively to an acute dyspepsia, while constipation will constantly be followed by outbursts of the eruption. The value of proper purgatives in eczema shows how intimately this eruption on the skin is connected with abdominal disorder, including hepatic derangement. We know as yet very little in regard to functional disorder of the pancreas, but this organ must share in general assimilative derangement, and cannot be without its influence in connection with the causation of eczema. As a result of these disturbances of assimilation and disassimilation we have urinary derangements which

are constantly seen to be accompaniments of eczema ; and so frequently do we find a deranged urine with outbursts of the eruption that it cannot be questioned that there is some etiological connection.

Auto-intoxication, either acute, from intestinal fermentation, or chronic from the results of faulty metabolism, is constantly seen to be followed by the development of the eruption of eczema, which will be rebellious while it exists and yield readily as it is removed.

4. **Neurotic Conditions.** — To such a degree are nervous disturbances observed in connection with certain cases of eczema that the term “neurotic eczema” has come to be well recognized ; and numberless observations are on record to show that the eruption can appear, even for the first time, under the direct causative influence of the nervous system. This may occur in a direct manner, from *nervous exhaustion, strain, or shock*, or the nerve perturbation may be of a *reflex* character. To the latter belong reflexes which have a gastro-intestinal, sexual, ocular, or dental origin, illustrations of each of which could be given did space permit.

B. EXTERNAL EXCITING CAUSES. — We come now to speak of the local causes of eczema, which by some are exalted to much greater prominence than can rightly be assigned to them. Careful observation and study of over four thousand cases of eczema in private practice, of all of which I have

notes, to say nothing of a much larger number occurring in public practice (and some of these cases have extended over years of time, with many relapses at longer or shorter intervals), have convinced me that altogether too much stress has been laid upon external agencies as the real cause of eczema. I have searched in vain for the operation of the various irritants named in the books, more especially among intelligent patients in private practice, and have to say that in the vast proportion of instances I have not been able to discover any local cause which would account for the existence or continuance of the eruption. And, furthermore, one daily sees any number of individuals exposed to a greater or less amount of local irritation who escape all skin lesions, or if inflammation is produced it appears only as a transient *dermatitis*, and should be carefully differentiated from true eczema.

On the other hand, experience shows that a certain portion of cases of eczema do seem to have their starting-point from some local irritation, and in other cases the eruption is kept up by local causes and remains until these are removed. There are four general groups in this class: (1) *Atmospheric influences*; (2) *Mechanical irritants*; (3) *Chemical irritants*; and (4) *Parasitic elements*.

I. Atmospheric Influences. — The effect of external influences connected with the atmosphere can constantly be observed in eczema, these relating to:

- (1) *Heat and cold*; (2) *Barometric disturbances*; and (3) *The seasons*.

1. *Heat and Cold*.—The effects of these are strikingly shown in infantile eczema. The delicate skin, which has been formed and long nourished and protected in the warm uterus, is suddenly exposed to a lowered temperature and to many harsh and injurious agencies, and readily takes on eczematous inflammation. At various ages the agencies of heat and cold are also constantly visible in exciting the eruption.

2. *Barometric Disturbances*.—We know as yet very little definite in regard to the influence of barometric disturbances in causing disease, but what little has been observed shows that at times these may be an important factor. Old eczema patients can very frequently predict the occurrence of a cold storm from their sensations, and not infrequently the eruption will be seen to develop with each barometric change.

3. *The Seasons*.—Undoubtedly with the changing seasons we have changes in the system which predispose to and excite disease, and many cases of eczema will develop afresh at certain seasons. Eczema in adults is certainly more prone to appear in winter, while in summer, in poor practice at least, we are very apt to have an increased number of cases of infantile eczema, with boils and abscesses. It does not appear to be the temperature alone

which affects the eruption so much as it is various other elements of diet, clothing, etc. which are connected with the changing seasons.

II. Mechanical Irritants.—Given a tender skin, liable to eczema, and mechanical irritation will frequently be seen to be the active exciting cause for certain patches of the eruption. This irritation may come from (1) *Scratching* and (2) *Friction*.

1. Scratching.—Foremost among the local causes of eczema is placed scratching, by Hebra and the followers of the school of local etiology; and it cannot be denied that in one so disposed the eruption may be developed in this manner. The scratching takes place from two causes: (1) *To relieve pruritus*, and (2) *To remove accumulations*, such as the crusts already formed by eczema. The pruritus for which scratching is done may, again, be (1) *Idiopathic* or (2) *Reflex*. Long before there is any eruption of eczema there is sometimes an idiopathic pruritus, which is perhaps often to be accounted as the first symptom of the eruption, which may in turn be due to acidity or auto-intoxication, as an urticaria. Or, again, the pruritus may be entirely a reflex affair, as, for instance, in certain cases where pruritus about the scrotum and anus arises from a reflex irritation caused by urethral stricture or intestinal worms (the latter may also cause an itching about the nose), to relieve which scratching may be practised, resulting in eczema. When eczema is once developed, and

there is an exudation with the formation of scales and crusts, scratching also undoubtedly aids greatly in increasing the eruption.

2. *Friction*.—Accidental friction from (1) *Occupation*; (2) *Clothing*; (3) *Accidental*, is constantly seen to be the starting-point of eczema, and need not be dwelt upon here.

III. **Chemical Irritants**.—Numerous external irritants of chemical nature have been observed to be followed by the development of eczema in different localities. These may be considered under the heads of (1) *Mineral*; (2) *Vegetable*; and (3) *Animal secretions*.

1. *Mineral Irritants*.—Various aniline and other dyes in clothing, soap, and washing powders, as also lime, arsenic, and other substances used in occupation, and sulphur, mercury, tartar emetic, etc., used in medication, may all be the immediate exciting cause of an eczematous eruption.

2. *Vegetable Irritants*.—Various vegetable substances may also excite eczema, and poison ivy is frequently seen to originate the eruption, although generally it produces only a transitory dermatitis. Also substances used medicinally, such as arnica, thapsia, croton oil, capsicum, chrysophanic acid, and even mustard, may sometimes start up an eczematous eruption.

3. *Animal Secretions*.—Disordered sweat and sebum may often prove very irritating to the skin and cause eczema, as in the genital region, in the axillæ,

beneath the breasts, etc. The urine, when allowed to remain in contact with the skin, will do the same, as also the fæces. At times the altered mucus from the nose, vagina, etc., will prove very irritating and excite the eruption.

IV. Parasitic Elements.—The occurrence of eczema in consequence of the presence of animal parasites, and the consequent scratching, in scabies and phthiriasis, and also from irritation by bed-bugs, fleas, etc., is too well known to require more than mention.

The so-called *eczema marginatum*, occurring especially in the genital region, axillæ, etc., is now known to be one of the forms of ringworm, due to the presence of a *trichophyton fungus*.

In certain cases of *diabetes*, especially in the female, there will be an eczematous eruption about the genital region due to the growth of the *penicillium fungus* in the skin. And in certain rare cases the growth of the *aspergillus* in the ear will give rise to an eczematous eruption in this locality.

It is well known that the *pus cocci* give rise to many of the impetiginous lesions often seen in connection with eczema, and also aggravate raw surfaces.

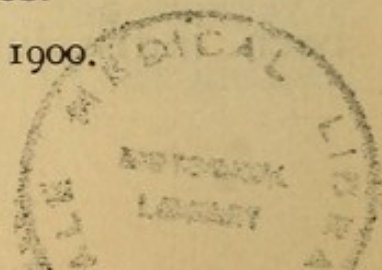
There remains to be considered the influence of other micro-organisms in the production of eczema.

Some years ago, in 1887, Dr. Unna, of Hamburg, first presented his views in regard to what he called *eczema seborrhoicum*, with which his name has since been indissolubly connected; and dermatology is

greatly indebted to him for his indefatigable work in this and other lines. The scientific world has practically accepted seborrhœic eczema as an entity, with a micro-organism as a probable etiological factor. But, although this matter has been so long before the profession, and a host of earnest investigators have studied it clinically and microscopically, with abundant bacteriological researches, there is really no unanimity in regard to the character of the parasite; nor has the disease been reproduced by inoculation of pure cultures—except as indefinitely maintained by Unna and claimed also, in a preliminary report, by Elliot and Merrill, in 1895, which has not been further verified.

Not content with the alleged parasitic character of seborrhœic eczema alone, Unna has claimed the same for all eczema, and has written very largely to prove the position by his microscopic and laboratory work; and his assertions at once received more or less acceptance, and many investigators entered the field of study. It would lead us far beyond the proper limits of this book to attempt to give any idea of the work and arguments which have been presented by those who favor and those who oppose the idea of a parasitic origin of eczema; these have been most admirably presented by Brocq, of Paris, in an elaborate book entitled *La Question des eczémas*, covering two hundred pages.*

*Brocq. Paris: Masson & Cie., 1900.



The subject of the parasitic origin of eczema in general has been very fully discussed in the Journals and at many Congresses, but although it has had some warm defenders, relatively few accept the view.

In looking back over the multitudinous and diverse predisposing and exciting causes which appear in the list presented, and comments thereon, it is quite natural to question whether a single disease, eczema, can have such a variety of causative elements. The answer must simply be that it can, because clinical experience has pretty well established the essential features in regard to the eruption, and observation all over the world has verified the etiological relations of most of the items named. Those who really see the most of this disease and study it carefully in private practice are inclined to agree with the remark of Brocq, of Paris, namely, that "eczema is the image itself of the life, the reflex on the skin of the constitution of the individual."

As already stated, local causes undoubtedly play a not inconsiderable part in actually calling forth the eruption in many localities, but only in those who have a tendency thereto. Besnier, of Paris, has attempted to put the idea of the formation of the eruption in the single word "eczematization," and Wilson, of London, was wont to speak of the "eczematous diathesis." In the end we must again

confess that we do not yet know the real cause, and content ourselves with recognizing the concomitant symptoms or phenomena in the economy which experience has shown to be of more or less etiological import. In regard to parasitism, the most that has been shown is that some of the micro-organisms which exist abundantly on the skin in health, do, when it has taken on disease, cease to be *saprophytic* and become *pathologic*, and so exercise more or less of a baneful influence in heightening the eruption.

CHAPTER IV

LESIONS OF ECZEMA : PATHOLOGICAL ANATOMY

ECZEMA has been defined in a previous chapter as an inflammatory disease of the skin of constitutional origin, manifesting various lesions, and attended with itching or sensations referable to the nervous system. The earliest local phenomena were stated to be nerve and capillary disturbance, to which the skin lesions are secondary. We will now study in detail the features which eczema presents, and consider them in the order of their importance, which happens also to be the order of their pathological sequence. They may be arranged under six heads, which represent, in a measure, stages in the development of the local disease, as follows :

1. Itching, pricking, or burning pain.
2. Redness from congestion.
3. Papules, vesicles, pustules, or exudation.
4. Crusting or scaling.
5. Infiltration or thickening.
6. Fissures or cracks.

It is essential that these phenomena should be

well understood and remembered, both for a prompt recognition of the disease and for therapeutic reasons.

I. Itching.—The most prominent and constant symptom in eczema is the itching, which may be preceded by or give place to a burning pain, either of which may be distressing beyond description. Those who have not suffered from the itching of eczema can hardly appreciate this feature. When it is marked and severe, the desire to scratch, rub, pinch, or touch is simply irresistible, and the injunction not thus to irritate a part affected greatly with eczema is wellnigh useless, without the assistance of medical relief or physical restraint. In some locations, and in milder degrees of the complaint, the itching amounts only to a disagreeable tickling or pricking, as though a minute insect were irritating a nerve beneath the skin, causing the patient to touch the part repeatedly. Often patients will insist that this is the case and no amount of assertion will persuade them that there is not some animal life producing the disturbance. In other cases the sensation is that of insupportable irritation or itching, which nothing will allay but the most severe, deep, and thorough scratching, digging, or rubbing; when this is practised it will be followed by burning pain, which, however, is quite bearable compared to the itching.

Between these two extremes all degrees of annoyance may be experienced, and the sufferers seek

various means of allaying the irritation; for the lighter degrees of itching, light touching or tapping the part or knocking it with the knuckles suffices, or pinching it when a soft part, as the scrotum, is affected; more severe itching calls forth moderate scratching, or rasping the part with a brush or coarse towel; whereas, in long-existing disease, where there is much infiltration, the itching is simply intolerable, and only the most severe measures, such as digging the skin with the finger nails or even with a sharp instrument, or the application of very hot water, suffice to give temporary relief.

I have placed this symptom first, and dwelt upon it in order to impress the very great importance of this element as a cause of many of the lesions of eczema, and to emphasize its share in perpetuating the eruption. It will often appear to be the only trouble at first, and a portion of the skin which had every external appearance of health will itch, be torn with scratching, and the severest eczema develop thereon, favored no doubt by the micro-organisms which find abundant nutrient material, and thus also gain access to the deeper tissues.

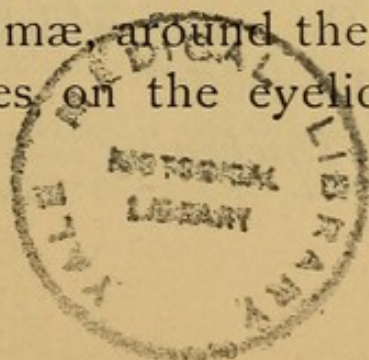
This itching is always much worse when the part is exposed to the air, and the time of the greatest scratching of covered parts is on undressing at night and on rising from the bed in the morning. In many portions the itching may come on with the slightest external irritation, while in many instances

no adequate cause can be discovered for the paroxysms.

2. *Redness*.—The next most constant and striking symptom of eczema is the redness, without which also the eruption may be said not to exist. This redness is seen to be congestive, disappearing largely, if not entirely, on pressure. In long-standing erythematous eczema there remains a certain amount of reddish-yellow staining after the blood has been forced out by pressure, caused by a previous escape of the coloring matter of the blood into the tissues, from the long-continued capillary congestion. In some cases or forms of eczema this redness might be said to be the main objective feature in addition to the itching and infiltration, the eruption remaining from first to last as an erythematous affection. This is seen most typically about the face, where we may have a surface of greater or less extent of a purplish-red color, dry and hard to the feel, sometimes shiny and sometimes covered with a moderate amount of thin scales. This erythematous surface, however, has the deep, tingling, itching, or burning characteristic of eczema: it is chronic, that is, instead of coming quickly and spreading rapidly as would erythema or erysipelas, it develops slowly and is not attended with any febrile disturbances; there is also infiltration of the skin.

3. *Papules, Vesicles, Pustules, or Exudation*.—From what has been said of the nature of the process

in eczema it can be readily understood what part these surface lesions play in the disease. Eczema being an inflammatory eruption of the catarrhal type, the exudation from the congested vessels seeks to gain exit from the meshes of the skin. When the congestion is more especially around the follicles, the plastic fluid which is poured out forms small solid papules, very red and itchy. If the fluid is more abundant and less plastic, it raises the epidermis, and vesicles are formed, and even blebs. Pustules are formed when there is invasion of pus cocci, favored by a greater intensity of inflammation, a lowered vitality, and a strumous habit. When the surface is broken, as after the formation and rupture of vesicles or pustules, the fluid exudes directly from the surface, and forms the "watering" or "leeting," or discharging surface peculiar to the disease. In some cases this exudative or sweating stage seems to occur apparently without the existence of the intermediate one of vesicles or pustules. The epidermis seems to be lifted in a mass by the abundance of the watery discharge, and this raw surface is seen soon after the congestive stage has appeared. Such a condition is frequently observed in places where the skin is very delicate and kept moist, as in the folds about the genitals, beneath the mammæ, around the necks of children, and also sometimes on the eyelids, penis, and the lower legs.



This constant tendency to exude fluid is a striking and common feature of eczema, and one which is intimately dependent upon the nature of the disease and closely connected with its pathology.

The following three may be spoken of as the secondary lesions of eczema, being in a measure dependent upon those which have been previously described.

4. *Crusting and Scaling*.—The exudate of eczema, which has the property of staining and stiffening linen, has a very strong tendency to dry into scales and crusts if exposed to the air. If the ordinary, discharging eczematous surface is left uncovered for a while, it will become glazed over, and is no longer sticky, but dry and slippery. This film, if undisturbed, increases in thickness, and, in the case of infants especially, large and thick masses of crusts may be formed, which when matted in the hair are very difficult of removal. If the surface has been scratched, blood may be mingled with the exudate, and the crusts will be of a dark color; when torn off, the surface beneath is still moist and exuding.

In erythematous eczema there may be a scaliness without any preceding moist stage, the epidermal coat being repeatedly shed in larger or smaller scales. This is frequently seen on the face, and in the scalp it forms many of the cases which pass under the general name of "dandruff."

5. *Infiltration or Thickening*.—Skin which has for

some time been the seat of the eczematous process acquires a feature which is of the greatest importance, both diagnostically and therapeutically; this is what is known as infiltration or thickening, and is closely dependent upon its nature and pathology. This infiltration is an element in all long-standing cases of eczema, and becomes then the main object for treatment, for upon its presence depends much of the itching, the scaling, and, if the surface is irritated, the exudation. It is recognized clinically by the increased thickness of a fold of skin when pinched up between the fingers and compared with a corresponding portion of unaffected integument. The clinical importance of this symptom is that while this thickening remains the eczema is not cured, but will pretty certainly return when treatment is suspended, even though the surface seems quite normal.

In certain cases this infiltration, which is at first superficial, may extend through the entire thickness of the skin and make it very dense and hard. Upon the lower leg and foot it may sometimes increase to such an extent as to produce a condition very closely resembling elephantiasis Arabum; but under proper and sufficient treatment it may be made to disappear entirely.

6. Fissures or Cracks.—Closely connected with this infiltration, and dependent upon it, are the fissures and cracks, which often form a very annoying and rebellious feature of the disease, and may quite

incapacitate the sufferer. These fissures are often seen in great severity on the hands, both on the knuckles and in the palm, also on the soles of the feet; they are likewise found behind the ears, at the bends of the elbows and knees, and wherever there is motion. But they need not always be in the lines of motion; they occur sometimes on the finger tips and in any direction on the palms.

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We will now consider the pathological processes which go to produce these lesions of eczema. Although considerable microscopical work has been done in connection with eczema, it is no easy task to present briefly and accurately the true pathology and pathogeny of the disease. The older studies were made upon artificially produced eruptions, or dermatitis, and should rightfully be excluded. But acute and chronic lesions of true eczema have also been studied, and we know fairly well the character of the changes which take place in the skin, although of late efforts have been mainly directed toward the study of the bacteria found in connection with eczema; these will be considered later.

The true pathology of eczema cannot be determined by the consideration of the histo-pathology of any one stage or process in the disease. To rightly understand eczema, its pathology should be considered in connection with its clinical history, and

the changes which are found in the skin should be interpreted also in the light of its anatomy and general pathology.

The very abundant nerve supply, distributed even through the mucous layer of the epidermis, and the very ample vascular distribution in the skin, should be always borne in mind, as well as the remarkable system of lymphatics, penetrating even to and among the epidermal cells. These, as in other organs of the body, control the processes of health and disease, and determine the changes which take place, either in response to external stimulation or idiopathically from internal causes.

Eczema has been rightly regarded as a catarrhal inflammation of the skin, quite analogous to that of the mucous membranes; and as catarrhal trouble will be induced by local or internal causes, in those so disposed, so the skin responds to like stimulation, and the changes found will depend upon the intensity and duration of the inflammation. As to just how these changes are produced we are still ignorant, but it is probably by such a disturbance of vital action that the withdrawal of proper nervous control allows the *katabolism* or *anabolism* of the individual cells to be increased or diminished. With the nervous influence perturbed or withdrawn, the individual cells act independently and erratically, instead of passing through their normal changes.

Clinical experience shows that capillary congestion

is the first phenomenon, accompanied with deep burning or itching, before any distinct pathological lesion, papule, or vesicle, can be detected on the surface. The papillæ are congested and enlarged by infiltration with serous fluid and cells, and their connective-tissue corpuscles are increased in number and size and are very succulent. The exudation escaping from the blood-vessels of the papillæ finds its way among the cells of the mucous layer, both forcing them apart and being imbibed by them; they then swell and rupture, with the disappearance of their nuclei, and a vesicle is formed. When the fluid is less abundant or more diffused, there is either a papule formed or a more general infiltration of all the epidermal cells takes place, which may cause a shedding of the outer layers, leaving a moist surface; this may readily be seen in erythematous eczema of the eyelids and elsewhere, where the horny layers are stripped off, and the fluid exudes from the bare mucous layer.

After the eruption is once started, the epidermis takes a very great share in the progress of the disease. It has been shown that a marked change takes place in the stratum granulosum, which interferes greatly with the process of cornification of the outer layers; in the squamous form of eczema the granular layer is absent, and the superficial cells of the epidermis retain their nuclei and fail to become corneous. To this irregular cornification the

term *parakeratosis* has been given, which is an important factor in scaly eczema.

It is this impairment of the integrity of the epidermis which characterizes eczema, and until this can be reached and rectified the eruption continues. When the disturbance is slight and the operative causes transient, very mild protective dressings enable cornification to be resumed; but with a continuance of the disturbed innervation these are only palliative, and the process proceeds indefinitely.

From what has preceded it is readily understood how and why there should be such a discharge of moisture from eczematous surfaces, and also the reasons for its peculiar character. The outer horny layers of the skin being removed by disease, and the deeper, soft, and succulent cells exposed, with dilated capillaries and distended lymphatics in the corium beneath, the exudate finds ready access to the surface, both between the loosened cells of the Malpighian layer and also through them; that is, the serous fluid imbibed from below is partially altered by the diseased cells, which are also freely thrown off and mingle with the exuding serum, giving it its peculiar sticky character, even as glue is derived from horny cells. This fluid is slightly alkaline, coagulates with heat and nitric acid, stiffens linen, and dries into gummy crusts.

The glands and hair follicles, being really only involuted epidermal structures, share more or less

in the eczematous process. Where the sebaceous glands are abundant and large, as about the face and scalp, the crusts formed are more yellowish and gummy. In regions where the sweat glands are in excess, as in the axillæ and genital region, their secretion is often very great and may be irritating, increasing and diluting the eczematous discharge; often in eczematous patients, frequent and excessive sweating will be a very troublesome feature, and bring on paroxysms of itching. The hair follicles become either acutely inflamed and pustular, or undergo alteration which leads to shedding of the hair.

In the more chronic forms of the eruption we find not only the epidermal layer in a state of confusion, but the inflammatory process has extended so between the papillary layer and the rete that the boundary between them has become more or less obscured. The corium, including the papillæ, is in a state of inflammation, with blood-vessels and lymphatics enlarged, filled with exudates and migrated cells, which push forward among those of the rete. This infiltration of the corium may proceed to such an extent as to produce great connective-tissue hyperplasia, so that the skin becomes thickened to many times its normal dimensions; indeed, in prolonged and aggravated cases the lymph stasis becomes so great that a veritable elephantiasis results.

The pathology of the still more chronic states is

but an augmentation of the processes already described. Not only are the epidermal structures in a state of disorganization, but the corium has acquired quite an altered character. It becomes more and more infiltrated, even to its deepest layers and into the panniculus adiposus with round cells and an altered connective tissue; these replace the normal elastic fibres, and, with an altered, fragile epithelial layer and an inelastic corium, cracks or fissures readily take place, which may extend even quite deep into the true skin.

The part which *micro-organisms* play in connection with eczema has been the subject of very much study and discussion of late years, and opinions are divided as to their importance and relative influence; some few have claimed eczema in all forms to be a parasitic disease, while it is very generally believed that the claims have not been substantiated and proved. The healthy skin is such a garden for the "flora dermatologica," as Unna designates the twenty or thirty different micro-organisms found there, that it is hard to conceive their influence in producing this eruption. The absence of contagion, and the failure to reproduce the disease, either by direct inoculation or from cultivations of micro-organisms found therein, would seem to be conclusive evidence against the acceptance of any general parasitic origin of the eruption.

But, on the other hand, the agency of bacteria is

accepted in regard to some features pertaining to eczema. Thus, few doubt but that the pustular lesions of eczema are largely influenced by the presence of pus cocci, and also that they may have an effect in producing more or less of purulent discharge from an open surface.

Next, most dermatologists accept more or less definitely a microbic element in what is known as seborrhœic eczema. Here the generally chronic character of the lesions, their slow peripheral extension, and the advantage gained by the proper use of mild parasitic applications, all seem to confirm the claim that a micro-organism is the fertile cause of the complaint. But there is not a great unanimity of opinion in regard to exactly the micro-organism which produces the trouble, nor has any single one been sufficiently well identified, isolated, cultivated, and reinoculated to give any proof of its active pathological properties.

Finally, with the presence of a very considerable number of micro-organisms existing as *saprophites* on the healthy skin, it is not strange, under favorable conditions, that some of them should have some influence in exciting, altering, or prolonging the eruption. Thus, when the hard, horny, outer cells have been removed by disease, and a soft, succulent tissue, with abundance of rich, albuminous fluid is present, it is natural that they should take on another action, more or less *pathogenic*, and modify

the character of the existing eruption. And this is what probably occurs in certain red and irritable patches, with more or less sharply cut, advancing, circular edges, to which the name *parasitic eczema* is often given; but no pathogenetic germ has been demonstrated, and it is doubtful if a parasite plays any more than a secondary part.

CHAPTER V

FORMS OF ECZEMA—ACUTE, SUB-ACUTE, CHRONIC: SEBORRHŒIC ECZEMA

SOME idea of the varied forms under which eczema appears may be gained by a consideration of the multitude of names which have been given to the different manifestations or phases of the eruption. It has so often been attempted to explain the special character, or location, or condition of the eruption by the name given to it, that the nomenclature of this single disease has become so vast that it is perplexing to the general practitioner and annoying even to those who have much to do with this branch.

Thus, in Mr. Wilson's *Lectures on Eczema* there are forty-nine varieties found, not as synonymes, but each is treated of separately in the work; in the index of McCall Anderson's *Treatise on Eczema* forty-three distinct names occur, and from thirty to forty, or even more, in some of the recent text-books on diseases of the skin. I have collected the terms thus employed in literature, and although the list is probably far from complete it is found that not far from

one hundred and fifty Latin names have been given to the phases of this one eruption, while the total number of terms collected, including those in more common use in English, French, and German writings, amounts to over two hundred.

But an analysis of these names shows that they may be mostly grouped in a few classes, and have been devised to express certain points in reference to the eruption; while a certain number relate to fanciful features or are popular terms in different languages. Now, although these prominent features which are expressed in the name given to the eruption are, in the main, real and of importance to a correct understanding of the disease, these names are not essential, and the mass of terms applied to eczema becomes confusing, unless the subject is looked at clearly and understood properly.

In the following table the names are grouped, as far as possible, into five classes, each representing a distinct object or purpose, while those which do not permit of such grouping are thrown into a sixth, or miscellaneous class.

Names Given to Eczema in the Literature of Dermatology, together with Synonymes

1. Stages.—Eczema acutum; sub-acutum; chronicum; simplex; compositum; vulgaris; fugax; perstans; inveteratum; mite; successivum (recurrent).

2. Lesion.—Eczema erythematosum (erythemat-

odes or erythematous); papulosum (papular); vesiculosum (vesicular); pustulosum (pustular).

3. Condition.—Eczema amorphe; cannellé; circumscriptum; coriaceum; crustaceum; crustosum; exanthematosum; exfoliativum; fendillé; figuratum; fissum; foliaceum; furfuraceum; herpetiforme; humidum; hyperæstheticum; hypertrophicum seu tuberosum; ichorosum (ichorous); impetiginosum; impetiginodes (impetiginous); intertrigo; lichenoides (lichenous); madidans; marginatum; mucosiform; mucosum; nummulare; œdematosum; pityriasicum; psoriasiforme; rhagadiforme; rimosum; rubrum; sclerosum (sklerosum); siccum; spargosiforme; squamosum (squamous); sycosiforme; tuberosum; unisquamosum; verrucosum; weeping.

4. Causes.—Eczema arthriticum (arthritique); artificial; assimilative; caloricum; congenital; dartreux; diabeticorum; epidemic; hereditary; herpetique; hysterical; infantile (obese and scrofulous); mercuriale (hydrargyria); neurosum (neurotic); nutritive; scrofuloux; senile; solare; substitutive; traumatic; tropical; tuberculous; varicose.

5. Location.—Eczema ani; articulorum; aurium; axillarum; barbæ (pilare faciei); capillitii; capitis; corporis; crurale (crurum); diffusum; digitorum; dorsi manûs; extremitatum; faciei; genitale (genitalium); inguinum; labiorum; lingualis; mammæ (mammarum); mammillarum; manuum; membrorum; narium; oris et labiorum; palmare et plantare;

palpebrarum ; partiale ; pedum ; penis ; perinæi ; pudendi ; tarsi ; trunci ; umbilicale ; umbilici ; unguium ; universale (general).

6. Miscellaneous.—Baker's itch ; barber's itch ; brick-layer's itch ; grocer's itch ; washerwoman's itch ; crusta lactea ; cytisma eczema ; ecphlysis ; dartre crustacée flavescente ; dartre crustacée stalactiforme ; dartre squameuse humide ; dartre squameuse orbiculaire ; dartre vive ; eczema sudorale ; eczesis ; eczema ; eczismus ; fluxus salinus ; heat eruption ; herpes squamosus madidans ; hitzblätterchen ; humid scale ; humid tetter ; impetigo ; impetigo acniforme ; impetigo eczematodes ; impetigo erysipelatodes ; impetigo figurata ; impetigo scabida ; impetigo sparsa ; impetigo sycosiforme ; lichen agrius ; lichen hypertrophique ; lichen tropicus ; melitagra ; melitagra flavesceus ; mentagra ; milk crust ; nässende flechte ; porriginé amiantacée ; porrigo crustacea ; porrigo larvalis ; poussée ; psoriasis diffusa ; red gum ; running scall ; salt rheum ; scabies humida ; scall ; sycosis ; teigne furfuracée ; tinea amiantacea ; tinea asbestina ; tinea granulata (teigne granulée) ; tinea micacea ; tinea mucosa (teigne muqueuse) ; tooth rash.

In looking over this list we find many names which are quite obsolete, and many which have never been accepted by others than those proposing them, while there are also a large number which are of more or less value, and which are still used at times. The

number, even of these latter, might seem confusing, but if the plan and object of the different names are kept in view there need be no difficulty. It must be remembered that in every instance the disease is the same, and the names are only given to indicate differences in the appearance, condition, or location, so that the same eruption could easily receive a name taken from each of these six classes, in order to distinguish features belonging to it.

Thus, an acute, pustular eczema of the face in a strumous child might be spoken of as an eczema (1) acutum, (2) pustulosum, (3) crustosum, (4) scrofulosum, (5) faciei, and would be popularly spoken of as (6) crusta lactea, or milk crust. Again, a chronic eczema of the hands, with cracks, in a laundress could properly be called eczema (1) chronicum, (2) papulosum, (3) fissum, (4) artificiale, (5) manuum, and (6) washerwoman's itch.

With the appreciation, then, of the meaning and application of the various terms used in connection with eczema, we will find that there are relatively few of them which need to be ordinarily employed. But the five classes which form the basis of the nomenclature should be remembered: there are names belonging to each which are of constant use in treating of the subject, and which occur in later pages.

First, then, eczema may be divided according to its stages, as follows:

1. Stages	{	acute	=	eczema	acutum
		sub-acute	=	"	sub-acutum
		chronic	=	"	chronicum.

Next, every case may be classed according to the predominant lesion, or form of the eruption,

2. Predominant lesion	{	erythematous	=	eczema	erythematosum
		papular	=	"	papulosum
		vesicular	=	"	vesiculosum
		pustular	=	"	pustulosum.

Then it is often of service to indicate the condition generally present, which often represents secondary lesions, or results of disease. There are many such designations occasionally thus used, such as the following :

3. Condition	{	moist	=	eczema	madidans or rubrum
		scaly	=	"	squamosum or exfoliativum
		hard	=	"	sclerosum
		fissured	=	"	fissum or rimosum.

To express the cause of the eczema we have also a number of names, which are sometimes of service, such as,

4. Causes	{	<i>Constitutional</i>			
		gouty	=	eczema	arthriticum
		neurotic	=	"	neurosum or neuroticum
		strumous	=	"	strumosum or scrofulosum
		hereditary	=	"	congenitum or hereditarium.
	{	<i>Local</i>			
		varicose	=	eczema	e varices
		traumatic	=	"	traumaticum
		artificial	=	"	artificiale
		parasitic	=	"	parasiticum.

Next, there have been many latinized names given to eczema as it affects different localities; and in addition to these there are several which are at times of service, such as the following :

5. Location	{ partial	=	eczema	partiale
	{ diffuse	=	"	diffusum
	{ universal	=	"	universale.

Finally, there are many special terms used in various languages, which are readily explainable, and certain of the popular names which have been and will long be applied to the various manifestations of eczema, which will pass out of use as greater enlightenment prevails: some of these are

6. Miscellaneous	{ salt rheum
	{ milk crust or crusta lactea
	{ tooth rash, red gum
	{ washerwoman's itch, etc.

It will thus be seen that the form of eczema, or exactly the name to be given to the manifestation in any particular case, is not a matter of very great importance; for the same eruption may receive a different name at one or another period of its course, or to indicate one or another feature. It is well, however, to fix in the mind certain prominent points bearing upon each case, and these may be briefly touched upon.

I. Stages of Eczema.—The first point of importance is the stage or state of the existing eruption.

By this is understood, not so much the length of time during which the disease has lasted, as the intensity of the inflammatory process; for cases of eczema vary very greatly in regard to their therapeutic requirements according to the stage or condition of the eruption.

Three stages or general states may be spoken of: (1) *Acute*, (2) *Sub-acute*, and (3) *Chronic*. An acute eczematous condition may develop in a case which has lasted for many years, or a sub-acute state may remain for a long period, ever ready to manifest acute symptoms, or to subside into a chronic condition if undisturbed, or under soothing treatment.

1. *Acute Eczema*.—This is characterized by heat, burning, tingling, and itching, with redness and swelling, which latter may be very considerable in regions where the skin is lax, as about the face, penis, etc. Shortly papules, vesicles, or even pustules appear, or the surface may be evenly red and occasionally have the epidermis stripped off quickly, leaving a raw, exuding surface. Vesicles belong to acute eczema, but are by no means always present; sometimes, especially on the hands, they occur in immense numbers and thickly set together. The term acute eczema is applied both to first attacks and to recurrences or sharp exacerbations of the eruption in old cases. Acute eczema often resembles artificial eruptions very closely, and it may be very difficult, if not impossible, to distinguish at once between an

attack of acute eczema and the eruption excited by poison ivy, poisonous dyes, as in socks, or even an eruption produced by arnica, croton oil, etc.

If the eruption of acute eczema is protected or not further irritated, it will tend to subside soon, but it has little if any tendency to cease entirely; some of the elements of the eruption linger, and either there are recurrences of the acute symptoms, or, as occurs more commonly, it lapses into a less active condition and passes into the next stage.

2. *Sub-acute Eczema*.—There is, of course, no sharp line of differentiation between these phases of eczema, but in many cases this term seems applicable. It represents a less inflammatory condition, with patches of reddened, moderately thickened, itchy skin, which may be either dry or moist, tending to become covered with crusts and scales; or, there may be occasional vesicles, or more commonly papules, which give exit to a glairy fluid when torn by scratching. The itching may be moderate, but sometimes is intense. Under proper treatment the patches are absorbed and disappear, new ones appearing here and there. When wrongly treated, or subjected to irritating local agencies, or from certain deranged internal states, as constipation, severe dyspepsia, etc., the patches may take on an acute phase, while if not relieved by treatment they remain indefinitely and pass into the next form.

3. *Chronic Eczema*.—This exhibits many different

states or conditions of disease of varying intensity. There may be a diffusely reddened and thickened skin, covering possibly the whole body, itching furiously and desquamating freely, or a single small patch of diseased tissue, thickened and hard, tending to crack, and often having a deep, intolerable sensation of itching or tickling, which is relieved only by the severest digging and scratching. Between these extremes there are all possible degrees of involvement, as when a single portion, as the face or scrotum, is the seat of reddened and thickened tissue, or when a leg is chronically involved. Thickening or infiltration of the skin is always a marked feature in chronic eczema, and, as will be seen later, on the fingers, especially the tips, there may often be seen only the hardened skin with a tendency to fissure.

While the lines of demarcation between acute, sub-acute, and chronic eczema are not sharply defined, it is well to remember them in treatment, for the measures suitable to each are quite different, as will be pointed out later.

2. Predominant Lesion.—The next item to be considered is the form which the eruption takes in regard to its predominant lesion. Eczema was formerly regarded as a vesicular disease, but it is now well recognized that a case may run its course without the occurrence of a single vesicle, as explained in a previous chapter. There are four main forms to be considered, according as the predominant lesion is

(1) *Erythematous*, (2) *Papular*, (3) *Vesicular*, (4) *Pustular*.

1. *Eczema Erythematosum*.—Erythematous eczema is marked, from first to last, by the more or less evenly reddened erythema-like character of its lesion. There is always infiltration or thickening in varying degrees, and a certain amount of fine desquamation; there is also a peculiar, hard, leathery feeling to the skin, and an absence of the normal unctuous condition, due to interference with the action of the sebaceous glands. Deep pricking, tingling, or itching sensation is also present, which may be exceedingly distressing. This form is often wrongly called "chronic erysipelas," with which, of course, it has no connection.

2. *Eczema Papulosum*.—In papular eczema the congestion and exudation are localized; circumscribed and hard, red, inflammatory, acuminated papules are formed, appearing quickly and tending to remain for some time, days, or even weeks. They may be isolated, or grouped together upon a reddened base, and are commonly seen to be scratched and torn, for the itching accompanying this form of eczema is usually excessive. Typical papular eczema may run its course from first to last with papules as its only lesion, but very commonly there are some small vesicles, and pustules may occur, and there is almost always more or less erythematous congestion between. Much that was ordinarily called lichen,

by older writers, is now regarded as papular eczema, though, as will be seen later, there are still some forms of lichen which are recognized as separate eruptions, distinct from eczema.

3. *Eczema Vesiculosum*.—Typical vesicular eczema is usually an acute affair; there is a feeling of heat and tension about a part, with some œdema, and very soon minute red points are seen, which quickly vesicate, and within a few hours there may be a crop of vesicles of some size. They may be scattered irregularly, or appear more or less grouped and frequently run together, making a patch. The burning and itching, which are sometimes very intense, are very greatly lessened, and even cease, when the vesicles are fully formed, and especially when these are ruptured and the fluid escapes. If the surface is undisturbed by scratching, and appropriate treatment is employed, the vesicles may subside without rupture and the acute attack end and desquamation follow. More commonly the vesicles are broken and the exuded fluid tends to form crusts; a weeping, red surface may then result, the *eczema rubrum* or *madidans*, to be described later, and the amount of fluid exuded from such a surface is sometimes very great.

Frequently the vesicular stage is of such short duration that the single elements of it escape notice, and the case is first seen with a moist, exuding surface, or with one covered with scales or crusts, as especially occurs in infants and children.

4. *Eczema Pustulosum*.—Pustular eczema, known also as impetiginous eczema, or *eczema impetiginosum*, or *impetiginodes*, may develop independently, or may occur as a complication of other forms. The lines of separation between this and the preceding variety are not always well marked, although in typical cases the two will present quite distinct features. The mode of development is much the same in both, but the pustular lesions are usually larger than the vesicular, and are often firmer in consistence, and are very commonly found to surround a hair follicle. When the process is very acute the pustule may not be recognized as such, but there is found only a raw, suppurating surface, tending to become covered with light or dark greenish-yellow crusts; when these occur in the scalp or on hairy parts the hairs may be matted together in an almost inextricable mass.

Pustular eczema is usually seen in those who are strumous or broken down in health, whose tissues do not easily resist the operation of the pus cocci. There is commonly less itching with the pustular form than with other varieties of eczema, although there may be considerable deep, burning sensation connected with the pustules.

It is to be remembered that these features which have been described are not sharply cut in the majority of cases, indeed they often so merge into each other that the face of the eruption alters from time

to time, so that it is often difficult to determine accurately which was originally the *primary lesion*.

3. Condition.—This brings us to the next group of phases which the eruption may exhibit, based upon what may properly be called *secondary lesions* of eczema, to which various names have been given, many of which explain themselves; some of those in more or less constant use may be noticed.

1. Eczema Madidans.—When the epidermis has been shed from any of the preceding lesions, there may be left a red, excoriated, moist surface to which the term “weeping eczema” is given. There is always a good deal of thickening, and a burning pain, with occasionally mild itching. The serum which exudes stiffens linen, and if left exposed tends to dry into scales or crusts. This is also sometimes called *eczema rubrum*, although the latter may be always dry, red, and shiny, except when artificially irritated.

2. Eczema Squamosum.—This represents a scaly stage following any of the preceding forms of the eruption. There is a continuous exfoliation of the epidermis, generally from a reddened surface, which may represent the declining stage of a previous acute lesion, or may persist as an active element, as in the case of erythematous eczema, which commonly presents scales even from the very first. Upon the scalp almost the entire disease, from first to last, may appear on superficial observation to be only a

free desquamation, constituting many cases of the so-called "dandruff"; but here redness can generally also be found, with infiltration and itching, and frequently some well-marked eczema elsewhere.

3. *Eczema Sclerosum*.—In some localities, as upon the palms and soles, eczema sometimes takes the form simply of hardening and thickening of the skin, either in patches or covering the entire surface. There may be little or no desquamation, no moisture, papules, or vesicles, but only the thickened and leathery condition of the skin, generally accompanied with deep burning or itching. A heightened degree of this hard condition has been described under the name *eczema verrucosum*; in this a small circumscribed portion is hard and wart-like, with deep fissures or cracks.

4. *Eczema Fissum*.—This is also called *eczema rimosum* or *rhagadiforme*, the *eczema fendillé* of the French. It is closely allied to the preceding form, and dependent upon the infiltration; but sometimes, as upon the tips of the fingers, the thickening will not be very apparent, only the continued cracking of the skin, which may be quite deep and painful.

4. **Causes.**—The next class of names given to eczema relates to the supposed or actual causes of the eruption, and some of those more commonly used may be noticed: they relate to (1) *Constitutional*, and (2) *Local etiology*.

1. *Eczema Arthriticum*.—Gouty eczema is charac-

terized by a more intense redness and itching, and may take any of the preceding forms, except perhaps that of the pustular variety. It is not necessary that there should be any acute manifestations of gout, but only those of what is known as the "gouty state," described elsewhere.

2. *Eczema Neuroticum*.—Certain cases exhibit neurotic symptoms so markedly that this term is properly applied to them. The eruption may be erythematous, but is generally papular or vesicular, and itching is an especially distressing feature.

3. *Eczema Strumosum*.—This term has been applied to the eruption occurring in scrofulous subjects. It is characterized by a greater tendency to pus production and a lesser tendency to itching. These cases are sometimes remarkable in their ready yielding to cod liver oil given internally in free doses.

4. *Eczema Hereditarium*.—This term is sometimes used to express the supposed, or real, inherited character of eruption, and has little significance; as the nature of the eruption is not in any way different from that seen in those without such an influence. *Infantile eczema* will be especially treated of in a special chapter, as there are peculiarities in regard to its etiology and therapeutics which require special attention.

A number of names have been given to eczema to designate local causation, which need not be dwelt upon here. Some of those still in most common use

are *varicose*, *traumatic*, *artificial*, and *parasitic eczema*. The last name has been applied to those eruptions which exhibit a sharply defined border, in which, as explained in the preceding chapter, it is quite possible that the ordinary saprophytic microorganisms, found abundantly on the healthy skin may, under the changed conditions of nutrition, find a congenial soil for other development, and so contribute to the peculiar features of the eruption. To this last class belongs seborrhœic eczema, regarding whose claims to a distinct, specific parasite there is still much discussion.

5. Location.—Most of the names belonging to this class are readily understandable, and may be employed for convenience; they do not indicate anything in regard to the nature or condition of the eruption.

6. Miscellaneous.—The terms belonging to the last class are rapidly passing into disuse, and few, if any of them, are now used scientifically.

It is seen, then, that there is not much need to burden the subject of eczema with many names, although some of them may be of value at times to indicate features of the eruption. The disease is one and the same in every instance, and the main point is to recognize the difference between its acute, sub-acute, and chronic phases, and to acquire a knowledge of the therapeutic indications belonging to the same.

CHAPTER VI

DIAGNOSIS OF ECZEMA—PROGNOSIS

ECZEMA may resemble and be mistaken for very many other diseases of the skin, and a correct diagnosis in every case is a feat of no slight difficulty to those unaccustomed to dermatological practice; its protean appearances resemble now one and then another cutaneous lesion, in a manner often very puzzling. It should be observed, however, that probably more errors occur in supposing cases to be eczema which are not this eruption than in failing to recognize the disease when present. Although eczema is by far the most common of all affections of the skin, unless it be acne, and, as has been shown, constitutes about one third of all cases in statistics, still the other two thirds of the cases are made up of so many different varieties of skin disorders that the practitioner finds himself far more prone to regard some other eruption as eczema than he is to call a case of real eczema by another name.

While many cases of eczema are readily recognized when there is familiarity with its symptoms, as already

detailed, in certain instances the diagnosis may be difficult, and it is necessary to make it by the exclusion of other skin lesions which resemble it. On going over the subject I find no less than twenty-seven other eruptions which may be liable to be mistaken for eczema, and most if not all of which I have known to be so confounded, even by physicians: these will be mentioned briefly in alphabetical order.*

1. Acne.—The rosaceous form of acne, with small, hard papules on an erythematous base, seated especially about the cheeks and chin, sometimes resembles eczema. But, as a rule, a sebaceous element can be discovered in the former; moreover, the itching, which is very annoying in eczema of this region, is almost, if not entirely absent in acne, or is replaced by a burning, or by pain in the spots when pressed. There should be no difficulty in regard to ordinary acne simplex, in which the pustules and comedones are a marked feature.

2. Dermatitis.—Simple inflammation of the skin, as from heat, poisoning, etc., is often quite indistinguishable from acute eczema, for a while; but the history of the case, the ready subsidence of the eruption on the removal of the cause and with proper treatment, and the absence of exudation, infiltration, and itching later on, should distinguish between the

* For fuller descriptions of these diseases, see *Manual of Skin Diseases*, by author.

two. A dermatitis may be the starting-point of a true eczema.

3. Dermatitis Exfoliativa.—This may be confounded with a more or less general erythematous eczema. But in the former there is a more shining and vivid redness of the skin, the epidermal layer is killed, and soon begins to peel off in larger or smaller masses, beneath which the surface is of a purplish-red hue. There are heat and burning rather than itching, and never any moisture.

4. Dermatitis Herpetiformis.—Many cases of the papular and small vesicular form of this eruption were formerly classed as eczema, and in some instances it is difficult to differentiate the two. But there is always a grouping of the lesions of this disease, often with the occurrence of larger blebs, which should suggest the diagnosis. Dermatitis herpetiformis itches as furiously as does eczema, but has no tendency to form the moist patches seen when the latter is scratched; it is very apt to recur again and again.

5. Epithelioma.—Well marked cases of this affection, with hard, everted edges and ulcerated base, should never suggest eczema, but I have seen a number of very mild cases, early in their development, which had always been regarded as eczema by their physicians. These are characterized by a superficial degeneration of the outer layers of the skin, which dry down into a thin, scaly crust, and when this is

removed by scratching, a slightly moist and bleeding surface remains, which is soon covered with a similar thin crust, to be again picked off. The very localized character of the lesion, and its sharp border, as contrasted with the fading border of eczema, should distinguish the two. About the nipple there is a superficial form of epithelial degeneration, known as *Paget's disease*, which often very closely resembles eczema in this region, as will be noticed in a later chapter.

6. Erysipelas.—Acute erythematous or vesicular eczema, especially on the face, may sometimes suggest erysipelas very strongly. There are, however, fever and constitutional disturbances with the latter, and a more fiery red, shining, and tense surface, with burning pain, rather than the itching of eczema. Chronic erythematous eczema is sometimes wrongly called "*chronic erysipelas*," which is, of course, a misnomer: the itching, thickening, and continued scaling should differentiate the eczema.

7. Erythema.—The several forms of erythema need not be confounded with eczema, if due regard is paid to their proper features. *Erythema simplex* is a hyperæmic affection, generally transient, and lacks the itching, thickening, and many of the features of eczema. *Erythema intertrigo* may be severe and simulate eczema, in the folds, but is more superficial, and with rawness and burning rather than with the itching and exudation stiffening linen, belonging

to eczema. *Erythema multiforme* has its characteristics in its symmetry, larger, flat or raised, solid or bullous lesions, quite different from those of eczema.

8. Herpes.—Imperfectly developed patches of zoster or febrile herpes sometimes resemble eczema considerably, but well marked cases should never be thus mistaken. The vesicles of herpes are more flat than those of eczema, and are usually grouped together quite differently from the irregular manner in which the lesions of eczema generally appear; and the parts are more painful, even acutely sensitive. The vesicles of herpes are more persistent than those of eczema, and often dry down without rupturing.

9. Impetigo and Impetigo contagiosa.—Many of the cases formerly called impetigo are now recognized to be pustular eczema, but others are to be distinguished from it. In true *impetigo* the lesions tend to remain isolated and not to run into exuding and crusted patches, as in impetiginous eczema. The lesions of *impetigo contagiosa* are flat, superficial, and soon dry into papery crusts; they are scattered, often on the hands and face, and commonly there is a history of contagion.

10. Lichen.—*Lichen simplex* and papular eczema are often so nearly alike as almost to defy differentiation, in some cases: in general the papules of lichen tend to occupy the extensor surfaces, eczema the flexors; lichen papules are generally grouped, those of eczema indiscriminately scattered; lichen remains

dry and plastic throughout, even when scratched, eczema exudes or presents thickened skin at some time during its course. *Lichen planus* should always be distinguished from eczema by its pink, shining papules, flat on top, with slightly depressed centres, while the papules of eczema are pointed and bright red. The lesions of lichen planus may become grouped in large patches, but generally separate papules can still be distinguished around. The papules of lichen planus remain as such during their entire course, those of eczema often run into other lesions. Both lichen and eczema itch. *Lichen ruber* is a very rare disease, in which the papules are sharply acuminate, and covered with minute scales, and without the itching which would accompany eczema.

II. Lupus.—There is little reason for this disease being ever mistaken for eczema, but I have seen it happen on a number of occasions. When *lupus vulgaris* has traversed a large area leaving a red and scaly surface, eczema might be suspected; but in such a case the separate, soft, pulpy tubercles, which will be found on the edge of the disease, or perhaps on its surface, should establish the diagnosis. *Lupus erythematosus*, if it has considerable of the congestive element and little of the sebaceous, with a red surface, and moderate scaling, looks somewhat like erythematous eczema. But here the history, the presence of sebaceous plugs, and the absence of itching would exclude eczema.

12. Miliaria.—The fine, thickly set papules and vesicles of *prickly heat* are often very suggestive of acute eczema, and it may be difficult at first to determine between the two. But the former is a much more mild affection, with pricking and tingling sensations, less pronounced than the itching of eczema. The history of the case and the evidence of the involvement of the sweat glands will generally soon establish the correct diagnosis.

13. Mycosis Fungoides.—In the fully developed state of this rare eruption there would be no possibility of mistaking the tuberos masses, tending to ulceration, for any form of eczema. But in the earliest condition, known as the *pre-mycotic stage*, there occur slightly elevated patches of erythematous skin, with some itching, which may easily be regarded as eczematous. A little observation, however, will show them to remain in their original condition, without crusting or scaling, and their multiple character and more or less general distribution, with a gradual tendency to develop the raised, tuberos masses upon them, distinguish them plainly from eczema.

14. Pemphigus.—The large isolated bullæ of pemphigus would never be confounded with eczema, but when these are ruptured a raw or crusted surface may result which suggests impetiginous eczema. *Pemphigus foliaceus* is characterized by large, flaky exfoliations of epidermis, and a raw, tender surface, suggestive of eczema; but the latter does not exude

as does an eczematous patch, and the itching and thickening of eczema are absent.

15. Phthiriasis.—The possibility of the existence of *pediculosis* should never be overlooked, even in the highest walks of society, and one of the forms of lice may often cause an itching and an eruption which can readily be mistaken for eczema; and if the true cause of the trouble is overlooked treatment is unsatisfactory. An itching eruption at the back of the scalp, especially in females, should always excite suspicion, and a careful search be made for the nits on the hair. On the pubes the crab louse will often escape detection, unless most carefully searched for, while the results of the scratching may closely simulate eczema. Upon the body there are generally long scratch marks on the back, when body lice are present, and even with much irritation there will not be the exudative patches of eczema. When this is suspected the folds of the clothing should always be closely examined for the insects or their nits.

16. Pityriasis Rosea.—The slightly scaly, erythematous blotches of this eruption should not be mistaken for eczema; there is little tendency to itch, no inflammation, and never any exudation.

17. Pityriasis Rubra.—This very rare disease has quite thin, papery scales, with intense redness, but not the infiltration or itching belonging to eczema, and never any moisture. The slow, progressive character of the disease, with its general symptoms of

exhaustion, and the serious involvement of the nails, are sufficient to distinguish it.

18. Pompholyx.—This affection of the hands and feet, known also as *cheiro-pompholyx*, and *dysidrosis*, has small, pearly, or sago-like vesicles on and between the fingers and toes, also by the sides of the ankles, which resemble greatly those of eczema, and considerable discussion has arisen in regard to the true nature of some of the cases thus reported. The lines between this and eczema are not always sharply defined. In the main, however, the vesicles or bullæ of pompholyx tend to remain discrete and to dry up soon, whereas the lesions of eczema continue to develop and rupture, and are attended with more inflammatory signs; both affections may burn and itch greatly. An eczema will almost always appear elsewhere as well, or there will be a history which will clear up the diagnosis.

19. Prurigo.—True prurigo is characterized by shotty papules, pale red, or of the color of the normal skin, unless scratched, occurring first or principally on the legs, attended with itching and the subsequent development of more or less enlargement of the inguinal glands; it is a very rare affection in this country, and should not be confounded with eczema. With some the term prurigo has had a wider significance, and some of the cases so described are difficult if not impossible to distinguish from papular eczema. But the tendency to exude, even in papular

eczema, the predilection of the eruption for the flexor surfaces, in place of the extensors, as in prurigo, and the sharply inflammatory character of the papules of eczema are sufficient to characterize it.

20. Pruritus.—Many cases of eczema of the anus and genitals are erroneously called *prurigo* or *pruritus* of these parts. Pruritus or itching is an accompaniment of many skin affections, and also exists independently as a neurosis, and the attendant scratching will often give rise to abrasions of the skin, which may also be mistaken for eczema. In pruritus there should be no papules or vesicles, no red or raw surface, and no thickening of the skin.

With the advent of cold weather it is common to have what is known as *pruritus hiemalis*, which may be accompanied by marks of much scratching. The absence of the signs of eczema, together with the paroxysmal character of the itching, chiefly about the back, outside of the thighs, calves, and arms, especially on undressing at night, are sufficient to distinguish it from eczema.

21. Psoriasis.—A typical case of psoriasis with its separate, round, slightly raised, red patches covered with silvery scales, easily scraped off, together with the delicate pellicle beneath, and the bleeding corium under this, need never be confounded with eczema. When, however, the silvery scales have fallen, or have been removed by treatment, and a red surface is presented, especially if the eruption has

run together, forming patches of some size, or in some of the other conditions under which it appears, the eruption may resemble eczema.

But respect should always be had to the history, which makes psoriasis a dry disease, generally without itching, with a uniform eruption; eczema is polymorphous. Eczema attacks the flexor surfaces by preference, psoriasis the extensors. Upon the scalp the diagnosis is sometimes difficult, but psoriasis may be recognized by the greater dryness of the scales, and by the separate, well defined patches, with healthy tissue between. In general, the lesions of psoriasis are sharply outlined, with rather a tendency to clear in the centre; those of eczema shade off gradually into healthy skin, and tend to disappear from the margin, and never clear first in the centre.

22. Scabies.—Especially in the easier walks of society, in private practice, this is very liable to be mistaken for eczema, and cases continually occur where scabies has lasted a long time unrecognized, the treatment for eczema having sufficed to keep it partially in check. The lesions of scabies attack the usual localities for eczema, and they may also be multiform, papules, vesicles, pustules, and crusts, indeed all the results of inflammation can be present, together with itching. But scabies has one lesion which eczema cannot have, namely, the little dark or even black *cuniculus*, or burrow made by the insect, of which one or several may often be discovered on

very close examination; these appear like bits of dark sewing silk, run beneath the skin, terminating in a papule or vesicle. There is also generally a history of contagion in scabies. Scabies commonly appears first on the hands, especially on the spaces between the fingers and on the wrists. The penis, region of the nipple, front edge of the axillæ, elbows, and buttocks are common places for the lesions of scabies.

The itching of scabies is much more bearable than that of eczema. In over-treated cases of scabies there may develop an artificial dermatitis which is difficult to distinguish from eczema.

23. Seborrhœa.—Confusion of eczema with this eruption is most liable to occur on the scalp, and indeed in many cases there is a combination of the two processes, forming the *seborrhœic eczema*, described elsewhere. In simple seborrhœa the scales are smaller, more abundant, and more greasy than in eczema. Where the latter condition exists there is generally some redness and thickening, while in seborrhœa the surface of the scalp is of a paler or leaden hue. Upon the face a crusted seborrhœa may sometimes suggest an eczema; but on examination the crusts are found not to be composed of inflammatory exudate, but are greasy, and the surface beneath is not raw or thickened, and there is little if any itching.

24. Sycosis.—The diagnosis between pustular

eczema of the bearded face and true or non-parasitic sycosis is sometimes very difficult. But the latter being a peri-folliculitis, originating around the deepest part of the hair, it follows that when the pus has travelled along the root and has formed a pustule, it has already separated the hair from its attachments, and the hair may be extracted without pain. The pustule of eczema, which may also be penetrated by a hair, originates superficially in the papular region, and need not have loosened the hair in forming the pustule; hence in a pustule of eczema in the hairy parts, there is generally much pain on handling or extracting the hair. Eczema, further, is characterized by more or less inflammatory action between the pustules, and many papules may also be found. Moreover, an eczematous patch will often extend out beyond parts supplied with hair, whereas true folliculitis barbæ, or sycosis, is by its nature limited to parts bearing large hairs. In sycosis we have deep stinging or pain in place of the itching of eczema. The diagnosis of eczema from parasitic sycosis, or *tinea trichophytina barbæ*, will be considered in connection with that of ringworm.

25. Syphilis.—There are not many lesions of syphilis which should be mistaken for eczema, but with some of them this may occur; but if true regard is had to the clinical history of both diseases, and search is made for concomitant symptoms, error can be avoided.

The lesion which may most often be thus mistaken is a vesiculo-pustular syphiloderm on the scalp, to which the name of syphilitic eczema is sometimes wrongly given. This is composed of small raw patches, with moderately adherent crusts. Close examination will show that these are generally ulcerating, and frequently some of them will have already partially or wholly healed, leaving a cicatrix, which does not occur in eczema.

Syphilis of the palm or soles may sometimes resemble eczema very closely. But in syphilis the patches of hard, scaly eruption are composed of a number of points, papules or tubercules, almost always arranged in circular or crescentic form around the margin, which will thus be irregular or wavy; the edge is consequently pretty sharply defined, and somewhat raised. Chronic eczema of the palm and sole is generally not thus sharply cut, but tends to fade off into the healthy surface. This eruption of syphilis may have deep fissures, like those of eczema, and there may be considerable itching.

Ulceration of the leg from syphilis is often mistaken for that accompanying varicose eczema, and the dark staining often left by eczema and ulcers in this locality may strongly suggest the conventional "coppery" color so often looked for in syphilis. Eczematous ulcerations are more common in the lower front portion, those of syphilis higher up, and often on the calf. Both may be very painful, but

those of syphilis are generally worse at night, while eczematous ulceration is worse when standing, with an aching, tired feeling. Eczematous ulcerations are apt to be very inflammatory, with edges rather everted and hard; those of syphilis are generally smaller, round, with sharply cut, often undermined edges and an indolent base. The odor from syphilitic ulcerations is often most fœtid.

Infantile syphilis will sometimes present lesions resembling eczema, especially about the mouth and genital region. Around the mouth there may occur a dry, parched condition, somewhat scaly and of a brawny red, which may become moist. But close inspection will show that this is composed of separate, large, flat papules, or groups of papules, run together in circular form, and when compared with an eruption of real eczema, they appear very different. Around the anus and genitals of syphilitic children there may be quite extensive, red, raw patches, which are, indeed, a combination of mucous patches and intertrigo.

In all these or other lesions of syphilis which might be mistaken for eczema, a sufficiently careful investigation will discover some other signs indicating the disease, while many of the indications of eczema are absent, especially the itching.

26. Tinea.—The various forms of vegetable parasitic disease may at times be mistaken for eczema, but an examination of scrapings by the microscope,

revealing the parasites, could determine the diagnosis of the former.

Tinea favosa, or favus, when it has the characteristic yellow, cup-shaped crusts should never be mistaken for eczema; but in a half-cured, scaly state, with a reddened surface, it may resemble a squamous eczema capitis. Generally, however, there will be some of the superficial, cicatrized patches, devoid of hair, and if there is any doubt the withdrawal of all local applications would allow a favus to develop its cups, recognizable by the eye and the microscope.

Tinea trichophytina, or ringworm in its various forms, when characteristically developed, has little resemblance to eczema, but under some conditions the diagnosis may give trouble. On the scalp, when the typical circular patches have coalesced, and there is a diffused eruption, a squamous eczema may be suspected. But examination with a lens will show stubbed and broken hairs in the former, and there will be an absence of the thickening and itching of eczema. On the body the circular patches of ringworm, sharply cut and tending to clear in the centre, are very characteristic of the parasitic eruption. Upon the bearded face ringworm, or "barber's itch," may be confounded with eczema when the disease has run some time and its characteristic features are masked. But there will be a history of spreading from a single point or points, as in other forms of ringworm, and often a red, slightly raised,

and scaly border of the extending ring can be discovered; the hairs are lustreless and often broken off. The so-called *eczema marginatum*, which is really a ringworm of the genital and other moist regions, requires very careful differentiation from eczema of these parts, in order to secure successful treatment. Both affections present a red, raw surface, with tendency to spread centrifugally. But in *eczema marginatum* there is an advancing line slightly elevated at or near the margin of the eruption, which is more red than the adjoining surface, whereas in eczema the margin is much more indefinite, shading out into the healthy tissue. In the parasitic eruption there is a tendency to clear or heal in the centre, while in eczema the inner portions are worse, and the healing is rather from the edge.

Tinea versicolor.—This eruption, when perfectly developed, with tawny brown, slightly scaly patches, mainly on the chest, should not be confounded with any of the phases of eczema. Occasionally, however, there is considerable redness, especially if there has been much sweating and with harsh underclothing, and the patches may simulate an erythematous eczema. But a light furfuraceous scaling can generally be made out, and the sharply defined lesions differ decidedly from those of eczema; if there is any itching it is slight. Moreover, if there is any doubt, a few of the scrapings, placed in equal parts of liquor potassæ and glycerin, will show the characteristic

grouped masses of the parasite, even with a relatively low power of the microscope.

27. Urticaria.—The sudden development of the flat, slightly elevated wheals of urticaria, their rapid disappearance, and the total absence of any moisture or infiltration, even when scratched, should easily exclude ordinary cases of this eruption. But there is a variety, especially seen in children, named *urticaria papulosa*, known also as lichen urticatus, which often resembles papular eczema. This exhibits scratched papules, which often remain some time after the subsidence of the wheal, and frequently appear to constitute the main eruption. But the history of suddenly developing blotches will always be given, and generally a slight erythematous halo, left by the wheal, may be seen around most of the papules. It is not very uncommon for urticaria to develop with or subsequent to an eczema; remembering well the characteristics of the two, they should be easily differentiated.

From what has preceded it will be seen that this polymorphous disease eczema may at times resemble most of the eruptions which are common, and some which are rare, and that there is no one single pathognomonic sign or symptom by means of which it can always be immediately diagnosticated. But we have also seen that there are features which characterize each and every eruption with which

eczema can be confounded, which, if they are well and carefully attended to, will render the difference clear. It will thus be learned that eczema, in many cases, must be recognized not only by its own proper symptoms, but also by the exclusion of other affections which the particular case may resemble.

It will be noticed that little mention has been made of the vesicle in eczema, which accords with what has been said in previous chapters. Older writers classed eczema as a vesicular eruption, which perhaps it is, in its most fully and perfectly developed typical form. This vesicular idea of eczema has become so impressed in the professional mind, that one constantly sees physicians searching for vesicles as an evidence of the eczematous nature of an eruption. This view of the essential character of the eruption of eczema has been and will be the cause of innumerable mistakes in diagnosis, if persisted in, for very many cases never present a perfect or typical vesicle from their beginning to their termination; if vesicles do occur they may be very short-lived. Among a hundred cases of acute and chronic eczema, as they are first presented for treatment, it may be safely asserted that not ten cases, if indeed five, would present a single well marked vesicle.

PROGNOSIS

The prognosis of eczema depends on so many different elements, that it is difficult to speak at once

positively in regard to any particular case. It may be stated, however, unreservedly, that eczema is a curable disease, and that proper care and knowledge on the part of the physician, and obedience on the part of the patient can succeed in entirely curing it.

The expression "curable disease" is used intelligently and intentionally, for there is little or no tendency in eczema to a spontaneous cure; its natural course is to persist indefinitely until the right thing is done, and even to defy what seems proper treatment in many cases.

But there are few diseases which demonstrate, on the other hand, the controlling power of rightly directed management more perfectly and satisfactorily than eczema, and in a manner about which there can be no doubt. An eruption which has made itself painfully manifest for months or years is arrested by the measures advised, and after a period ceases to exist; there can be no question about cause and effect in such a case.

While, however, eczema as a disease can be successfully managed, individual cases may and constantly do give much trouble; so many elements are concerned in the cure of eczema, relating to the antecedents, constitution, habits, diet, mode of life, occupation, etc., that, as before stated, the prognosis in regard to individual cases must often be guarded. If the right measures are employed and consistently

followed, the disease can be and is removed, as a rule, although sometimes it is a matter of months or years.

It will be understood that in these remarks upon prognosis reference is not made simply to removing the local eruption present, which indeed may often prove a troublesome task ; it also relates to breaking up the state or disposition underlying this, so that when the local lesion is removed the skin remains free.

But, undoubtedly, many cases are not thus cured, even when very careful management is directed, because it so often happens that for some reason or other the precise rules are not, or cannot be, executed to the letter. For the successful management of the disease, every detail, both those relating to local treatment, and also to hygienic, dietetic, and constitutional measures, must be minutely carried out, and often for some considerable time even after the skin lesion has disappeared.

It will be seen, therefore, that the prognosis depends very greatly upon the treatment, and this again often far more upon the patient than upon the physician. The cure of an obstinate eczema may sometimes involve a very radical change in the life and surroundings of the individual, and his occupation. Finally, the prognosis of eczema may depend upon results of treatment of other organs, as when the eruption is dependent upon sexual disease, or when

rebellious dyspepsia keeps up eczema of the hands or face, or profound nervous depression is the underlying cause.

To give a prognosis in eczema, therefore, the *patient* needs to be studied and understood, and, as may be judged, may require very varied treatment; when treated empirically with arsenic and oxide of zinc ointment alone, the prognosis of eczema must naturally be unfavorable. Certain forms of eczema, however, differ very greatly in regard to their course and tendencies, and the prognosis is also influenced somewhat by the locality affected, as will be mentioned in later chapters.

In regard to the fear often expressed that some danger or harm may come from curing a long-standing eczema, I may state that in over thirty years' experience I have never personally met with such a case, although rare instances where this was claimed are recorded in literature. Rightly conducted, only good can result to the patient from the line of treatment most suitable for the eczema; one constantly hears the statement that the patient feels and appears better than for a long period before undergoing treatment.

Although eczema is rarely if ever fatal, by the long-continued irritation arising therefrom it may greatly exhaust the patient's health and strength and intercurrent disease may then destroy life. But, as stated elsewhere, this event certainly is not caused

by the disease "striking in"; such an occurrence is unknown to scientific or practical medicine. The cure of the disease in the most rapid and best manner affords the surest and quickest prospects of restoration to perfect health and strength of one afflicted with eczema.

CHAPTER VII

TREATMENT OF ECZEMA: CONSTITUTIONAL — LOCAL

FROM what has preceded it will be readily appreciated that the treatment of eczema must include both general measures, and those addressed to the local state present ; this latter we have seen to be one of inflammation, either acute or chronic. Errors in either direction may result in failure. The constitutional treatment relates to diet, hygiene, occupation, mode of life, climate, possibly the effect of mineral springs, and internal medication ; while local treatment includes the most varied applications, protective, soothing, astringent, and stimulating, according to the nature of the case.

Diet and hygiene, including occupation and the subjects of climate, mineral springs, and bathing will be reserved for a final chapter ; constitutional and local treatment will be here discussed with reference to their general relations, leaving special remedies and measures, and their application, to be detailed more particularly in connection with the various

forms and locations of the eruption, in subsequent chapters.

Constitutional Treatment.—The first fact to be remembered in the treatment of the disease is that there is not and never can be any specific for eczema; and, moreover, that there is no single remedy nor even any course or plan of treatment which will be effective in every case, nor yet in the same case under every circumstance. The disease is not always due to the same, well defined cause, and cannot always be cured or even benefited by the same remedy or measures, general or local. Arsenic is not a specific for eczema, as the practice of some would seem to intimate; indeed, in many cases it is useless and unnecessary, and in many others it does actual harm.

The next point to be recognized, as shown in previous chapters, is that eczema is a disease of lowered vitality, general and local, and that the aim of treatment is to restore vital tone to the system and to the integument affected. The means employed, therefore, should not be depressing, but the tendency of the entire treatment should be to raise the total grade of life action, from that of disease to health. This applies equally to the constitutional and local measures employed.

Caution, however, is here necessary against the improper use of tonic and stimulant remedies and measures, both internal and external; all are not

equally serviceable, nor is any particular one of value at all times. A fire may be choked by too large a supply even of good coal, or by improper material; and the removal of the ashes and a proper draft are quite as important to a bright fire as is good fuel. Arsenic, iron, cod-liver oil, quinine, alcohol, milk, beef-tea, most nourishing food, and outdoor exercise may all be of service in treating eczema, but may do harm if improperly used, and if the organs of digestion are out of order, and the processes of assimilation and disassimilation are deranged.

In the chapter on etiology, mention was made of a very large number of quite different elements, which experience has shown at times to be of importance in inducing eczema. Some or many of these may have to be considered in the treatment of individual cases. It is always necessary to consider well the constitution or condition of the patient and to grasp well the mode in which the functions of life are performed. Treatment may also vary greatly according as the subject is an infant, an adult, or an elderly person, and the sex is sometimes an important factor. The measures required may also differ greatly in one who is plethoric and one who is anæmic, in one who is strumous or another who is neurotic.

Acute eczema as a rule requires a light diet, mild cathartics, and alkalies; a moderate purgation for a day or two will generally be followed by some relief

to the full, tense feeling and a diminution in the cutaneous congestion. A commonly serviceable pill is one containing some blue mass and ipecac (Formula 43), or the compound cascarn tablets (Formula 45) answer well for more frequent use; for children calomel and soda serves best. We may also use with advantage a mixture of the sulphate of magnesia (Formula 29) after each meal, and for a slight laxative an additional dose half an hour before breakfast, in half a tumblerful of water or more, preferably hot.

For an alkali I prefer the acetate of potassium (Formula 22), and if there is inaction of the general surface of the skin and of the kidneys, I combine it with sweet spirits of nitre and spiritus Mindereri (Formula 23), and with a little aconite if there is febrile action. Where there is some dyspepsia with flatulence, a rhubarb and soda mixture alone, or with the addition of sulphate of magnesium or acetate of potassium, serves well (Formula 27). Arsenic is not of service in acute eczematous eruption, but generally does harm. When acute attacks or exacerbations occur during the course of a chronic eczema, it is well to suspend the use of arsenic, also of the more powerful tonics, iron, etc., and to give a laxative and cooling course.

In the more sub-acute and chronic phases of eczema the most varied and carefully regulated treatment will be required, according to the conditions existing

in each case. In other chapters reference has been made to assimilative, nutritive, and nervous debility, as existing, one or the other, in most eczema patients, and thought should be directed to rectifying this gouty, strumous, or neurotic state present, as the first step in treatment. Although malaria is not recognized as an active cause of eczema, the existence of it or its cachexia may act as a hindrance to cure, and require radical treatment; the same is true of the grip.

It must not be forgotten that the signs of systemic disease must often be sought for, or they may escape notice; the interest of patients is often so absorbed in the local lesion on the skin that it is sometimes difficult to induce them to give attention to anything else. Multitudes go through life in a chronic condition of ill-health, and never recognize it or give it thought until some special disease attracts attention to their personal condition. Many, of course, accept this "below-par" state as their normal one, but when careful, thorough, and systematic treatment has been instituted and carried out for an eczema, it is continually found that the general health and strength are better than for many years.

It is not necessary to enter into a consideration of the treatment of all the elements which may require to be cared for in handling a rebellious case of eczema, but there are some which call for special mention.

Constipation undoubtedly lies at the bottom of many cases of eczema. This may not be of an aggravated form, but a constant deficient excretion, or an irregular performance of the function, serves to induce changes and defects in metabolism, also with more or less auto-intoxication, which become a great factor in eczema; and unless they are rectified the disease is rebellious. It is not enough that casual inquiry be made as to the action of the bowels, and that general directions be given that the patient see to it that they are free. The matter must be carefully inquired into, not only on the first visit, but also on each subsequent occasion, for one occasionally finds great ignorance or stupidity among patients.

In many instances the action of the bowels is irregular or defective from neglect, and if the importance of securing a free movement every morning, directly after breakfast, is appreciated by the patient, and acted upon, much less medication will be necessary; this early evacuation of the bowels is often neglected by school children and business men, also greatly by women.

The subject of the proper treatment of habitual constipation is a large one and cannot be entered on fully here, but the matter should receive the most careful attention in order to get good results in eczema. It is not advisable to resort to enemata, for they serve only to convey away fæcal matter

already accumulated; and instead of aiding in the proper excretion from the whole intestinal tract, they do harm by covering up a failure in the action of the liver and other organs, and by supplying a liquid which should be furnished by the intestine itself. Nor is it desirable to depend on the habitual use of mineral waters, or such articles as Rochelle salts, etc.; such artificial stimulus to the intestinal tract in the end does harm. Careful study and the application of wise medical judgment and experience must be given to each case, and by diet and exercise, with occasional and proper medical aid, the accomplishment of the desired end must be secured.

In many instances the intestinal torpidity is only one expression of the generally relaxed condition, and under a correct tonic course of treatment the bowels will regain a normal tone. For overcoming habitual constipation, a pill of aloes and iron (Formula 44), used in diminishing numbers, as described in the chapter on eczema of the anus and genital region, will be found most effective.

The management of dyspepsia or the imperfect digestion accompanying eczema will occasionally give the greatest trouble, and in some cases almost every available method of treatment may be resorted to before complete relief is obtained. No precise rules or indications for treatment can be given in this general consideration of the subject, so different are the cases; suffice it to state that careful attention

must be paid to every particular, the diet being also regulated with the utmost care, not only with reference to its good or bad effect on eczema, but also in regard to its action on the digestive organs. As to medication, in one case alkalies are required (Formulæ 22, 25, 28), in another mineral acids (Formulæ 29, 30), or again some artificial digestive or a pure bitter; often many of them combined. Placing this feature of the case on a health footing is often the most important step toward the cure of a chronic eczema.

Urinary derangements should be looked for, as the state of this excretion is often the clearest indication of the state of the blood current and the manner in which the metabolism of the system is carried out. Errors here should be corrected in accordance with general medical rules.

When anæmia, debility, and the strumous state are found to exist, cod-liver oil and syrup of the lactophosphate of lime are of inestimable value in eczema; also the hypophosphites of lime, soda, and iron, and iodide of iron, together with extra nourishment, especially in the line of fats. But it must never be forgotten that there may be, and often is, assimilative disorder in strumous patients, which may require treatment in order to allow nutritive measures to act.

Patients exhibiting neurotic eczema also require much attention in the matter of the digestive functions, which are often greatly impaired. Not at all

infrequently what appears to be a neurasthenic case will be found to owe its neurotic symptoms almost, if not entirely, to imperfect digestion; in other cases they are due to simple anæmia, and iron, properly administered, will do more for them and the eczema than any one other remedy. I have found the very greatest value from the use of dialyzed iron, in full doses, sipped slowly during each meal, in a wineglass of water. All the known neurotic remedies, arsenic, strychnine, quinine, glyco-phosphate of lime and soda, and many more, may be required at one time or another in neurotic eczema, and electricity may sometimes be used with great advantage.

Arsenic and its preparations have long been held in high repute in the treatment of eczema and are undoubtedly of value in certain of these cases. When there is a repeated production of vesicular lesions, especially about the hands, its free use will prove most valuable. Fowler's solution is that most commonly used, but the liquor sodii arseniatis or the liquor arsenici chloridi will often seem to act more efficiently, and be less irritating to the stomach. In chronic cases it is best to combine it with other remedies (Formulæ 31, 32, 33).

Mercury in small doses is sometimes of great service as an alterative in chronic eczema, not only in cases presenting an old syphilitic history, but also in those in which this is not suspected.

Iodide of potassium is seldom of value, and is

often very harmful in eczema. Donovan's solution presents no advantages over extemporaneous combinations of arsenic, mercury, and iodine; it is very seldom employed by those who see much of eczema. Many more remedies will be spoken of in connection with the treatment of special forms of eczema, in later chapters, which need not be mentioned here.

Itching is often such a troublesome feature of eczema that the patient will cry loudly for relief from this symptom. It must always be borne in mind that the quickest, safest, and surest help is found in the correct general and local treatment of the case in question; and efforts to give much or permanent relief to the itching by special remedies, while the eruption remains the same, will generally result in failure, and often in harm to the patient and the eruption. Caution must therefore be exercised, both in regard to internal remedies and in the employment of the so-called anti-pruritic local applications; for one not infrequently sees eczema greatly irritated by the stronger and stronger applications which have been made in the attempt to relieve itching.

The remedies which can be employed internally for this purpose are relatively few in number, and, as already intimated, somewhat uncertain in their action. Morphia and opium are not infrequently prescribed in the hope of giving relief, but they are often worse than useless, only increasing the itching; if by their means the patient gets sleep, it is unrefreshing and

tormented by dreams, during which the sufferer is working at the affected parts. The least harmful preparation of opium is codeia, which may sometimes be prescribed with advantage. Belladonna is said to give some relief, but only in full doses, and should be used with caution. Chloral and bromide of potassium, alone or combined, are often of service for temporary relief, but should be used cautiously, as their depressant action harms the eczema in the end. The same may be said of trional, sulphonal, chloralamide, and many of the recently introduced hypnotics. In some cases, however, phenacetin in a ten-grain dose will secure a good sleep, the dose being repeated as occasion requires.

For many years I have employed the tincture of gelsemium, with satisfactory effect, in many cases, although it may fail. It is given every half hour, if necessary, in increasing doses; beginning with ten drops, five drops more are given in each dose. If no good or bad effects are produced, the doses may be increased the following night. The full effects of the drug are a sense of languor and tranquillity, slight dizziness, impairment of vision, and drooping of the eyelids; excessive quantity may cause unpleasant nervous sensations, but in using it over twenty years I have never known of any alarming symptoms; its action is rather beneficial to the eczema itself. Tincture of cannabis indica may be given in the same manner, but with caution. The

hydro-bromate of hyoscine $\frac{1}{100}$ to $\frac{1}{50}$ grain is sometimes effectual.

External Treatment.—It is in regard to the proper applications to be made to parts affected with eczema that the practitioner finds the greatest difficulty and in which, perhaps, the greatest number of errors are made. It is impossible to enter fully into details here, and special local applications suitable to particular parts will be described in connection with eczema of the various regions. Some general considerations, which are of the highest importance, may, however, be best treated of in this place.

The first point to be considered in determining upon a suitable local application is the *stage* or *condition* of the affected surface; for the measures which are applicable to acute eczema may be quite powerless in the chronic forms, while those which are serviceable in the chronic phases of the eruption may be, and generally are, highly injurious to the inflammatory condition of acute eczema.

By far the greatest number of errors, which are distressing to the patient and annoying to the physician, are in the direction of too stimulating or too irritating applications; and the great lesson to learn is to fully appreciate the intense irritability of the skin in acute, and often in sub-acute, eczema. A soothing plan of treatment must be adopted in the earlier stages of the disease; it is far better to err by not doing enough than it is to over-stimulate a part

already suffering from the effects of irritation. In the later stages quite different local treatment is required, and the aim is to stimulate or excite healthy, absorptive action in patches of chronic eczema, without, however, producing undue irritation. Just how these different results may be effected is often a puzzle, even to one who has seen more or less of the disease. The physician, therefore, must thoroughly grasp the conditions present, and understand the nature and action of the remedies to be applied, and use them accordingly; it never answers to employ any one remedy or measure in all conditions, simply because it has been reported valuable in eczema, upon however high authority.

First, it should be well borne in mind that both air and water are irritants to the surface bared of its normal epidermal covering by disease. Nature seeks continually to cover the exposed tissues; but the formation is imperfect, and the epidermal cells are cast off with the serous exudation, and dry to crusts and scales of varying thickness, but with no cohesion and no adaptability to the proper protection of the part. If now these are washed off, fresh exudate forms, unless just the right subsequent treatment causes the formation of healthier epidermal cells. Repeated washing is certainly injurious to eczema.

Various soaps have been lauded for this eruption, but it may safely be said that those who see the most of eczema seldom advise their use, except, as

will be mentioned later, when the green soap is used properly and scientifically. The soaps which are advertised as curative, whether they contain sulphur, tar, ichthyol, carbolic acid, etc., are all a delusion and a snare.

Water is sometimes, however, beneficial in treating eczema, but should be used carefully, and the part immediately covered with the proper dressing. Alkaline baths (Formulæ 1, 2, 4) are of value to improve the general action of the skin, as well as to affect chronic diseased surfaces; they are not often serviceable in acute conditions. It is generally better to add a pound or two of starch, or gelatin, or to soften the water by two pounds of oatmeal, or linseed meal, inclosed in a muslin bag and soaked and kneaded in the bath. Very hot water will sometimes give the greatest relief to itching, but to be effective it must be applied as hot as can be borne, and for a very brief period, a couple of minutes; after drying the part very gently the proper application is to be instantly made, as will be mentioned in later chapters. Sometimes very cold water will prove grateful, but is apt to be followed by a reaction, with increased suffering. In making a moist application to a part affected with eczema it is not wise to cover it with an impermeable dressing, as rubber tissue, for this only macerates the already weakened tissues, and does not facilitate the epidermal formation. For this reason poultices are seldom

used by those best acquainted with this branch, except in rare instances where they may be necessary to soften and remove a thick crust.

In regard to the applications of service in eczema it must be premised that some uncertainty attends the action of all local remedies, on account of individual differences in the skin; so that sometimes a measure which has proved of value in what appears to be a similar case will aggravate instead of benefiting an eruption.

To protect and soothe acute eczematous surfaces three forms of applications may be used: lotions, dusting powders, and ointments. In an acutely developing eczema, with much burning heat, a lotion, if properly applied, gives the greatest relief (Formulæ 5, 7, 9). This is applied by being well shaken and poured out into a saucer, or better into a china box or ointment jar, in which there is a bit of old handkerchief; sponges or absorbent cotton should not be used. With the cloth the fluid is sopped well over the affected part, so that the powder contained in it shall leave a coating; I generally have a second application made in ten minutes, and then not again for some time. When a part is particularly hot or itchy, the bit of thin handkerchief, well soaked in the lotion, may be laid on it, but it should not be warmly covered up. When too much of a coating has been formed, it may be gently bathed off with tepid water and bicarbonate of soda or borax

($\frac{3}{4}$ i– $\frac{3}{4}$ ii ad o i). At night it is well to use an ointment (Formulæ 52, 53), which should be spread thickly on the woolly side of lint, and bound on the part, on top of the adhering powder. Sometimes “liquor picis alkalinus” or ichthyol in water (Formulæ 15, 16) will aid greatly in reducing acute eczema, and may be applied alternately with one of the lotions.

Powders are also suitable for acute eczema, and buckwheat flour, freely dredged over the part, is very comfortable; rice flour and corn starch also serve well. Various mineral substances have been advocated, and sometimes serve a good purpose, such as talc, silicate and carbonate of magnesium, fullers’ earth, dolomite, etc., also various stearates.

Ointments are generally less acceptable in acute eczema than lotions, but, as stated, they are often desirable to use at night. They should be of the blandest character, and the oxide or oleate of zinc or bismuth sub-nitrate (Formulæ 52, 54) are still the standbys. The rose ointment of the Pharmacopœia, if well made, forms the very best excipient for the ointment; vaseline, cosmoline, and albolene are not as serviceable as was hoped; owing to their fluidity at the body temperature they do not hold the medicament in position and protect the surface sufficiently well. Lanolin is too sticky when used pure, but sometimes serves well added to other ointments.

In some of the sub-acute forms, very good results may be obtained with the pastes and pigments

(Formulæ 35, 38, 40) medicated to suit the especial requirements. When the trouble is not acute, these may be washed off and re-applied night and morning.

The local treatment of *chronic eczema* is quite another affair. In acute eczema the aim is to protect and soothe an irritable surface; in chronic eczema there is an infiltration of skin, with chronic dilatation of the blood-vessels of the part, and the mild, soothing measures just spoken of are almost powerless to affect these. Recourse must then be had to proper stimulation, followed by protective and absorptive measures.

Hebra, observing that when there is free secretion from the surface the itching of eczema is much diminished, made a bold dash in the way of local therapeutics and demonstrated the curability, by a stimulating treatment, of many cases of chronic eczema which had resisted milder measures. This plan consists in the application of such agents, and in such a manner, as will remove at once the imperfectly formed epithelial layers and cause an exudation. For this purpose he had patches of chronic eczema scrubbed energetically with soft potash soap, by means of flannel, and even with stiff brushes, to such a degree as possibly to cause the foam produced, by the addition of water, to be red with blood, as I have repeatedly witnessed in Vienna and in my service in the New York Skin and Cancer Hospital. Upon this raw surface thus occasioned, cold and wet compresses were laid and frequently changed, or the

diachylon ointment (Formula 58) spread on lint ; the stimulating process was repeated daily. In certain cases he produced the same effect with strong solutions of caustic potassa in water, certainly to the great relief of the itching and removal of the infiltration, as I have observed frequently.

Now while such severe treatment can be safely and satisfactorily administered by a master hand, much caution must be exercised by those less familiar with the disease. It serves, however, to indicate the direction which is to be taken in the cure of the more rebellious chronic patches, which will sometimes stand very considerable stimulation, if followed by a proper soothing ointment ; if rightly used the soapy application is not objected to by the patient, for it relieves the itching.

In sub-acute eczema, or in those with irritable skins, much difficulty will often be experienced in securing an ointment which will relieve the itching and not prove too irritating, and it is best to begin with those which are milder. Carbolic acid, creasote, camphor, menthol, tar, oil of cade, and ichthyol are mainly depended on for this purpose, and enter the composition of many of the most serviceable ointments (Formulæ 56, 57, 63, 69). To be effective they should be used freely and kept continuously upon the part ; when there is not much irritation it is well to rub them in somewhat, and then apply the same spread on the woolly side of lint, or on very thin

absorbent cotton, which should be then bandaged firmly to the part.

Various ready spread ointment and plaster muslins have been offered to the public, by manufacturing firms, and sometimes serve a very good purpose. Remedies may also be applied by means of some of the pigments (Formulæ 35, 38, 40), and also dissolved in flexible collodion or liquid gutta-percha; resorcin, ichthyol, salicylic and pyrogallic acids, chrysarobin, etc., all find their value in chronic conditions.

The details of the local treatment of eczema must be reserved for particular description in connection with the various manifestations of the disease in different localities, for these are so varied that no general directions can be given with profit. The main principles to be borne in mind relate to the acute and chronic character, the irritable or passive state or condition of the skin. In acute and irritable eruptions seek the mildest remedies, which can be increased in strength as necessity arises. In more chronic conditions, if stimulant measures are adopted they should be brisk and sharp, and time should be given for reaction to take place, under soothing applications. Prolonged or too frequent or inefficient stimulation may be harmful, whereas short, active, energetic stimulation, followed by proper reaction, results in restored activity to the deranged cells and to the circulation, and absorption of the exuded infiltration.

CHAPTER VIII

INFANTILE ECZEMA

ECZEMA, as it appears in young children, presents certain features as to causation and treatment which make it worthy of special study; and it is considered first, as exhibiting, perhaps, the most typical characters of the disease, and often those which are most difficult to manage satisfactorily. By infantile eczema is understood that appearing in children under five years of age, although a reference to the table in Chapter II. will show that in the vast majority of cases it is observed under three years of age. It will be seen there that, among 8000 cases of eczema, 1346 were observed during this first half decade of life; this is by far the largest number observed in any equal period, they forming almost seventeen per cent. of the entire number.

This proportion which I have recorded would undoubtedly be increased very largely, if all the cases of eczema occurring in a community were collected; or even if all the cases coming under the care of family physicians were tabulated, instead

of those taken from a consulting practice, where, in the main, the more severe and obstinate cases only are met with. In ordinary family practice eczema in young children would probably form somewhere near one half of all the skin cases met with.

Undoubtedly, however, in both classes of practice many cases are never treated at all, owing to the impression so prevalent among the laity, and even somewhat among the profession, that it is dangerous or useless to treat this disorder. The layman fears that some harm may come from the disease being "driven in," which fear the physician sometimes unconsciously fosters from ignorance, or oftener from carelessness and unwillingness to cope with the case. The little sufferer from eczema, therefore, is left to bear his trials unaided, under the hope that with each change in its physiological conditions the disease will pass away. Thus, the eruption being called "milk crust" during nursing, the assurance is given that it will disappear when the teeth are cut. When this stage is arrived at, and the condition is aggravated with each accession of a tooth, the eruption takes the name of "tooth rash," and it is expected that it will cease when certain teeth are developed. These come, and yet the disease continues, little being done to check or modify it, and so, by the long duration of the disease, and the causes which occasion it, the eczematous habit or diathesis is acquired, and the eruption may be

prolonged, in a chronic form, perhaps during the entire life. I have met with multitudes of cases which had lasted not only many months, but even one, two, four or more years. Indeed, I have seen a characteristic eczema, quite like "milk crust," which had remained on the head from infancy to twelve years of age. In another case, a gentleman of thirty-one years of age had had the same on the legs since the first year of life; and in still other instances the disease, which had begun in earliest infancy, had lasted from twenty to fifty years.

It is by no means denied that attacks of eczema in infants are often dependent upon faulty milk diet, and are also aggravated by the development and cutting of the teeth, but it is absolutely denied that eczema is a necessary result of either the partaking of milk or the irruption of teeth. It can be shown beyond doubt that the eruption always and invariably signifies an error of some kind which medical thought should avert, and that it is, like any other functional aberration from health, a condition of affairs which medical skill should remove.

It may also be clearly and definitely stated, that there is and can be absolutely no harm resulting from properly curing eczema in infants, any more than in adults. This statement is made not only from long experience with the disease but with a knowledge of the opinions of others able to judge in this matter. The eruption is the result of perverted

nutrition and assimilation, and the improvement of these can result in only good to the patient. The eruption cannot "strike in" or be "driven in," but it does sometimes lessen or even disappear when there is intercurrent disease, with fever, whether it is under treatment or not; the exact reason for this has never been satisfactorily explained, but all who know agree that it is not from metastasis.

Nor is it true that convulsions or an internal disease can result from the cure of an eczema; in not one of the more than thirteen hundred cases of infantile eczema here analyzed have any such results occurred, nor have I ever had occasion to regret successful treatment. On the contrary, exactly the opposite result has happened; namely, that former sufferers from eczema have gained in health and strength after the removal of their exhausting skin difficulty.

Infantile eczema presents certain features different from the phases of the disorder which are ordinarily seen in adult life; and these appear to be largely dependent upon the structure and quality of the skin in infants. After its prolonged intra-uterine maceration, it is exceedingly delicate and soft at birth, and is by no means as hard and tough as it becomes in after-life. Even during the first months or years of life the skin is still tender and sensitive, and hardly able to withstand the comparatively rough treatment of the external world and the

irritating agencies to which it is constantly exposed. Causes which in later life might be entirely inoperative here induce congestion and inflammation with the greatest ease, while the many disturbing influences of heat and cold, improper food and nervous excitement, continually tend to derange the equilibrium of the forces. The frequency of eczema in infancy is but a part of the frequency of all other diseases, with the added local causes of the exposure to constant outward irritation of a most delicate and complex structure.

When most severe, the eruption may occupy all or a greater portion of the body, but this is comparatively rare, and generally the disease is confined to the head and extremities. The cheeks are perhaps first affected more frequently than any other portion, and here it often lingers long after it has disappeared from every other locality. The eruption usually begins as a reddened patch of varying size, generally exhibiting papules. This is itchy, and is consequently rubbed and torn, and the affected area may increase with great rapidity; a serous exudation is soon poured out, which dries into crusts and scales, to be again torn off in the attempts to get relief from the itching.

It is not uncommon to have almost the entire face and head the seat of an acutely developed infantile eczema, which will vary in intensity from time to time. This, so-called *crusta lactea*, or "milk crust,"

may present either a reddened and moist, exuding surface, if it has been rubbed or torn, or, more commonly, accumulated scales or crusts, which may be yellow, or dark from blood, with, perhaps, torn places here and there. Upon the scalp these crusts may be of considerable thickness, matting the hair together; on forcible removal the surface is found moist beneath, and they quickly re-form.

The itching endured by the little sufferers, when the disease is at all severe, is sometimes terrible to witness. They continually seek to rub and tear the surface, and when prevented from doing so will cry in agony. Nor does night afford relief, for parents will frequently state that night after night, for weeks or months, the infant has had almost no rest, only falling off into a doze from time to time, to awaken in a few moments, tearing the surface. If the child, by physical restraint, is hindered from rubbing or scratching with the hands, it will seek in some other way to allay the intolerable distress of the itching, by friction against the pillow, or against the shoulder of its attendant, or its own shoulder.

Closely allied to or associated with eczema in infants and small children is the formation of cutaneous abscesses, especially about the scalp. These may be so large and numerous that a great portion of the head may be covered, either at once or by their successive development. They appear as masses of a purplish-red color, of various sizes and shapes, in

which fluctuation may soon be detected; the inflammation is generally of a low grade, and there is not nearly the pain connected with them which would be expected. When they have attained some size the skin over them becomes much thinned and they readily break, or are opened with comparatively little pain, and shrink down and heal quickly. The pus is found to be of a poor, grumous quality, often dark and mixed with blood. These abscesses are found in exhausted children, generally of a strumous habit, and are especially common in summer; as a rule they yield easily to the treatment of eczema to be described later.

The ears will sometimes be swollen, red, and moist, or crusted with eczema, but more commonly the eruption is located behind and beneath the ear, with fissures at the junction of the ear and scalp. The nose is generally spared from eruption externally, but within may have crusts which almost block up the nostril.

Eczema of the hands and arms, also of the feet and legs, is next most frequent; they are usually symmetrically affected. The appearances are much the same: torn papules and patches, tending to exude a serum which adheres to the dressing or clothing, and, when left exposed, dries into crusts. In the bend of the elbows and knees there may be cracks which interfere with movement.

In various places where two surfaces of skin touch

one another, as about the neck and abdomen of fat infants, in the axillæ, groins, and folds of the nates, we more commonly have an evenly red surface, generally moist, constituting an *eczema intertrigo*. Scales and crusts are seldom seen here, but there readily forms a soft, creamy or cheesy mass, composed of exfoliated epithelial cells and inflammatory exudation, often mingled with some powder which has been applied to heal the part. These raw, red, and moist patches sometimes come and go very quickly, and a part which is apparently healthy one day may on the next day present this appearance; it is surprising also how rapidly the diseased portions may return again to the normal state under exactly proper treatment. These surfaces which seem so raw do not, as a rule, occasion great distress from itching, but sometimes the pain from them, especially in the groin, may be very severe.

Eczema seldom becomes general in infants over the whole surface, but sometimes it extends from the extremities, and may present quite a diffuse papular eruption; but the clothing prevents scratching, and there is seldom much abrasion of skin, although there is evidently much suffering from the itching.

Etiology.—This is most interesting and a subject worthy of the closest consideration, for upon its appreciation rests all true therapeutic success. Each case must be studied carefully, upon broad medical

principles, and each case may require quite different treatment.

Sex appears to have but little influence in its production, although in our statistics males formed about fifty-five per cent., and a little larger proportion in private practice. Thus, of the 1346 cases, 747 were in males and 599 in females. Possibly this is due to the greater influence of sexual irritation in the male, from the adherent and contracted prepuce; my impression is that I have seen the eruption more often in Jewish female children than in the circumcised males.

Heredity has been shown in the preceding chapters to be of relatively little influence in the production of eczema; children are never born with the eruption. In but a very small proportion of the cases were the parents, one or both, the subjects of eczema, and conversely we see mothers and fathers with eczema whose infants entirely escape. It is true, however, that many parents with a strong eczema tendency often do have children thus affected, although they themselves may not have any eruption at the particular time when the child is seen. It is well, therefore, to treat the parent very assiduously, that the tissue tendency to the eruption may not be transmitted.

Eczema sometimes appears to be contagious, especially among small children, or when a nurse has it after attending a child affected. But in these

cases it is generally found either that the same influences are at work producing the disease, or that some other eruption has been mistaken for eczema. A certain amount of local inflammation may be produced however, in rare instances, in the same or another person, from prolonged contact with the secretion, especially in a pustular eczema; but this has to do with pus cocci, and not with eczema as a disease, which is not contagious in infants or adults.

The exanthemata do not play much part in the production of eczema in infants; by far the larger number have the eruption before suffering from measles or scarlatina, and I do not think it can be shown that any larger proportion of children who have had these diseases are affected with eczema than those who have not.

Vaccination is often charged as the cause of eczema, it being claimed that "bad pock" had been used. While it is true that the eruption will sometimes appear soon after the child has been vaccinated, either starting from the point of insertion of the virus, or elsewhere, there is no evidence to show that the disease is ever communicated in this manner. Multitudes are vaccinated with the same virus without any such result, and the concurrence must be looked upon as an accident; or at the most that the vaccination acted as an irritating local cause, starting up a skin irritation in one predisposed

thereto, just as might occur from any other irritating agent.

Local Causes.—These play a not inconsiderable part in starting and increasing the eruption of eczema in infants. Foremost must be placed scratching, which, if unchecked, perpetuates and increases the affected areas. An eruption which may be very slight in extent at first, will increase very rapidly under the unhindered use of the finger nails.

Eczema of the scalp is often started by efforts put forth to remove the sebaceous collections which sometimes form here upon infants and children, and from a very small spot of eczema thus begun the irritation may proceed to the formation of large eczematous tracts.

Exposure to cold appears to be frequently an exciting cause of the appearance of eczema upon the face of infants; many an attack will date from being out on a cold, raw day. The frequency of the eruption on the scalp is perhaps explained by the very warm head dressings used at one time, and the exposure of the head to drafts at another. Irritating diapers and harsh cleansing of the parts are constantly found to be sources of eczema; on the other hand, neglect of cleanliness of these regions and the irritation of excreta upon them will sometimes excite the eruption.

In many instances eczema will be kept up by

washing, and treatment will prove quite ineffectual until this is avoided. Not only will any kind of soap prove irritating, but plain water inflames the skin thus affected. When cleansing is necessary a weak solution of soda bicarbonate, or borax, or oatmeal water serves best. Pears' unscented glycerin soap answers well, and in some instances a tar soap is serviceable ; Castile soap is not desirable.

Internal Causes.—The fact cannot be denied that very many infants with eczema, perhaps the majority, look to be in perfect health, and to superficial observation may appear to be healthier than others in the family who have no eruption. They are not infrequently of a ruddy color, with a good appetite, and are said to have regular action of the bowels, and parents are with difficulty convinced that there is any error beyond the simple skin lesion. And yet I feel confident in affirming that exceedingly careful medical investigation will always discover something to be corrected besides the disorder of the skin ; certain it is that a very rigid investigation and regulation of the diet, mode of life, etc., together with appropriate aid from medication, accomplish for these little ones that which local treatment alone has often failed to do.

The effect of diet upon eczema, even upon nursing infants and small children, and the importance of giving the strictest attention to it, can hardly be overestimated. The subject will be very fully

presented in the chapter on the diet and hygiene of eczema.

Gastro-intestinal disturbance plays a very important part in connection with infantile eczema, but in many cases it may require some little attention to discover and rectify the error, while in other patients it is very evident. Among very many instances, where the matter has been inquired into, I have found that infants with eczema have generally been what is known as "dry babies," that is, they do not bring up or throw off the food; whereas I have seldom met a child who raised the milk much who was troubled in any degree, if at all, with eczema. I have also very frequently remarked that in a family of children all the "wet babies," who have rejected milk from the stomach, have been free from eczema, while others, nursing the same mother, who have retained all their food have suffered from the disease. The explanation is possibly found in the relief given to the system from the acid ejected from the stomach; perhaps also by the relief afforded to the organs of digestion by the rapid rejection of food which would otherwise be in excess, and thus lead to the imperfect carrying out of the processes of assimilation and disintegration of tissue.

Intestinal indigestion is the more commonly observed condition and need not be specially dwelt on here. It is manifested by various degrees of

constipation or diarrhœa, with altered bowel excretion and intestinal colic and wind.

Diagnosis.—This need not present great difficulties, as infants are liable to relatively few skin diseases.

Inherited Syphilis.—Sometimes the large, flat papules of inherited syphilis simulate eczema to a certain degree. But here the separate lesions can be demonstrated with a little care, and the syphilitic eruption is of a much darker, coppery-red color than that of eczema: the former is not attended with the thickening, itching, and exudation characteristic of eczema, and the scales, if any, are few and firmly attached. These lesions of infantile syphilis are far more apt to locate or concentrate about the mouth and nose, also about the anus and genital region; here there can almost always be made out something of a circular or horse-shoe arrangement of the elements: at the corners of the mouth the syphilitic eruption presents a certain pouting, which is characteristic, that is, the papules and tubercles are somewhat elevated, soggy, and apt to present fissures. Around the anus and genitals they are apt to be moist. Added to this, the existence of snuffles can almost always be discovered in the syphilitic infant, and a weazened, “old-man appearance” of the face; and, if syphilitic antecedents can be made out, there is altogether a picture presented which should not be confounded with eczema.

Scabies.—This is sometimes found even in very young infants, and may simulate eczema; and in them, as in others, the eruption generally appears first upon the hands and at the flexure of the wrist, likewise about the soles and ankles. The eruption in scabies is multiform, papules, vesicles, and even pustules, but there are not the even, exuding patches belonging to eczema; furthermore, a little careful searching will generally discover one or more of the characteristic *cuniculi*, or furrows of scabies. Very rarely will infants with scabies present any eruption on the face or scalp, and the itching is not at all as violent as in eczema. Contagion can generally be made out in infants with scabies.

Urticaria.—Infants are more or less subject to “hives,” and the papular form may suggest eczema; a large portion of the surface may be covered with scattered, scratched papules, with complaint of restlessness of the child, from itching. But there is always the history of the acute and sudden development of the large plaques or wheals belonging to urticaria, which also disappear rapidly, leaving a minute papule in the centre, around which there may often still be seen the slight, sharply defined blush, left by the receding wheal.

Small infants are very rarely affected with the vegetable parasitic eruptions, but *ringworm*, and even *favus*, may come during the later years of this period.

Prognosis.—The prognosis of infantile eczema is invariably good, provided that all the elements of treatment can be perfectly and intelligently carried out. Its cure is not only safe, but eminently proper and desirable. The duration of the treatment necessary can never be foretold exactly in any particular case; it must vary greatly with the severity of the disease, the condition of the patient, the surroundings of the case, and the intelligence and obedience of the guardians. Mild cases may sometimes be entirely cured within a few days or weeks; but in many instances, especially where the disease has already existed some time, the duration of treatment must be counted by weeks or months. In severe cases the child should be watched by its medical attendant, and its mode of life superintended, perhaps, even for years, in order to prevent relapses.

Treatment.—The diet and hygiene should always receive most careful attention, not only at the beginning of treatment but also repeatedly during the existence of eczema, for often proper care of these can accomplish more than medication. This is true not only of children fed on the bottle and otherwise, but also of nursing infants, as will be detailed in the special chapter on these subjects.

Internal Treatment.—The condition of the intestinal excretions should always be carefully investigated, and errors corrected. Constipation, imperfect, chalk-, or clay-colored, or dark, lumpy, fœtid, or

green and undigested, loose movements, should all receive their proper treatment.

In the beginning of treatment nothing that I know of suits so well to unload the bowels and to make an impression on eczema as calomel, in doses suited to the age and condition of the child. Under a year I generally give a grain, or a little less, with five of bicarbonate of soda, the dose being increased about half a grain for each additional year of life; these powders, freshly prepared, I much prefer to tablets. In chronic cases, even if there is not much intestinal torpidity, I frequently give these powders every other day for a while; and commonly direct them to be taken at ten o'clock in the morning, that the effects may be better watched and that they may not disturb the night's rest. Any irregularity of the bowels, and especially any tendency to pulmonary congestion, should be met by these powders.

Habitual constipation is sometimes very trying in these cases, and much ingenuity will often be required to overcome it, but it is essential that this should be done. I do not approve of injections, nor of soap, glycerin, or other suppositories, for they give only local relief to a loaded rectum and do not stimulate the liver and intestinal tract to action. I have had excellent results from the very free use of lacto-peptine after each meal.

For many cases of eczema in very young children a rhubarb and soda mixture (Formula 27) is most

valuable, the doses of the ingredients being varied according to the age and requirements of the case.

As in adults, so in infants and children, alkalies are often required, and are of great service in eczema. In nursing infants I frequently give the mother acetate of potassium, ten to fifteen grains three times daily, after eating, with *nux vomica* and quassia or other tonic (Formulæ 22, 28). Where there is a tendency to looseness with windy passages, an alkali may be advantageously administered to the child, combined with chalk mixture and a carminative (Formula 26). Lime water is also of service, and milk of magnesia. When there is a good deal of restlessness at night, and the skin is rather dry and hard, the acetate of potassium is of value, given to the child three or four times daily, in doses of from one to five grains with the liquor ammoniæ acetatis and nitre (Formula 23), and if there is much arterial excitement, a small dose of aconite is to be added. The extract or tincture of *viola tricolor*, with senna, is well spoken of in infantile eczema.

Besides alkalies, tonics should never be forgotten in infantile eczema. Many cases do better with cod-liver oil than with any other remedy; not only those exhibiting marked scrofulous symptoms, but frequently a fairly nourished infant will improve at once when put on this remedy. Iron is also often needed by these little ones, and with it some arsenic

(Formula 33); the syrup of the lacto-phosphate of lime is also very valuable.

Children bear arsenic remarkably well, and I have frequently seen eczema disappear under its use alone, in increasing doses, with little or no local treatment. It is well to dilute Fowler's solution with five times the amount of cinnamon water, and, beginning with five drops of this mixture after food, to increase by one drop daily, even until there is some diarrhœa, when the dose may be lessened.

No hard and fast lines can be laid down for the internal treatment of infantile eczema. Each case must be studied and measures adopted to raise the vitality to the highest point. In the ruddy-faced child, with an eczema, tending to give a dry, red surface, or perhaps exuding considerable serum when scratched, a full tonic course of treatment will certainly aggravate the complaint, especially if the child comes of gouty stock. In such a case depurative remedies and alkalies will be followed by an amelioration of the itching, a lessening of the cutaneous congestion and subsidence of the disease. On the other hand, the pale, strumous child, in whom the discharge tends to crust up into yellow masses, will be benefited at once by iron, arsenic, cod-liver oil, hypophosphites, etc. It is often necessary to combine both treatments, giving tonics and builders up of tissue at the same time that calomel and alkalies are used, conjointly or alternately.

In children as well as adults eczema is undoubtedly a disease of debility.

External Treatment.—To fully appreciate the necessity for care in regard to applications in infantile eczema, the physiological conditions of the child's skin, as previously alluded to, must constantly be borne in mind; its exceeding delicacy of structure and the very great proneness to inflammation which it shares in common with the other tissues of infant life, all call for caution in the treatment of it when diseased. The error most commonly made in this, as in other forms of eczema, is in the direction of too harsh treatment. The epithelial layer, whose function it is to receive the wear and tear of the external world, is diseased and often removed, and the inflamed parts below seek to protect themselves by the formation of scales and crusts, which but imperfectly represent the covering belonging to the perfect economy. The part of the medical man is to protect and soothe this inflamed surface, while at the same time the tissues are gently urged to healthy action.

Attention should always be paid to the employment of water by attendants, for, unless specific directions are given, there will pretty certainly be errors, which will materially hinder the cure. The child with eczema should not be freely bathed, as in health; I generally have the child wiped off, and that only as much as cleanliness actually demands.

If a bath is given, it should be medicated (Formula 1), from two to four teaspoonfuls of the powder being dissolved in each gallon of bath water, with double the amount of dry starch. This is used without soap, and on taking the child from the bath it is immediately dried with hot towels, without friction, and the proper medicament at once applied to affected parts, and the rest of the body dusted with lycopodium, talc, carbonate of magnesia, or rice powder. But even these medicated baths are not often desirable, if there is much diseased surface.

It is a common practice to wash surfaces affected with eczema, and I have often learned that previous medical attendants have directed that such be kept well washed and clean. This is a great error; the irritated skin pours out fresh exudate, and the deeper tissues are more and more infiltrated. My constant direction is that the eczematous part shall not have water touched to it until I so direct; and in many cases this is delayed for a considerable period of time. When it is permitted, very careful directions are given as to the method, and as to the *immediate* application of the suitable dressings.

Occasionally the mass of accumulated secretion becomes so great that an ointment does not penetrate it, and a single washing may be of the greatest value. It should then be done very moderately, with quite warm or hot water and a good soap, such as

Pears', or a tar soap. The process should be rapidly done, and the part dried quickly with hot towels, and the proper application made as speedily thereafter as possible, before the diseased surface has dried down and glazed over. When the crusts are very thick, as on the scalp, it is sometimes desirable to soak them well with cod-liver oil, whose value as a local application in eczema is by no means small; sweet almond, olive, and linseed oil answer very well.

Poultices are seldom called for, and their frequent use may act prejudicially. Occasionally they may be needed to soften and remove a greatly crusted mass, but this is very rare, and I can hardly recollect having advised them a dozen times in infantile eczema.

The experience both of the general and special medical profession has undoubtedly given to oxide of zinc ointment the palm for universality of use, and that, perhaps, rightly. But he is poorly able to treat infantile eczema who knows only oxide of zinc ointment, and that prepared as directed in the Pharmacopœia. The officinal ointment is compounded with benzoinated lard, with two drachms of oxide of zinc in the ounce. This I have repeatedly seen irritate tender skins, to which, if otherwise prepared, a zinc ointment was soothing. I never use lard in ointments if it can possibly be avoided, and prefer the unguentum aquæ rosæ,

which is made of almond oil, spermaceti, and white wax; the rose water is not essential, but helps preserve it, and plain water may take its place; and I always add a little (one or two per cent.) of carbolic acid, or some tincture of camphor (Formula 52). To be very good, the "cold cream" should be fresh, and not kept too long. The cucumber ointment, of older writers, is even more soothing. I seldom use zinc ointment as strong as directed in the Pharmacopœia, and thirty grains to the ounce is generally sufficient. The addition of calamine (Formula 53) often proves very serviceable.

Bismuth sub-nitrate (Formula 54) forms a very good ointment for infantile eczema, and is more astringent than the zinc; oleate of zinc is also very soothing.

To relieve the intense itching accompanying the disease we may, even in the more acute forms of infantile eczema, obtain most excellent results from the addition of tar to the ointment, care being taken that the proportion be not too great (Formula 56). Ichthyol is also a valuable antipruritic, and may be added to most ointments in a strength of from five to ten per cent. (Formula 63).

In the management of infantile eczema, as in all forms of the complaint, very different results are obtained according to the mode or manner in which applications are made to the diseased surfaces. In general, ointments should be spread upon the woolly

side of lint and bound firmly to the affected parts, especially if there is any tendency to exudation. More harm than good is often done by the careless way in which ointments are frequently applied. The dressing should be renewed occasionally, once or twice daily, but it is not wise to cleanse the surface, other than to gently wipe it, and instantly replace the dressing. The first application of any ointment may be resisted by the child, and may not seem to be effective; but, if a suitable application has been selected, relief will soon follow, and the child who first resisted will shortly crave the application. This matter of the constant protection, day and night, of eczematous surfaces from the irritating action of the air and external contact must be insisted on and carried out, at all hazards, with rigid severity. A single neglect, for even a short period, followed by scratching, can result in more damage than can be repaired by prolonged treatment. The quantity of ointment used should never be stinted, and it will often have to be ordered in large amounts.

Powders are not very suitable to infants and children with eczema, except as adjuvants, as when there is a more or less general papular eczema of the body. The great tendency to exudation in infantile eczema renders them powerless, and frequently when applied about the folds of the skin a paste will be formed with the irritating secretion, which will prove harmful. This can often be avoided

by laying a thin piece of handkerchief in the fold, it being either well dusted with the powder or spread with an ointment and folded over, so that each surface has the ointment directly in contact with it. The old-fashioned, popular method of scorching the cloth first has sometimes seemed to aid greatly. Many prepared dusting powders are on the market, most of which are harmless and serve a valuable purpose. Powdered talc, magnesium carbonate, and stearate of zinc are about the best among the mineral substances, and rice powder and lycopodium of vegetable substances. These may often be advantageously combined with salicylic acid, salol, etc. (Formulæ 47, 48).

Lotions are less applicable in infants than in adults, but there is no reason why in a diffused erythematous or papular eczema they should not be of service at times (Formulæ 5, 7). For the eczema intertrigo about the groins, the lotion of magnesia and zinc (Formula 9) often acts excellently. The liquor picis alkalinus (Formula 16), diluted twenty or more times with water, and bathed over the part before making other application, will sometimes afford the greatest relief to itching. Ichthyol in lotion (Formula 15), used in the same way, will also often prove very efficacious.

When eczema in infants has lost its very acute elements, or when under such treatment as has been mentioned it refuses to yield, more stimulating

measures may be employed; but these should be used with caution, and a soothing plan of treatment be returned to if necessary. The tar ointment previously mentioned (Formula 56) may be increased in strength, even up to equal quantities of the officinal ointment of tar with the rose ointment, and there may be added to it ichthyol, half a drachm to the ounce, or sulphur in the same quantity. The oil of cade or oil of birch is valuable in zinc ointment (Formula 57). Resorcin is not often called for in infantile eczema, but salicylic acid with ichthyol (Formula 63) is frequently very serviceable in more chronic patches. Lassar's paste (Formula 35) is a little strong for infants, but diluted one half or one third with equal parts of lanolin and cold cream, answers well. The compound ointment of acetate of lead and mercury (Formula 65) is used greatly in England in the treatment of eczema in children, and I have found it satisfactory, though it sometimes proves a little too strong. White precipitate ointment is often of great service, in proper strength (Formula 64), either alone or added to other ointments, when there is a pustular element. These stronger applications, employed in more chronic and rebellious patches, find their value in being rubbed into the skin, in addition to being applied upon lint.

The compound tincture of green soap, of Hebra (Formula 18), is sometimes of great value if carefully applied in the eczema of young children; it is often

well at first to dilute it with equal parts of water at the time of using, for with eczema one can never be sure even that a remedy which has proved serviceable in other cases will not irritate some particular skin. It is to be quickly and firmly rubbed on, with a cloth dampened in it, and the part then gently dried and a proper ointment immediately applied, laid on, spread on lint. It will often arrest the itching excellently.

A word should be added in regard to mechanical restraint, for this may be quite necessary to secure good results. Many devices are tried by parents, but often ineffectively, as the abraded surfaces will testify. Enveloping the hands aids some, as also tying them with tapes, so they cannot reach the face. Some one has suggested putting a splint on the arms, so that they cannot bend at the elbow, which is effective in a measure. One of the best methods is to envelop the child in a small pillow-case, which has had an opening made in the closed end for the head to protrude. It is then pulled down over the child, and the arms secured at the sides, within it, by means of stout safety-pins, one being also inserted between the legs, so that it cannot slip up. This is by no means a barbarous procedure ; I have used it in numberless instances to the great comfort of parents and child ; for the infant soon gets accustomed to it, and if proper treatment is employed the itching ceases and the parts heal.

It must be remembered that a good deal of the scratching which is practised in eczema is more or less automatic ; there is some irritation, and the hand goes involuntarily to the part, and the act of scratching increases the intensity of the itching, stimulating further action, until a greatly torn surface results. Many adult patients will say that if a little self-restraint is practised the itching passes off, under suitable treatment, and the part is spared the increased irritation and heals much sooner. As infants and children cannot exercise this self-restraint, others must aid them by mechanical means, if necessary.

In this chapter I have by no means exhausted all that could be said with advantage upon the subject of the management of infantile eczema, but I have endeavored to lay down the principles upon which the treatment of the disease must be based in order to be successful. In no class of cases is it so necessary to bear in mind the value of proper soothing treatment, and yet in certain instances where the eruption is chronic and rebellious, relatively strong applications can be used with advantage. Much that is said in other chapters is applicable also here.

It has been the aim likewise not only to furnish details in regard to the local management of the eruption in infants, but to impress the fact that we have to do, not with a local disease of the skin alone, but

with one intimately connected with and dependent upon other causes than outward irritation. To rightly cure infantile eczema, all the elements of the child's health must be studied and understood, and intelligent therapy will embrace not only the remedies and measures which may be appropriate to the skin manifestations present, but every element capable of having any effect upon the child's health and well-being. Especially must the matter of the food and nutrition be most carefully considered and regulated, as will be detailed in the chapter on Diet and Hygiene.

CHAPTER IX

ECZEMA OF THE FACE AND SCALP

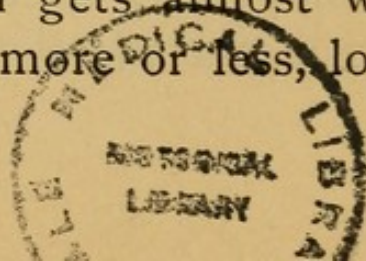
ECZEMA of the face and scalp often proves most troublesome and rebellious, and occasionally the eruption will yield on every other portion of the body and linger long here, seeming almost to defy complete cure; while not at all infrequently these parts are affected alone from first to last.

There are several reasons for the obstinacy of eczema in the regions under consideration, which it is well to bear in mind in the management of these cases. First, the eruption on the face is very commonly directly connected with dyspeptic conditions, often those which are very manifest and rebellious, but perhaps almost quite as frequently with those which are obscure and difficult to reach. In addition to the general systemic causes resulting from this indigestion, as dwelt upon in other chapters, there is a reflex nervous influence exerted directly from the digestive organs upon these parts, which seems to act very promptly and powerfully in augmenting eczema in this location. Eczema of the

face, as likewise that upon the hands, is also constantly seen to be remarkably affected by nervous conditions ; each excitement, depression, or exhaustion may be followed by fresh outbreaks, or by an aggravation of an existing eruption.

Another reason for the frequency and obstinacy of the eruption in this locality, especially upon the face, lies undoubtedly in the local irritants to which these surfaces are continually exposed.

The first of these to be considered is the irritation of motion, from the impossibility of keeping the parts at rest. Chronic eczema about the mouth is peculiarly rebellious, owing to the incessant movements occurring here, and the same applies to the eyelids and other parts. Another disadvantageous element is the readiness with which the eruption is reached for scratching or rubbing, and the almost irresistible tendency to touch it, with the occurrence of any uncomfortable feeling. Furthermore, there is considerable difficulty in making exactly the proper applications to this portion of the body, and of keeping them continually in position ; patients are often unwilling to keep dressings upon the parts until the disease is absolutely and entirely removed. Upon the bearded face and scalp the hair often prevents quite the proper application, and the heat and friction of the pillow often hinder much of the benefit. Thus the eruption gets almost well and, treatment being neglected more or less, local



influences again excite the disease to fresh development.

The local irritating agencies which operate especially on the face and scalp are many and varied. In addition to the harm from exposure to the air, when dressings are left off, and the accidental friction happening in many ways, we have the irritation resulting from changes of temperature and humidity, which, as can be easily understood, affect these exposed portions of the body much more readily and actively than those which are protected with clothing. It is not at all uncommon to see eczema of the face and ears very much worse after exposure to the sun, as when out boating or driving, or after a walk in a cutting or chilling wind; also after exposure to artificial heat, as over a fire, cooking, etc.

Water is far more apt to be applied to these parts, even when diseased, than to other portions of the body, and this is an element of irritation which the physician will frequently find most difficult to reach. The idea of not washing the face repeatedly is so repugnant to many that it is next to impossible to prevent much harm being thus done to the eruption, either without or with guarded permission.

Too frequent, severe, or prolonged cleansing of the scalp, either with the comb or brush, or by washing, may excite and also render very obstinate an eczema there, and I have seen many instances

where the main obstacle to cure was too great washing, even such as was directed by the physician.

Certain cases of eczema of the face, as well as of the hands, have their origin in poisoning by the *rhustoxicodendron*, poison ivy or oak, or other substances, and the impression on the tissues may continue for a great length of time; and further, there may occur fresh irritation with each returning season, and the eruption may be thus prolonged for years. I have known cases where even riding through a region thickly infested with the plant, during certain seasons, would cause great aggravation of an eczema which had lain dormant, perhaps, for months. I have also known irritation to occur from this cause in winter, from plants which had in some way become mixed with Christmas greens.

Other possible local irritants must be ever borne in mind, or these cases may prove rebellious even to the best measures. I have seen a hat-band, probably containing a poisonous dye, cause the eruption on the forehead, on several occasions. Irritating soap has repeatedly given rise to eczema of the face and hands; and in one instance where the eruption recurred repeatedly after shaving with a certain soap, the latter was found on microscopic examination to contain minute spiculæ of bone, and when its use was discontinued the eruption ceased. Too close shaving, a dull razor, bad after-treatment

of the skin, etc., can all prolong an eruption of eczema on the face.

Finally, the constant exposure of the face and scalp results in the lodgment upon the skin of much dust, and often of micro-organisms which are particularly obnoxious, if not in a measure actually causative of eruption. The scalp is the great harboring place of these saprophytic and pathologic elements, and Unna has shown that much of *seborrhæic eczema* has its starting-point from this locality.

It will be thus seen that there are abundant and good reasons for the frequency and obstinacy of the eruption in the locations under consideration, and the successful management of the disease involves attention to these and to others which may have escaped mention.

Diagnosis.—In many cases the diagnosis of eczema of the face and scalp is relatively easy, but occasionally it may present great difficulty. The appearances which the eruption may assume on these parts is most varied, and, to those unaccustomed to the disease, individual cases may appear so vastly different from each other that it would hardly be supposed that they were instances of the same affection.

All the lesions and forms of eczema may be seen on the face and scalp, although the erythematous and pustular conditions are more common in adults.

In order to make clear some of the diagnostic differences it will be well to consider eczema as it appears on different portions of the head.

Eczema of the Face.—Acute eczema may involve all the face, causing it to be greatly swollen, and even closing the eyes. The surface is of a brilliant red, often studded with minute papules or vesicles, and attended with intense burning and itching. There may also be localized patches of eczema of ordinary form, which exude and crust over, but there are seldom seen such conditions as occur in infants, because the surfaces are seldom as greatly torn by the scratching.

It is often extremely difficult, if not impossible, to distinguish acute eczema of the face from *dermatitis* caused by poison ivy, arnica, or other local agents; the lesions in the two may be practically identical, and only the history of the case and time can establish the diagnosis.

The more inflammatory and erythematous forms may be mistaken for *erysipelas*, but in the latter there are the constitutional symptoms, fever, etc.; and the sharper outline, with continually spreading of the erysipelatous inflammation, its deeper color, and the pain and burning, instead of itching, should distinguish it.

Some patches of sub-acute eczema of the face may in a measure resemble *ringworm*; but in this latter the lesions tend to be circular, sharply defined,

clearing in the centre, and the parasite may be discovered by the microscope.

Acute pustular eczema of the face often closely resembles *impetigo contagiosa*. In this latter the lesions are more discrete, sharply defined, often presenting a flat, pustular bleb, drying down into a yellowish crust, which is generally thin and papery; the process is also very superficial, and without any of the infiltrated, oozing surfaces of eczema, and with little if any itching.

About the nostrils and upper lip eczema is often raw and crusty, and can hardly be mistaken for any other condition.

Pustular eczema on hairy parts of the face is sometimes a very troublesome and rebellious disorder. In it we have a red, more or less thickened area, with pustules, each of which is generally penetrated by a hair; there may or may not be much itching. The eruption in this locality may be confounded with *parasitic sycosis* or ringworm, true or *non-parasitic sycosis*, *acne*, and *syphilis*; and it is very essential to establish the correct diagnosis, as the treatment of each is so different.

In differentiating eczema of hairy parts from *parasitic sycosis*, or "barber's itch," it is to be remembered that eczema is an inflammatory affection, and that the pustules are the result of the intensity of the inflammation, with the presence of pus cocci; in it we generally have considerable superficial redness,

swelling, and infiltration of the part, and more or less itching. In ringworm of the bearded face there is commonly the history of a development from one or more separate points, with a gradual, peripheral spreading in more or less circular form, and not at all infrequently the distinct line or margin of the ring can be seen, even where there are inflammatory and pustular lesions. In all doubtful cases scrapings and hairs should be placed in equal parts of liquor potassæ and glycerin and examined microscopically, when the masses and chains of spores will establish the diagnosis, if the disease is parasitic. When the tinea sycosis has resulted in greater inflammation there are boggy elevations formed, uneven on the surface, and the hairs are found to stand loose in the follicles, and are generally extracted without pain. In eczema the hairs are firmly seated, even when pus has formed around them, and are painful when pulled on; when extracted the roots are found covered with inflammatory products, in a large succulent mass, presenting a different appearance from the dark, dull, unhealthy character of those in the parasitic disease, which usually come out without their root sheaths, if the disease has advanced to suppuration.

The differentiation of eczema from true, *non-parasitic* (or rather coccogenous) *sycosis* is occasionally very difficult; indeed, sycosis sometimes appears to be of eczematous origin. Sycosis being a disease

of the hair follicles, or rather a peri-folliculitis, the eruption is necessarily confined to the hairy parts, whereas in eczema the eruption will very frequently be found to extend on to parts not covered with hair. When pustules are formed in sycosis, the pus has already burrowed from the bottom, and consequently has detached the hair, so that it stands in a little well of pus, and may often be extracted almost if not quite without pain; when a pustule forms in eczema of the hairy part it is much more superficial, and the hair which may stand in its centre, as in sycosis, is firmly attached at its deeper portion, and traction on it causes great pain. In eczema we are apt to have much more crusting and matting together of the hair than in true sycosis, in which latter the pustules are more apt to stand isolated, the hairs becoming affected separately, and often those at some distance from each other; while in eczema a crop of papules or pustules generally develop all at once, in one locality. Eczema being an affair primarily of the more superficial portion of the skin, it does not destroy the life of the hair, and therefore is not followed by cicatrices; whereas sycosis, beginning in the deepest structures, disorganizes the papilla of the hair and converts its follicle into a pustule along its entire length; the process is then often followed by a new deposit of cicatricial tissue, with permanent baldness, which in some cases may be very marked and disfiguring.

Eczema of the hairy parts itches more or less; with sycosis there is rather a deep feeling of burning pain, increased on handling the hairs.

In the bearded parts the lesions of *acne* may sometimes resemble pustular eczema; but its presence elsewhere, the isolated and discrete character of the pustules, the presence of soreness in them, and the absence of itching, are sufficient to distinguish acne from eczema.

Sometimes a pustular or tubercular eruption of *syphilis* may affect the hairy parts of the face in such a manner that it is not easily recognized, and eczema may be suspected. But a careful study of the lesions, which in syphilis are apt to be grouped in a more or less circular manner, together with mucous lesions in the mouth or other corroborative indications of syphilis, should suffice to differentiate the two.

On several occasions I have seen superficial *epithelioma* mistaken for eczema on the face; but a sufficiently careful examination of the disease will either show some of the pearly elevations of epithelioma on the margin, or a raw, bleeding surface when the crusts are removed from the sharply defined affected area, which is quite different from anything seen in eczema.

Erythematous Eczema.—The most common form in which eczema affects the face, and one which is least frequently recognized and appreciated, is known

as *eczema erythematosum*. In this there may be no papules, no vesicles, and no pustules, but simply an evenly reddened surface, smooth or slightly scaly, with a certain degree of thickening or infiltration, and with intolerable itching, or burning and pricking. This condition may affect all or the greater part of the face, or it may be confined to definite and circumscribed areas. The most common seats for localized patches are the forehead, eyelids, lips, chin, and nose, either over its whole surface or only at the angles of its junction with the cheeks. It may occur as an acute, sub-acute, or chronic condition; occasionally with a long-standing erythematous eczema there may be a sudden lighting up of the eruption very acutely in some particular place, as about the eyelids, which may close the eyes. Occasionally this erythematous eczema is attended with slight moisture on its surface, or it may exude considerably if greatly irritated; but generally the skin is hard and leathery, presenting to the touch a very striking contrast to the neighboring portion of healthy skin, with its supple, slightly oily surface. Sometimes there is a very considerable amount of scaling.

This form of eczema is most commonly confounded with *erysipelas*, indeed very many of the cases which I have seen have previously been so regarded. But if the essential features of *erysipelas* are borne in mind the mistake need not be made. *Erysipelas* is an acute disease, and cannot present

such a picture as has been described; there is no such disease as "chronic erysipelas," except in the migratory form, which may traverse large areas again and again, but does not remain in a chronic state in one locality.

It is not very uncommon for *acne rosacea* to be mistaken for slightly papular and erythematous eczema, especially affecting the nose, chin, and middle part of the face. But acne being a sebaceous disease, we have in it a greasy condition of skin in place of the dry, harsh, leathery state pertaining to this form of eczema, where the sebaceous secretion seems to be almost, if not quite, arrested. Moreover, in the acne eruption there will probably be somewhere some small, red, painful papules or pustules, or other marks pointing to acne, and an absence of the infiltration and itching which always characterize eczema of the face.

The slightly developed erythematous eczema which sometimes attacks the region at the junction of the nose and cheeks occasionally passes long unrecognized. Here we have a chronic red surface, quite itchy, and that is about all; there is some thickening, but this is difficult to determine in this region, and some little scaling, but this is kept down by washing; and on account of the very great numbers and size of the sebaceous glands in this locality the skin may not be as dry and harsh as in erythematous eczema of other parts.

The lips are sometimes the seat of very obstinate eczema. Pustular eczema of the space beneath the nostrils is not uncommon, both on the hairy lip and on those not covered with hair, and may prove annoying and obstinate. It often depends upon an irritating secretion from the nose, and special treatment to the nasal cavity may be required in order to effect a permanent cure.

The vermilion portion of the lips may also, in rare instances, be affected with eczema to a very annoying degree. The surface is of a more brilliant red than normal, is more or less fissured, has ragged epidermal scales, and is the seat of considerable burning and itching; when wiped dry it may often be observed to exude from many points. This condition can extend to the mucous membrane of the mouth and tongue. From the manner in which this tissue may be affected in and about the buccal cavity and nose, the question arises how far the mucous membranes in general may become the seat of eczema, or indeed of other affections of the skin; some writers have already spoken of psoriasis of the intestine, and there is reason for believing that certain attacks of asthmatic breathing are due to a condition of the bronchial mucous membrane similar to urticaria or eczema.

Eczema of the lips is liable to be confounded with the *mucous patches* of syphilis, and, as is known, these latter are often very difficult to determine with

certainty. But eczema generally involves a large surface, there is not the sharply defined, pearly appearance seen in syphilis, and there is usually more soreness and some itching; in syphilis there will commonly be some eruption elsewhere which will establish the diagnosis.

There is little need of confounding *herpes febrilis* with eczema of the lips. The little groups of closely set, flat vesicles, on an inflamed base, with burning, hot, tender feeling are quite sufficient to determine their character.

Eczema of the nares, and of the lining membrane of the nose, is sometimes a troublesome affection. One or both nostrils will be thickened and reddened, and patchy crusts will form within the orifice, which re-form as often as they are removed by picking; if neglected, especially in children, this condition may increase until the nose is completely blocked, and it and the lips become the seat of a crusted eczema which is repulsive and distressing. In slight cases the mucous membrane of the nose presents a reddened and raw, sodden appearance, with more or less moisture, or it may be glazed over with a dry coating of exudate.

The only lesions which can at all resemble eczema at the orifice of the nose are some of those of *syphilis*. In this disease, however, separate papules or tubercles are generally present somewhere, and mucous patches and other evidences of syphilis.

There is also in the latter an absence of the exudation and of the itching, and of all the inflammatory phenomena of eczema.

Eczema of the edges of the eyelids may exist as an independent affair, or may occur in connection with the same on other portions of the body. It forms quite a large proportion of the cases ordinarily spoken of as blepharitis, and unless attention is paid to constitutional measures such cases may prove exceedingly obstinate, recurring again and again, as often as removed by local treatment. The edges of the lids are reddened, swollen, thickened, and somewhat itchy; small crusts are seen between the lashes, and a considerable tendency always exists to have the lids glued together after sleep.

This condition has frequently received the name of *tinea tarsi*, but as the term *tinea* is now applied to certain vegetable parasitic affections it is quite inapplicable here, since the eruption under consideration has nothing whatever to do with any parasite, animal or vegetable. True *tinea tarsi*, due to the vegetable parasite *trichophyton tonsurans*, is very rare; it is not inflammatory, is generally associated with parasitic disease elsewhere, and the parasite can be demonstrated by the microscope in the hairs and scales.

Occasionally the eyelids will be the seat of *pediculosis*, and the irritation and itching caused by the insects may cause a rubbing and scratching with

inflammation of the lids. This, however, is an exceedingly rare condition, and careful examination will demonstrate the pediculi or their nits on the hairs.

Eczema of the face is very frequently associated with *styes* or *hordeoli*; indeed, so very common is it for the Meibomian glands to become inflamed in eczematous subjects in general, that I have come to look upon repeated styes as a greater or less indication of the existence of the eczematous state. They are often promptly checked by the same line of management which is serviceable in eczema and furunculi.

Seborrhæic eczema, or dermatitis seborrhoica, as it is more properly called, may affect all portions of the face. Its most characteristic manifestation is along the upper margin of the forehead, where, projecting from the line of the hair, will be seen a festooned or circinate eruption, composed of many more or less circular patches, often coalesced and forming an irregularly even patch. The surface is of a yellowish red, and moderately covered with scales, which are decidedly greasy; if greatly irritated there may be some moisture, but not vesicles. There is always considerable itching with all the forms of this eruption, but it is seldom so violent or distressing as in true eczema. Patches of the same character are often seen on various parts of the face, and in a very mild form it may linger for years here

and there, causing relatively little annoyance. It is not uncommon on the sides of the nose, also in the moustache, and often in the eyebrows and on the bearded face, as a scaly condition, with a tolerably sharply defined border, and a more or less reddened surface, and some itching.

Seborrhœic eczema, or dermatitis, about the face may be mistaken for several different affections, and the diagnosis is sometimes quite difficult.

Many of the patches resemble *seborrhœa* in its scaly form, and it may be almost impossible to decide at once whether the trouble should be regarded only as such; simple seborrhœa will present more of the oily element and less of the redness, no infiltration, and little, if any, itching.

Not at all infrequently *psoriasis* appears along the margin of the scalp, and occasionally on the face, in a form very difficult to distinguish from seborrhœic eczema. But there will generally be some lesions of psoriasis elsewhere, as on the elbows or knees, which will establish the diagnosis. The scales of psoriasis are also more silvery, and on scraping the patch there will be a thin, solid pellicle, which can be raised, beneath which the corium bleeds easily.

Certain cases of *tinea trichophytina*, or ringworm on the face, may simulate eczema seborrhoicum. But in this there will be the history of an increase peripherally from a small point, a clearing in the centre, an absence of much itching, and often a

history of infection; the lesions of eczema are very apt to be symmetrical on each side, whereas those of the parasitic disease are more apt to be single, or irregularly distributed; moreover, the microscope readily demonstrates the fungus in the scales.

Some of the lesions of *syphilis*, in its large papular and circinate forms, which may be quite scaly, can suggest an eczema seborrhoicum, and sometimes the two processes are combined, which makes the diagnosis very difficult. Careful enough study will, however, discover the more succulent and darker red character of the syphilitic eruption, and generally other signs of constitutional syphilis can be discovered.

In rare instances *lupus erythematosus* attacks the face in a very superficial form, and can hardly be distinguished from eczema. But a close examination of the surface with a lens will show the area of the lupus eruption to be studded over with enlarged openings of the sebaceous glands, and the scales, which are adherent, will show on their under surfaces minute prolongations, which are hardened epithelial plugs from the patulous glands. The eruption of lupus seldom itches, and the surface is never moist.

Eczema of the Scalp.—Eczema of the scalp presents very different appearances in different cases, and at times may be difficult of diagnosis; it is seen as a pustular, moist, exuding, or a dry, scaly eruption.

Pustular or impetiginous eczema of the scalp is more often seen in young persons than in those of older life; in infants it forms the milk crust, described in the previous chapter, which may last indefinitely. Perfect pustules can often be seen on the scalp in those of older years, but commonly small crusts are found, adhering to the hairs, and beneath them raw and moist points, which are superficial and heal without scars or loss of hair. In severe cases the pustules run together, and the pus dries into masses, which become matted among the hair into greenish-yellow crusts; these may become darkened by dust or blood, and the scalp present a loathsome appearance, with a sickening odor. The inflammation prevents proper care of the hair, and sometimes these cases are so long neglected that the entangled hair, crusts, and sebaceous secretion form a dense mass, and often harbor lice and vegetable parasites. To this condition the name *Plica Polonica* was formerly given, and in Vienna I have seen these neglected cases where the mass of hair, etc., had become so matted and felted together, and hardened, that it sounded like a board when rapped on. Happily, such cases are unknown among the more enlightened classes. Pustular eczema does not usually itch much, but the advent of pediculi will cause this to occur.

Pustular eczema of the scalp must be differentiated from simple *phthiriasis capitis*, an artificial

inflammation due to the irritation of lice and the consequent scratching, though the lesions often resemble true eczema quite closely. Often a very few lice will occasion and prolong the eruption, and unless this cause is recognized and removed the case will resist treatment. In cleanly persons pediculi are frequently difficult to discover, but their nits can often be found, even in the highest walks of society. The eruption from lice is far more common among females than males, and generally on the back and lower part of the scalp. It is difficult to give any absolute differentiation between an eczematous eruption and that occasioned by pediculi, but there are general distinctions which will suffice, if carefully considered. In eczema there are either distinct pustules, penetrated by hairs, or raw, crusted patches, and inflammatory features; whereas in pediculosis the itching is the prominent symptom, and the lesions are seen to be the result of the scratching. The eruption of eczema is more apt to be general, whereas that from pediculi is localized, especially at the back and sides of the head; in eczema there will commonly be eruption elsewhere as well. In connection with both eczema and phthiriasis capitis there often occur enlarged glands at the back of the neck, which are of relatively little importance, as they seldom suppurate and subside as the eruption on the scalp is removed.

Pustular eczema of the scalp may sometimes

resemble a pustular *syphilis* very closely, and great care may be necessary to establish a correct diagnosis. In the later pustulo-tubercular eruption of syphilis there may be crusted and raw lesions very suggestive of eczema. But in this there is ulceration beneath, followed by cicatrization, which does not occur in eczema, and the odor from the syphilitic eruption is apt to be very foetid; the eruption of syphilis does not itch.

The crusts of *favus* may resemble those of pustular eczema, especially when the favus masses have become heaped together and mingled with inflammatory products resulting from scratching. But the crusts of favus are very friable, and when raised the surface below is found red and shining, but not moist; moreover, on careful examination, some of them, at least, can generally be found presenting the characteristic cup shape, depressed on top. The hairs in favus are peculiarly dry and lustreless, and the scalp emits a strong, mousey odor. In old cases, patches of cicatricial tissue, quite devoid of hairs, can often be seen. Finally, the microscope shows the crusts of favus to be composed almost entirely of the spores and mycelium of the parasite, *achorion Schænleinii*, while those from eczema exhibit a confused mass of epithelial and exudation elements.

Moist Eczema of the scalp may occur, either involving the whole area or in scattered patches

of greater or less extent. From these there will be a secretion which stiffens the hairs, as though mucilage had been applied, and when left alone this will dry into scales and crusts, which are less thick and yellow than those previously described in the pustular variety; but there is, of course, no sharp line of distinction between the two forms, the one may pass into the other, and either may be preceded or followed by the next, or scaly form. There is always much burning and itching with this form of eczema, and it will sometimes prove most rebellious to treatment.

There is hardly any possibility of mistaking the diagnosis when the eruption is well marked, but in mild and localized patches the differentiation pointed out in connection with the other forms may be necessary.

Squamous or scaly eczema, also named after the elementary lesion, erythematous eczema, exhibits many different phases and degrees, and can at times present difficulties of diagnosis. It may vary from an insignificant, dry scaling, giving annoyance principally by the dust shed on the clothing, to an intensely itchy and distressing condition, exhibiting at one time moisture, and at another thick, scaly crusts, which are very manifest.

In the milder states, coming on gradually, without any inflammatory period, it forms a large share of the cases of what is popularly called "dandruff,"

or "dandriff"; this sometimes lasts for years, giving comparatively little annoyance, until perhaps some violent cleansing of the scalp, or some irritating hair-wash excites a condition of inflammation, and eczema of other form is developed. It may perchance happen that the same irritation has sufficed to keep up only a moderate degree of scaling, until internal causes, debility, etc., have so altered the tissues that greater irritation results, and true eczematous inflammation follows. With all these forms of mild or severe erythematous eczema on the scalp there is always considerable itching, but seldom to the degree belonging to the eruption in other localities.

It is to this erythematous and squamous eczema of the scalp that Unna has directed special attention under the name *seborrhæic eczema*; he regards it as microbic in origin, and the fountain and source of the eruption in other localities. Although its parasitic and contagious character has not been satisfactorily confirmed by others, there does seem to be good evidence that micro-organisms play a not inconsiderable part in producing and keeping up this scaly eruption on the scalp, and that it may spread from this focus to other parts.

There is a localized form of erythematous eczema appearing at the base of the scalp, often extending both among the hairs and down the neck, which deserves special mention because of its obstinacy.

It is more common in females, and may exist alone or with an eruption of eczema elsewhere. The surface is reddened and roughened, with a moderate amount of scales, or it may be moist from scratching. There is decided infiltration or thickening, and the margin of the eruption is pretty sharply defined. Itching is often an exceedingly annoying symptom.

There are several eruptions which may closely resemble dry eczema of the scalp; they are *psoriasis*, *seborrhœa*, *tinea tonsurans* or ringworm, *pityriasis capitis*, and *favus*, named in the order of their probable frequency.

It is not infrequent to have *psoriasis* on the scalp, either alone, or more commonly associated with the disease elsewhere. Psoriasis is always a dry disease, and generally the separate, circular, sharply defined patches may be made out, surrounded by healthy tissue; the patches of eczema will be more irregular, and with indefinite outline, shading off into normal skin. The scales of psoriasis are more silvery and are far more apt to adhere in masses, and to come off in plates, even covering a patch of some size. There is seldom much, if any, itching in psoriasis of the scalp, and if the surface of a patch is scratched it may bleed a little, but will not exude, as does eczema.

Eczema is distinguished from *seborrhœa* by the more greasy character of the scales of the latter,

which tend to adhere to the scalp and may be scraped up into a concrete mass. Seborrhœa never gives the history of exudation ; it itches very moderately, if at all ; the skin beneath is generally more pale than normal, or of a leaden hue ; and in seborrhœa the whole scalp, or areas of considerable size, are generally affected quite uniformly, whereas differences of degree can commonly be made out in eczema. The eruption of seborrhœa elsewhere, if it is not confined to the hairy scalp, occurs on places where sebaceous glands are abundant, as on the nose, cheeks, and chest, whereas very commonly eczema appears indifferently elsewhere, as well as on the scalp.

Recent cases of *tinea tonsurans*, with their circular patches and broken hair, can hardly be mistaken for eczema. But when the eruption has lasted for some time, and a large surface is involved, and when hairs have grown tolerably well in spite of the disease, the real nature of the eruption may easily be overlooked, and it may pass for scaly eczema. In the ringworm disease the surface is seen to be of a dull, leaden color, with a considerable amount of dirty scaling, amid which close examination with a lens will reveal broken hairs among the longer ones ; in ringworm the hairs either come out easily or break off, and in the fringed or brush-like bits of hair the spores of the trichophyton can be seen with the microscope.

The scaly stage of eczema may resemble *pityriasis capitis*, but the latter differs from it essentially, although some writers have failed to distinguish between the two affections. In pityriasis we have simply an excessive formation and exfoliation of the epidermal cells of the scalp, without itching. In more severe cases the epithelial masses are seen to extend around and embrace quite firmly the hair, in the form of a small sheath, and many of them can be seen on the hairs at different points, detached from the surface of the scalp. The process here, as in psoriasis, is always a dry one, and the whole or the greater part of the scalp may be involved.

As has been already mentioned, *favus* may be mistaken for impetiginous eczema of the scalp, and in old cases, which have been subjected to much treatment, this disease may present a dry, scaly appearance which can resemble squamous eczema. But the dry, lustreless condition and thinness of the hair, with occasional cicatrices should always excite suspicion, and the microscope will establish the diagnosis of the parasitic disease with certainty.

Eczema of the ears and neighboring parts is more common in children than in adults, but is still seen not infrequently, both alone and in connection with eczema of other regions, in persons of all ages. Very often the eruption may be exceedingly slight, confined entirely to a small fissure below, above, or behind the ear, which will almost heal, but open

now and again with very slight movement of the ear; and from time to time the eruption may extend until a large surface is involved. Eczema of the auricle may be acute or chronic; in the former the ear is swollen, red, hot, and painful, even closing the external meatus; papules and vesicles are seen, and the surface may become raw and weeping. Chronic eczema may have a papulo-vesicular form, with thickening and considerable itching, although this latter feature is never pronounced in eczema in this region.

Chronic eczema of the *external auditory meatus* is not a very uncommon condition, and its real nature is frequently overlooked. It often lasts for years, giving rise to more or less itching, some little desquamation, and a greater or less degree of deafness. The canal may from time to time fill up with wax and epithelial débris, which are removed once and again by syringing, but return and cause constant annoyance. In certain of these cases a vegetable parasite, *aspergillus*, can be demonstrated, but it is questionable if it is not generally an accidental matter, the primary disease being a low grade of eczematous inflammation, in which the chance parasite finds a ready soil.

The only diseases likely to be confounded with eczema of the ear are *erythema*, *erysipelas*, and *lupus erythematosus*.

The ears are sometimes affected with *erythema*, in

acute or chronic form, when there will be redness and swelling, with some burning and tingling; but there is an absence of papules and vesicles and the subsequent infiltration and exudation seen in eczema.

The same is true with regard to *erysipelas*, in which however the concomitant symptoms are usually such as aid in the diagnosis.

Certain cases of *lupus erythematosus* of and about the ears are very difficult of diagnosis from patches of chronic eczema. But they will be found to be of a very indolent, chronic character, remaining much the same for months or years, or very slowly increasing; they present dry, hardened patches of greater or less extent, sometimes slightly elevated, sometimes with a superficial cicatrization; the surface is moderately scaly and studded with minute openings, filled with epithelial débris. There is generally no itching and little inconvenience from lupus erythematosus, and patients are sometimes unconscious of its existence until attention is called to it by others, or by the appearance of the eruption elsewhere, or by feeling of the roughened skin.

Prognosis.—This will vary considerably with the case, and also with the tractability of the patient. If the right treatment can be absolutely followed out, the eruption is certainly curable, though liable to relapse from the many causes already mentioned.

Treatment.—The treatment of eczema of the face and scalp involves many points, as stated in the opening of the chapter. While local treatment is very important, and if unsuitable can prolong the eruption indefinitely, in the majority of cases proper general and constitutional measures are essential to the cure of the eruption.

Internal Treatment.—As already stated, the eruption in this location is so frequently connected with disturbances of the digestive and nervous systems that the greatest care will often be necessary in investigating the internal relations of these cases and removing, in every possible way, any of the causative elements already mentioned. Eczema of the face requires, perhaps, more varied and carefully selected remedies than that of almost any other portion of the body, and it would be impossible to give all the indications necessary to guide the practitioner in every case. The dyspeptic element will at times give the greatest trouble, but to obtain permanent success with eczema, a most careful, thorough, and systematic course of treatment, dietetic, hygienic, and medicinal, must be entered upon and followed up until the end is accomplished. Some of these elements are dwelt upon here and in other chapters; many must be left to the knowledge and judgment of the physician.

As in eczema elsewhere, alkalies are commonly called for in eczema about the face, and acetate of

potassa (Formulæ 22, 23) is often of great benefit. If there is a tendency to constipation, a mixture of the sulphates (Formula 29) is of service, and also especially in acutely developing eczema in this region. It is often well to begin with a sharp purgative (Formula 43), and to repeat it at intervals, even every week, for a time. For a chronic sluggish tendency the pills of aloes and iron (Formula 44), given in diminishing numbers, are very valuable. Nerve tonics are often called for, such as strychnine and phosphoric acid (Formula 34); and where there is a weak circulation, with cold extremities and flushed head, digitalis serves a valuable end. Iron and arsenic (Formulæ 31, 32) may be called for, in more chronic states, but care must be exercised lest by an irritant action on the stomach there may be a reflex congestion which will act prejudicially. In strumous conditions cod-liver oil and the hypophosphites may be required, and the principles inculcated elsewhere are to be put in practice as needed.

Diet and hygiene, as developed in a later chapter, are particularly important in eczema about the face: alcoholics of all kinds may prove very irritant and must be interdicted; and tobacco may act prejudicially, both by its depressant effect on the nervous system and from the smoke, which can directly harm the affected tissue.

External Treatment.—If the internal treatment is so important, the local measures require, if possible,

yet greater care and discrimination in their selection and application. The first principle to be kept in view is the avoidance of great irritation, and much that has been said in the chapter on infantile eczema applies here; for constant errors are made in the way of over-stimulation. The very abundant vascular supply of the head, and the great readiness with which the amount of blood here is influenced by external and internal causes, all combine to call for great care as to irritant applications.

Acute eczema of the face is best treated at first with cooling lotions (Formulæ 5, 9); these should be sopped on with a bit of handkerchief, very freely, in such a manner that a coating of the powder in them covers the affected parts. At night it is often well to use a mild ointment (Formulæ 52, 53), but it must be remembered that some skins do not bear grease well, and the lotion may prove more acceptable. In localized patches a salicylic acid ointment (Formulæ 35, 62) serves well, and some cases do better with a protective paste (Formulæ 38, 39) painted on.

In the more chronic erythematous eczema a tarry ointment (Formulæ 56, 57) will often give most relief, and to be effective it should be kept applied all the time, night and day; patients will frequently omit it during the day, and even wash the parts and leave them in a dry condition, which may do much harm. The face may be gently wiped, and the

ointment should be immediately re-applied. In cases where there is a little exudation a tannin ointment (Formula 59) is of value.

In more chronic and rebellious states the salicylic or mercurial ointments are required (Formulæ 62, 63, 66), but should be used with caution. After the condition of the skin is well understood further stimulation can be made with soap tinctures (Formulæ 17, 18), or even with caustic potash solutions, beginning with five to ten grains to the ounce of water. After brief friction with these a soothing ointment (Formulæ 52, 53) should be applied.

Pustular eczema of the smooth surface will generally yield to a weak salicylic or white precipitate ointment (Formula 64), but on hairy parts the disease is sometimes very troublesome. It is not always necessary to shave the face, but often this is desirable, at frequent intervals, and if well done it is not as painful as might be imagined. Immediately after shaving the parts should be gently bathed, dried, and the appropriate ointment applied; for this the diachylon (Formula 58) or a salicylic acid ointment (Formulæ 35, 62) answers well. When the parts are not shaved great care must be exercised in getting the ointment to the affected skin, and also in properly removing it and the accumulated secretion. For pustular eczema of hairy parts the tannin ointment (Formula 59) is very valuable, as also a camphor or resorcin ointment (Formulæ 53, 60), and

frequently a little sulphur or white precipitate may be added with advantage.

Eczema of the lips is often affected most favorably by ichthyol in ointment (Formula 63); this should be kept on persistently, all the time, in slight quantity.

Eczema of the eyelids is sometimes due to eye strain, and the continued use of proper glasses to correct errors of refraction and accommodation will be necessary to a cure. When the edges of the lids are affected, they should be soaked every night, by means of a soft cloth wet with a solution of borax in hot water, two to four drachms to the pint, and a weak mercurial and salicylic acid ointment freely applied then, and in the morning. Internal treatment must never be neglected.

In eczema of the scalp it is often very difficult to secure a proper application of the remedies, and very much care and patience are required. It is not often necessary to cut the hair, although in children it is well to keep it short. It is not my practice, as with many, to have the scalp washed first, in order to remove crusts and scales, before beginning the applications, as unnecessary injury may be done to the diseased skin. If a soft ointment, made with albolene, or vaseline, is used, the crusts are penetrated and loosened, and after a few days a single quick washing may be indulged in. For the washing the tincture of green soap (Formula 17) answers

better than anything else. This is applied by means of a medicine dropper, sufficient hot water being added with the fingers, as it is rubbed into the scalp, to form a lather. This is then quickly rinsed in hot water, and then in a basin of cold water, and immediately dried with old, soft, hand towels, thoroughly heated in the oven; six towels are needed to dry a full head of long hair in the female. The appropriate ointment should be carefully and thoroughly applied immediately thereafter, within fifteen minutes from the last rinsing. The scalp should not be often washed, days or even weeks may well pass between each shampoo.

One of the most serviceable applications to the scalp is a tannin ointment (Formula 59), although occasionally it proves a little too stimulating, and a tar ointment (Formula 56) will suit better. White precipitate and bismuth ointment (Formula 64) seems peculiarly suitable to the scalp, and occasionally a weak salicylic and ichthyol ointment (Formula 63) serves the best purpose.

In dry seborrhœic eczema of the scalp a wash of resorcin or thymol (Formulæ 13, 14) acts excellently; it should be inserted among the hair with a medicine dropper, and gently rubbed in with the fingers, night and morning. When the disease is more pronounced, resorcin in ointment, alone or with sulphur (Formulæ 60, 61), acts efficiently.

Some little care must be exercised in attempting

to restore the growth of hair after eczema upon the scalp, for not at all infrequently a new eruption will be lighted up by injudicious applications given for this purpose. It is well, therefore, to begin with those which are quite mild and unirritating, and to increase their strength as the skin is found to bear the stimulation. Perhaps the best lotion to begin with is such an one as that containing quinine and bay rum (Formula 21); later, stronger ones may be employed, but with caution.

Eczema about the ears need not ordinarily give much trouble, but sometimes the cracks at the junction of the ear and scalp will persist, owing to constant movement, friction on the pillow, etc. When the eruption is severe the application must be kept on continuously, and by means of proper wrappings at night; this is often no easy matter, and considerable ingenuity may be required. The applications suitable to eczema of the same stage are applicable here; when the eruption persists around the ear, with cracks, much benefit can be had by brisk friction with the simple or compound tincture of soap (Formulæ 17, 18), followed by diachylon ointment (Formula 58). Ointments with tar and oil of cade or ichthyol seem peculiarly suitable to the region of the ear. Sometimes a single thorough cauterization of the cracks, with nitrate-of-silver stick, will heal them promptly; but care must be exercised not to light up fresh inflammation thereby.

Eczema of the external auditory canal will often be of the seborrhœic type, and will yield to a thorough application of resorcin in lotion (Formula 13) or ointment (Formulæ 60, 61). Where there is a good deal of thickening a tannin ointment (Formula 59), kept constantly applied, answers well, but sometimes repeated applications of nitrate of silver dissolved in the spiritus etheris nitrosi (gr. x.-xxx. ad $\frac{3}{4}$ i) are required.

Eczema about the head is apt to be very rebellious, and will often task the patience and ingenuity of the physician and patient, but perseverance in the proper treatment, dietetic, hygienic, constitutional, and local, can overcome it in the end.

CHAPTER X

ECZEMA OF THE HANDS AND ARMS

THE same causes which render eczema of the face rebellious to treatment operate with equal or greater force in regard to eczema of the hands. The eruption in this location is often associated with and dependent upon dyspeptic conditions, and nervous influences also operate strongly in its production. I have known the eruption to recur on the hands with every nervous excitement or depression, and Hebra states that he has observed the same with each recurring pregnancy. I have frequently seen it appear with each returning gouty state, and cease upon total abstinence from spirits or wine, with practically no other treatment.

All the possible causes of local irritation also exist here even more than on the face. Motion is incessant; scratching is most easily effected; it is difficult to keep remedies perfectly and continuously applied; exposure to air, water, and dust is common. The constant occurrence of the eruption in cooks, laundresses, butlers, and others who have their hands

much in water, and the great difficulty in curing some of these cases while their occupation is continued, illustrate this very forcibly. The exposed position of the parts renders them also peculiarly liable to irritation from many local causes, and the dust, loaded with micro-organisms, which continually settles on the hands and works into the fissures which occur, undoubtedly aggravates the eruption. There are also many sources of irritation incident to special occupations: such as in workers in lime, masons, plasterers, bricklayers, also bakers, grocers, furriers, and others, where, in addition to the local irritation of various substances, the frequent washings necessary contribute to cause or prolong the eruption; also workers in dyes and chemicals, electroplaters and polishers, are all prone to have rebellious eczema of the hands. The various cleansings and antiseptics, used in connection with modern surgery, are very apt to induce eczema in those so disposed.

Certain local poisons with which the hands may come in contact, such as *rhus toxicodendron* and *rhus venenata*, the poison ivy and poison sumach, and others, are the frequent precursors of eczema. Many dyes are very irritating to the skin, and I have known several instances where linings of gloves induced an eruption which eventuated in eczema.

Diagnosis.—The manifestations of eczema on the hands are most varied, and while generally not difficult of recognition, the diagnosis is sometimes not

easy; all forms and varieties of the eruption occur here—acute, sub-acute, and chronic.

Acute eczema may involve one or both hands, with great swelling, pain, and itching, general redness, and the formation of innumerable papules and vesicles; sometimes the latter increase greatly in size, forming blebs. More commonly the eruption is in a sub-acute or chronic form, with the repeated development of papules and vesicles, generally in groups or patches, or there are formed infiltrated, raw, or crusted areas of varying extent. The vesicles observed in eczema of the hands are peculiar, owing to the varied structure of different parts. When on the soft parts, as on the back of the hand and sides of the fingers, they are small and delicate and rupture quite quickly. But on the flexor surfaces of the fingers and palms they are usually very persistent, hardly raised at all, and appear darker than the surrounding skin. While the vesicles are unruptured the itching is often very great; itching, moreover, is generally a very severe symptom in all eczema of the hands, so that it is sometimes almost impossible for even intelligent patients to refrain from rubbing and tearing the surface in the effort to get relief. When fissures occur, which are very common, not only in the flexures and lines of motion, but irregularly over infiltrated areas, there is an amount of pain which is often very hard to bear.

In the acute condition it is not always possible to

exclude at once an *artificial dermatitis*, for its appearances may exactly simulate acute eczema, and often only the history of the case and a little time will differentiate between the two.

It is always well to exclude *scabies* in eczema on the hands, for the eruption may closely resemble eczema, and if scabies remain unrecognized the case cannot be cured. Scabies, as is known, generally affects the hands first, and especially the region between the fingers, just where eczema develops. But scabies also affects other parts at almost the same time: the soft parts at the flexures of the wrists, the forearm, and elbow, the anterior fold of the axillæ, the penis in the male and the region of the nipple in the female, also about the malleoli and soles of the feet in children; there is also commonly a history of contagion. In eczema, moreover, the papulovesicles are apt to be mostly in groups, whereas in scabies they are more scattered; in eczema they are more uniform in size, in scabies they show various grades of inflammation, so that papules, vesicles, and generally pustules may often be seen at once; the vesicles of eczema usually rupture soon and the surface becomes crusty, those of scabies remain longer, and on breaking may subside at once or leave a spot of ordinary inflammation, and not an exudative area. The itching of scabies is seldom so severe and agonizing as that of eczema, relief being obtained much sooner by scratching.

But the pathognomonic sign of scabies, which when found is absolute, is the *cuniculus*, or furrow made by the burrowing insect; this is seen as a minute, dotted, black, or dirty curved line, from an eighth to a third of an inch in length, sometimes longer, looking as though a bit of dark-colored sewing silk had been run beneath the skin, ending in a papule or vesicle. When vesicles of eczema have ruptured, their margins sometimes present curved black lines which simulate the cuniculi of scabies; but on washing a part the furrows of scabies are made more marked, whereas the epidermal elevation becomes less distinct.

Vesicular eczema may be confounded with *pompholix* or dysidrosis. But the vesicles of this are deeper seated, with less inflammatory element than is seen in eczema, and the vesicles have little tendency to rupture and discharge, and when broken heal, and do not leave an exuding eczematous surface. The appearance of the watery collections in pompholix have been likened to boiled sago grains beneath the skin, they having to do with the sweat glands. There is burning and tingling in pompholix rather than the itching belonging to eczema.

Eczema of the back of the hands and fingers may also be mistaken for *erythema multiforme*. In this, however, there is a rather sudden development of quite large, flat, inflammatory papules of various sizes and shapes, often associated with the eruption

elsewhere. While some of the lesions may go on to the formation of vesicles or even bullæ, when they rupture they tend to dry up and not to exude, as eczema. There is a soreness and burning rather than itching.

Some of the more chronic cases may resemble *lichen planus*. But this is always a papular eruption, and although it may be attended with itching, this is not of the violent character belonging to eczema. The papules are of a peculiar pinkish-purple color, glazy or shiny, flat on the summit or slightly depressed, with abrupt sides, quite different from the sharp-pointed papules of eczema. Sometimes the papules run together, forming large plaques, but there is always an abrupt, though slight, elevation, the margins are sharply defined, and there is little, if any, scaling.

Chronic eczema of the palms requires special attention because of peculiarities which often render it very difficult of recognition; the disease may affect little or much of one or both palms, alone or conjoined with the eruption elsewhere. The soles of the feet may be similarly affected, and the present description and differentiation will suffice for both. The thickness of the epidermis accounts largely for the peculiarities and obstinacy of the eruption.

The eruption is characterized primarily by infiltration of tissue, upon which its peculiar features depend. In some instances it is in dry, hard, itchy

patches, covering a greater or less surface, presenting a moderate ragged scaling, and generally exhibiting a number of fissures or cracks, which may be exceedingly painful. The margin is usually ill defined, shading off into the healthy skin, but in certain cases it may be sharply cut, and with a raised epidermal edge, making it very difficult of diagnosis. When the disease is very severe and extensive, and has been neglected or badly treated, the aspect presented is a distressing one; the hand is kept in a half-closed position and is well-nigh useless, as every movement tears open the cracks afresh. When kept constantly wet, however, such hands will be quite flexible, and patients even with a large amount of eruption will sometimes be able to do washing, although each time the hands become dry they are worse, and the suffering from them may be intense. In addition to the pain from the fissures, there is generally a very great deal of itching, which is deep-seated and cannot be relieved by scratching.

There is another form or manner in which eczema may affect the palms which is quite different from that just described. The entire surface may be evenly attacked, and there results a thickened, hard, red, and rather glazy surface, with little scaling, and accompanied with considerable itching, and a stiffness which almost incapacitates the hands for work; there may be fissures, but they are not apt to be so deep as when the disease is more localized.

This state is very much like that seen in the hands of those accustomed to much hard, manual labor; but the condition described differs from any form of callosity, in the diffuse character of the lesion, in the itching and cracking, and in occurring often in those who seldom if ever use the hands for hard physical work.

A condition somewhat similar to that just described is frequently seen upon the ends of the fingers alone, and presents a state which would not ordinarily be recognized as eczema, certainly not by those who look for vesicles or even papules as necessary lesions of this eruption. It consists simply of a dry, hard state of the skin, with little or no redness, but with a liability to crack, and a constant tendency to peeling of the hardened epidermis, which catches in articles of clothing, especially in woollens. There is relatively little itching usually accompanying it, but a discomfort from the stiffness and unnatural feeling of the finger tips, and occasionally much pain from fissures, which may sometimes be deep.

The diagnosis of chronic palmar lesions is sometimes a little puzzling, but if closely studied it will become clear. There are practically only three eruptions which can affect the palms in the manner above described; these are *eczema*, *syphilis*, and *psoriasis*. The main distinction is to be made between eczema and the late lesions of syphilis, for,

as will be seen later, psoriasis need seldom be considered.

The palms may be affected during any period of *syphilis*, but the chronic, scaly eruption, which may be confounded with eczema of the palms, belongs to the later periods, and is often the only manifestation of the disease present. Early in syphilis there may be an acute eruption of papules on the palms, as part of the general eruption, when the diagnosis is not difficult. But later in the disease the isolated lesions of papular or tubercular character occur here and there, and are very apt to attack the palms and soles: during the first few years they incline to be symmetrical, both palms being affected, but much later, even up to twenty or more years after infection, there may be chronic palmar lesions closely simulating eczema.

The main point to bear in mind in the differentiation of the syphilitic eruption on the palm is, that the infiltration of the skin in syphilis is caused by a new deposit, attended possibly with signs of inflammation, whereas eczema is an inflammatory affection and the infiltration is a secondary symptom. Syphilis of this part, therefore, begins with the formation of separate papules or tubercles; often a single one will be first noticed, and the new accessions are marked, not by a gradual extension of the diseased surface, but by the appearance of additional papules or tubercles. Eczema, on the other hand, while it

may begin at a single point, which is not very common, extends peripherally by the spreading of the inflammatory process, and not by the accession of new points.

When either affection has lasted some time, many of the sharp differential marks are lost, and if attention is paid only to the central portions, or those most affected, the diagnosis will be almost impossible; for both may present an evenly reddened surface, bereft of healthy epidermis, perhaps with painful fissures. But if the lesion be syphilitic there will generally be found, either on the affected surface, or on or beyond its margin, one or many small, well-defined, hard papules, over which the epidermis is more or less broken; while at or near the margin of eczema of the palm there will be found some lesions characteristic of the eruption, deep vesicles or inflammatory papules, or erythema.

The differences between syphilitic and eczematous eruption of the palms are also manifested in the margin or border of the affected areas. In syphilis the border of a patch will be found scalloped and uneven, for the reason that it has been formed by the fresh development and union of many small papulo-tubercles. For the same reason, in syphilis the epidermis is raised on the inner margin, and when pulled or stripped back, is found to run down into healthy skin, and cannot be torn off without causing pain. The margin of an eczematous patch is less

sharply defined and fades more into the healthy skin; or, if there is a punched out epidermal edge there is erythematous redness beyond it. In eczema the centre or inner portion is apt to be most severely affected, it tending to heal from the outside; in the syphilitic eruption the tendency is to heal in the centre, and spread peripherally.

The eruption of syphilis seldom extends on to the backs of the fingers and hand, whereas eczema commonly creeps around and manifests itself elsewhere.

The itching belonging to eczema of the palm is seldom troublesome in the syphilitic eruption, but in both diseases there may be painful fissures, though those in eczema are apt to be much more distressing.

In certain cases there may be a combination of syphilis and eczema on the palm, making such cases very difficult of accurate diagnosis, and yet more difficult to treat. But a little care will recognize the syphilitic element, which must be treated conjointly with that belonging to eczema; if either feature is unrecognized the case will not yield to treatment.

The other palmar lesion which may be confounded with eczema here is *psoriasis*. True psoriasis of the palms is a very rare disease, although many of the cases of eczema, as just described, are often erroneously called "psoriasis palmaris." It is also still more rare to find it on the palms alone, and

although this can occur, it is almost invariably associated with a very marked and abundant development of the eruption in other locations. When seen on the palms it assumes much the same form as observed elsewhere, although the appearances are modified by the very thick, dense, and tough epidermis of the part. It appears first as separate, round patches, sharply defined and isolated, which increase in size peripherally, and may, of course, if near each other, run together and form a scaly surface of some size. But there is not commonly the infiltration peculiar to eczema, nor the same tendency to fissures; there is relatively little itching in psoriasis of the palm.

Eczema of the nails, nail beds, and furrows around the nails is not of very uncommon occurrence, either alone or associated with the eruption elsewhere; it is an annoying condition, and sometimes very obstinate. When the disease affects the fold of skin around the base of the nail it is found to be thickened and red, with abraded points, which may exude if irritated, and may be very itchy. If the eruption has been of long duration, especially at the base of the nail, so that its root or matrix has been involved in the process, the nail itself will be found affected: it will have lost its smoothness and appears rough, misshapen, and uneven on the surface, sometimes marked by transverse and sometimes by longitudinal furrows, and is apt to be depressed at

the root. If the furrows at the sides of the nail are mainly affected, the nail may escape much or any distortion. In a severe, acute attack the nails may be shed, more or less completely.

The nail itself may be the seat of eczema, without much inflammation of the nail fold. This is not uncommon in connection with eczema of the hands, and of other parts, and also may occur as the only manifestation of the disease. The most common form is a thickening of the nails from the free border, whereby they become altered in structure and brittle, breaking off easily; they can thus become greatly deformed and seriously interfere with comfort and usefulness. In other cases the nails become greatly thinned, and may split longitudinally as well as break off, and are often eroded, with minute depressions on the surface. However badly affected with eczema there can in time be perfect restoration of healthy nails, provided there has not been permanent injury to the matrix beyond the lunula.

Eczema of the nails will often present considerable difficulty in diagnosis, unless there are other abundant evidences of the disease present. The nails are affected somewhat similarly in a number of affections of quite different character; but eczema is by far the most frequent cause of deformity.

Simple chronic *onychias*, from excessive and bad treatment in the direction of manicure, can often so

interfere with the nutrition at the root that the nail becomes misshapen and diseased.

The nails are also affected in *psoriasis*, but then generally when there is abundant eruption elsewhere. In this there are commonly yellow streaks, first at the sides of the nail; the surface becomes eroded with minute pits or depressions, and in severe cases may be thickened and more or less broken; but seldom is there the complete disorganization of nail tissue which occurs in eczema.

The vegetable parasites may attack the nails, both the *trichophyton* and the *achorion Schænleinii*, causing *onycho-mycosis*. This is generally seen in those affected with one of these diseases, or in persons who are caring for patients thus affected. In this the disease begins at the free border of the nail, with more or less epidermal growth beneath it, while the lower portion, toward the root, remains of normal form and consistency. In long-standing cases the entire nail may be affected, thickened, roughened, and split longitudinally. Careful examination of scrapings and cuttings of the nail, well soaked in equal parts of liquor potassæ and glycerin, will reveal the parasite, if present.

Mention, finally, may be made of *chapped hands*, which are often the slightest expression of the eczematous state, although in many instances they have no such connection. All skins are not equally liable, and some never chap, even under the most

adverse circumstances. The process relates to a failure in proper cornification of the outer cells, and also an imperfect action of the sebaceous glands, due very often to wrong treatment of the skin, by soaps, as well as to the drying effect of wind and cold.

Eczema of the arms does not often present any features worthy of special diagnostic mention; but *scabies*, *psoriasis*, *lichen planus*, and other eruptions may occasionally be confounded with it in this location. In the flexures of the elbows it often takes the form of moist, itchy, red surfaces, which may be so severe that cracks occur, preventing free motion; most commonly there is eczema elsewhere associated with eczema of the arms, which clears the diagnosis.

Prognosis.—From what has been said it can be readily understood that the prognosis of eczema of the hands is not always as favorable as is that of some other portions of the body. Even when all proper attention can be paid to them, external irritants avoided, and the dressings kept applied as directed, the eruption will sometimes prove very rebellious to treatment; but if all the necessary precautions are observed, the eruption can certainly be cured in this locality, although more time may be required, and the eruption is prone to relapse from the many causes which excited it. Where the eruption depends upon the occupation, and this

cannot be altered, a perfect and permanent cure may not be possible; but even in these cases very much may be done to alleviate the pain or annoyance present, and the vocation may even be pursued with comfort, which before was impossible or extremely distressing.

Treatment.—Local measures will be mainly considered, inasmuch as the internal treatment and general management does not differ greatly from that called for in eczema elsewhere, as detailed in other chapters. But it is most essential that the greatest attention and care be given to these, for without proper constitutional measures relatively little can be effected in many cases. Especial regard must be paid to the digestive functions and the nervous system, and the gouty state, especially, must never be overlooked in connection with eczema of the hands.

External Treatment.—Acute inflammatory eczema of the hands often does very well with dusting powders (Formulæ 47, 50) very freely applied, when there is not much discharge; powdered starch or buckwheat flour answers very well and may be conveniently applied by keeping the hands in loose bags of muslin, within which a handful of powder is placed, which then applies itself with every movement of the hands. In highly inflamed states a soothing and astringent lotion (Formulæ 5, 9) is very acceptable, and should be very freely sopped on the

part in such a manner that the powder contained therein forms a thin coating; or a thin cloth wet in this or in a lead-and-opium wash (United States Pharmacopœia) may be laid over the part, and dampened frequently. It should not be covered with an impermeable dressing, as oiled-silk, as the parts are thus too much soddened and relaxed. At night it is well to envelop the affected part in a soothing ointment (Formulæ 52, 53, 55, 58) spread thickly on the woolly side of lint, or on a very thin layer of absorbent cotton, and held in place by a very thin bandage of cheese-cloth. In removing it in the morning it is well not to wash the part, but simply to wipe it gently and immediately reapply the lotion.

After the most acute stage has passed, ointments of a somewhat more stimulating character, containing salicylic acid, tar, or ichthyol (Formulæ 35, 57, 63), are suitable, applied in the same manner.

Sub-acute and chronic eczema, of the backs of the hands and knuckles, will sometimes prove most rebellious; and while soothing measures are of temporary benefit, they are generally incapable of reaching the disease, and more stimulant remedies are necessary. The tar ointment previously alluded to (Formula 56) answers well, but may require to be made stronger, or to have half a drachm to a drachm of ichthyol in it, to relieve the itching; to this may also be added a drachm of the white pre-

cipitate ointment, or half a drachm of calomel, when there is thickening. These conditions are also often well treated with a paste or pigment (Formulæ 37, 38) painted over the part; it is advisable to add ichthyol to them.

In still more chronic conditions greater stimulation is necessary, followed by soothing measures, and recourse is had to frictions; it is well to remember here that the aim and expectation of this is not the immediate healing of the part, but, by removing imperfectly formed elements, to excite chronically infiltrated tissues to action. For this purpose the simple or compound tincture of green soap (Formulæ 17, 18) is applied with brisk friction, and, if it pains much, the part may be wiped with a wet cloth and an ointment, such as diachylon (Formula 58), applied, spread on lint. When directions can be intelligently carried out, it is often even better to use a watery solution of caustic potash (gr. x-xxx ad $\bar{z}$ i, beginning with a weaker strength), in the use of which I have seen some very brilliant results; but this requires some caution, lest too acute an eruption be excited. In some instances it may be necessary to resort to still stronger measures, and affected surfaces may be even blistered with advantage.

In acute eczema around the nails, where there is often deep-seated pain and even throbbing, soothing and cooling ointments (Formulæ 55, 62) are to

be kept continuously applied. In the more chronic conditions considerable stimulation may be required, followed by astringent and absorbing ointments. The diachylon ointment (Formula 58) answers well, but stains the nails; or an ointment of persulphate of iron (3 ss-3 i ad $\frac{3}{4}$ i) will sometimes suffice, when all else fails. Thorough cauterization with a stick of nitrate of silver will occasionally act very serviceably.

In eczema of the nails the use of hot and cold water alternately will often aid greatly in inducing healthy nutrition and growth: the affected fingers are plunged first into very hot water, until the matrix is quite covered, for a few moments, and then into cold water, and the process repeated several times. Very thorough and continued internal tonic treatment, with the addition of arsenic, should never be omitted in trouble about the nails, and even apparently hopeless cases will sometimes entirely recover under this means, with little local treatment.

Eczema of the palms may at times prove very rebellious indeed to treatment, local measures seeming to have very little effect, although in other instances rapid results are obtained by proper applications. In more recent and milder cases a mild salicylic ointment (Formula 62) well rubbed into the palms at night and kept on with a thin layer of absorbent cotton, bandaged or within gloves, suffices

well; in the morning, after washing, the palms should be again well rubbed with the ointment, which is after a while wiped off, thus leaving the tissues still influenced by the remedy. Or sometimes for the day a little of the borax lotion (Formula 12), or a glycerole of lead lotion, may be well rubbed in and left on the hands.

In more chronic cases stronger measures will be necessary, and these will sometimes bear a very considerable amount of stimulation, if properly done. Fissures or cracks often heal very quickly with the application of nitrate of silver, in stick or solution; and although this is very painful for a short time, patients will ask for its repetition, because of the benefits resulting. A milder treatment is painting them with one of the pigments (Formulæ 38, 40), to which salicylic acid or resorcin has been added.

Much benefit can be had from the application of hot and cold water, as just described in connection with disease of the nails. The palm is laid flat on the surface of water, as hot as can be borne, for a few moments, and then immediately on the surface of cold water, and the operation repeated several times. This will often afford great relief to the itching and pain of fissures. The affected surface, after being quickly dried is at once covered with the appropriate ointment. The best ointment to begin with is the diachylon (Formula 58), which may

then be medicated further, as occasion requires, by the addition of a drachm of oil of cade or of the liquor picis alkalinus (Formula 16), or ichthyol.

When the eruption resists these measures stimulation may be added with the simple or compound tincture of green soap (Formulæ 17, 18), or by a caustic potash solution (gr. x-xxx ad $\frac{3}{4}$ i), followed by an ointment.

When there is much thickening of epidermis salicylic acid is most valuable (Formula 62), and may be used in increasing strength; or poultices of pure green soap may be applied and left on all night. In some instances a good result may be obtained by the wearing of one of the salicylic acid, resorcin, or mercurial plasters now made by several manufacturing concerns. Mercurials are often of service in obstinate eczema of the palm, even when there is no syphilitic element. For this purpose there may be added to the tar ointment (Formula 56), calomel, a drachm to the ounce, or two to four drachms of the white precipitate ointment, or one or two drachms of citrine ointment, or the same amount of a twenty per cent. oleate of mercury.

Rubber gloves may be used with advantage in many cases of chronic eczema of the hands. The modern, surgical, elastic gloves form a very comfortable means of protecting the hands during the day, but are not as curative as might be hoped. It is better to combine their use with proper medicated

applications during the night. In many cases it is not well to wear them, as they soften and macerate the skin too much. When it is desirable to continue medicated applications during the day, the dressings should be firmly bandaged on, with gauze, each finger separately; or a very thin layer of absorbent cotton be laid on, spread with the ointment, and wound with thread, and the hands then put in loose, open-mesh gloves—not kid gloves. The best gloves for this purpose are the very cheap, coarse, white gloves worn by waiters, the commoner and cheaper the better, because they are more open and less heating.

Chapped hands require frequent inunctions with emollient remedies, and no other means are known which can permanently remedy the difficulty and prevent its recurrence under the same circumstances. The use of glycerin soaps, and superfatted soaps undoubtedly aids in securing this end. One of the best remedies is the compound lanolin ointment (Formula 70), well rubbed in at night and worn under kid gloves; mutton tallow alone answers very well. For use in the day, after washing, the borax or glycerole of lead lotions (Formula 12), if well and thoroughly rubbed in, suffice to keep the skin soft and pliable.

Eczema upon the arms does not usually present much difficulty in the way of management, as it is relatively easy to keep medicaments applied. The

pastes and pigments (Formulæ 36, 38, 40) make good applications, renewed night and morning. At the bend of the elbow it usually yields to reasonably mild applications, such as a tarry ointment (Formula 56), perhaps with twenty or thirty grains of resorcin, salicylic acid, or sulphur added to the ounce. For isolated patches it is well to keep the applications snugly applied by placing a little absorbent cotton over them and covering it with what is known as the circular bandage; this is made of an elastic webbing, three inches wide, which is sewn together in a ring, like a broad garter.

The eczematous inflammation which sometimes occurs in connection with vaccination is generally of a very acute type and may require delicate handling. Here protection is best afforded by a mild ointment of zinc or bismuth or one with camphor and calamine (Formulæ 52, 53, 54), spread on thin layers of absorbent cotton and lightly bound over the part with gauze bandage. Care must be taken not to tear off the dressing when it adheres; it should be softened with hot water, and immediately reapplied, dusting the surface first with aristol, if there is suppuration. It is often well to leave adherent portions, cutting off the rest, allowing it thus to heal beneath the scab. The use of the vaccination shields now in the market saves much of the subsequent inflammation, and they should always be used in those with any eczematous tendency.

CHAPTER XI

ECZEMA OF THE FEET AND LEGS

IT is very important to recognize and to remember well the anatomical and physiological relations of these parts in connection with eczema of the lower extremities, because much of the disease in this locality owes its existence and obstinacy, in a large degree, to the circulatory relations belonging to this region. Not only is this portion of the body the farthest removed from the centre of circulation, but the dependent position usually assumed greatly augments the difficulty, which is often further increased by the binding of garters. Eruption on the feet is also aggravated by many of the foot coverings in common use.

Eczema of the feet and lower legs is commonly associated with greater or less varicosity of the veins. These may be large and tortuous, and plainly visible, or they are quite often deeply seated, and are only discoverable on passing the finger over the limb with a little pressure. When present in this deep, slightly marked form, small, soft, depressions,

with hard edges, will mark the seat of the thickened and dilated veins, with their valves rendered almost useless by disease; these are quite as important indications as are the large veins which are visible. In other cases the weakened state of the blood-vessels is seen in the dilated capillaries of the foot. In still other cases the impeded circulation may exhibit very few of the signs ordinarily recognized, and yet be an important factor in the eruption.

But while this imperfect circulation is recognized as a prominent element to be considered therapeutically, it must also be remembered that this cause is not sufficient of itself to produce eczema, and that the many other factors which have been alluded to elsewhere may contribute to its existence and continuance. Of the many whose occupation requires much standing, comparatively few have varicose veins, and of these latter a still smaller number develop eczema of the lower extremities; and, again, one sees many cases of eczema in this locality, as in children, where there is little or no varicosity of the veins. Other causes exist, and careful and complete medical investigation will seldom fail to detect impairment of health and of function. Abdominal disorder can generally be made out, and portal congestion, indicating hepatic and renal inactivity, as a rule exists in these cases; and these together are a cause both of the eczema and of the varicose veins.

Occasionally eczema of the lower extremities will

be one of the first indications of a general breakdown, especially in persons past forty or forty-five years of age; indeed, a severe eczema in this location may always be taken as a sign of greatly impaired nutrition and health, and the most active tonics will be required. Eczema in this region should always lead to careful investigation of the general health, and especially of the functional activity of the kidneys, and should never be neglected or treated with purely local or palliative measures.

But local causes are also especially operative in connection with eczema of the lower extremities, and should always receive careful attention. The exposed position of the feet and legs, and their liability to injury, and also to the effects of cold, render the skin of this region peculiarly susceptible to eczema, and also to the formation of ulcers. In addition to wounds, bruises, and abrasions, these parts are often subjected to irritation from harsh woollen underclothing, and occasionally poisonous dyes, in socks especially, will originate the eruption and may prolong the same. But a still more potent exciting cause is found in scratching, which must ever be borne in mind, for it often plays a most important part in the production and continuance of the eruption. There may be some little itching, from various causes, and the patient gives way repeatedly to the desire to scratch, until, from an apparently healthy skin there may result eczematous

surfaces or even ulceration; and, as repeatedly urged elsewhere, continued scratching can prolong the eruption indefinitely.

Diagnosis.—The extent and severity of eczema of the feet and legs may differ greatly in individual cases, from a trifling patch of erythematous or papular eruption to one covering both limbs and causing the greatest amount of suffering. The progress of development may also vary much, and while in one patient a patch may remain quiescent and chronic, in another it will develop with great rapidity and quite incapacitate the sufferer.

Eczema of the feet may be acute, sub-acute, or chronic, although really acute conditions are comparatively rare. It may linger about and between the toes in a sub-acute condition and thus give rise to much inconvenience; here and upon the tops of the feet it presents the ordinary appearances of the disease, and there should not often be difficulties of diagnosis. It is well to remember, however, that mucous patches of *syphilis* may sometimes come between the toes and greatly resemble moist, soggy patches of eczema.

Vesicular eczema about the toes and sides of the ankles can easily be mistaken for *pompholix*, as may happen about the hands; the diagnostic features were considered in the last chapter, and in general it may be stated that the remarks made there about many conditions apply equally well to the feet.

Eczema of the soles is much less common than that on the palms, and the differentiation between it and *syphilis* and *psoriasis* in this location is the same as has been given in connection with the eruption on the palms; there are, however, some other diagnostic elements to be considered.

The additional diseases observed on the soles are *hyperidrosis* and *tylosis*. In the former there is a sodden, white or red condition of the tissues, due to prolonged sweating, which may suggest congestive eczema. But the history of the case and the absence of itching establish the diagnosis. *Tylosis* exhibits masses of epidermic thickening, which may occur on parts especially exposed to pressure, but can at times cover the entire sole; it may crack, but seldom presents this feature to a great degree, and does not itch.

Eczema of the lower legs may exhibit all the phases of the eruption shown elsewhere, alone or associated with eczema of other parts. The most common and typical form is that known as *eczema rubrum* or *madidans*. When fully developed this is characterized by a red, raw, moist, weeping or "leeting" surface, accompanied with much pain and aching, or itching when the skin becomes dry. But the eruption is not always present in its most characteristic form, and often the applicability of the term *eczema rubrum* is not at once apparent; for, when first seen, the affected surface may be

more or less covered with large, yellowish, and brownish scales and crusts, sometimes of considerable size, and only between these can any red surface or moisture be seen. But these crusts or scales are found to be easily detached, and beneath them there is a slightly moist, reddened condition of the skin; if, now, a water dressing or an impermeable covering be applied, there results a surface bereft of normal epidermis, reddened, and exuding a sticky fluid. When this is still kept covered with dressings which exclude the air, or if it be frequently cleansed, it remains red and moist, discharging a greater or less amount of a glairy, sticky secretion. If left exposed to the air, this dries, and there are again formed the same scaly and crusted masses.

While this diffuse, erythematous form of eczema, breaking down and tending to exhibit an exuding surface, has been mentioned as the typical variety of eczema on the lower legs, many other forms are constantly seen there, although perfect vesicles are very rarely observed. There may be a more or less general eruption of scratched papules, or chronic, circumscribed patches, infiltrated and itching greatly, which sometimes present considerable difficulty in diagnosis.

Eczema of the lower leg, when exhibiting a typical, raw surface, need present no difficulty of diagnosis; but when the lesions are scattered and irregular they might be confounded with *psoriasis*,

lichen planus, *syphilis*, and possibly *erythema nodosum* and *purpura*.

Certain patches of dry, scaly eczema, especially about the knee, often suggest *psoriasis* very strongly, and some of the lesions can hardly be distinguished from those of this disease, especially after treatment. But *psoriasis* commonly exhibits the eruption elsewhere which will aid the diagnosis, and the thickened, itchy patches of eczema are really different from the more superficial, reddened or scaly surfaces of the former.

The characteristic flat-topped, purplish papules of *lichen planus* should not suggest eczema, but in long-standing cases there will often be formed large patches of diseased tissue, which may be very difficult of differentiation from chronic eczema. These are, however, apt to be of a purplish brown, with a roughened surface, giving off little or no scaling, and always dry, even under considerable stimulation. *Lichen planus* may itch, but not to the same degree as eczema.

Some of the large patches formed by papulo-tubercular *syphilis* on the legs may resemble chronic eczema; but generally a careful study of the component parts of the eruption will show separate papules or tubercles characteristic of *syphilis*, and there will commonly be other indications of constitutional infection. In all of the lesions of *syphilis* there is ordinarily observed the feature,

alluded to elsewhere, of spreading peripherally and healing within the affected area, which contrasts with the picture presented by eczema, which is worse within and tending to heal toward the outer limit of the patch.

Ulcer of the leg is a very common accompaniment of eczema, and is often to be looked upon as but a heightened condition or state of the same eczematous process, dependent upon the enfeebled state of the tissues from circulatory disturbance. The ulcer may occur on a varicose leg without much or any eczema, but very commonly there will be an area of inflamed skin around, which will often add greatly to the discomfort by the itching. The edges of the ulceration are apt to be hard, brawny, and everted, the base may be covered with indolent granulations, giving off a moderate amount of sanious, watery pus; there is also generally a very considerable degree of pain, of a deep aching character, aggravated when the limb is in a dependent position, and materially relieved when the body is recumbent or the foot elevated above the level of the heart.

The diagnosis of eczematous ulceration of the leg presents, in the main, the single difficulty of differentiation from *syphilitic ulceration*; this must always be carefully made, otherwise the treatment to be described will be useless. Ulcers of syphilitic origin are rarely found on the lower portion of the limb alone, without the existence of present or previous

ulceration above the middle line, or even on the upper third of the leg; thus, about the knee there will not infrequently be seen scars of previous lesions, whereas eczematous and varicose ulceration begins and is generally confined largely to the lower third. The latter are also commonly on the front or immediate sides of the limb, whereas those of syphilis are apt to occur on the calf.

Generally the syphilitic ulcer, which is the result of a broken-down tubercular or gummy deposit, has a sharply cut edge, slightly undermined, and a grayish pultaceous floor, with abundant and foetid pus, and quite different from the hard, indolent ulcer of eczema. The syphilitic lesion tends to be round, varicose ulceration of more irregular shape; in the former there is more pain at night, whereas the varicose and eczematous ulcer is relieved at that time. When syphilitic ulcerations have lasted a long time, however, they sometimes run together and lose some of their characteristics, especially if they chance to be on a varicose leg, and the diagnosis may then be very difficult. The lesions of syphilis always leave decided cicatrices, sharply defined, and of a brownish hue, to which the designation "coppery" has often been given. Old eczematous ulceration is also attended with decided pigmentation, but it is generally of a darker brown or purple shade, and the outlines of any scar left are never so sharply defined as after the lesions of syphilis.

There is a condition which sometimes develops in a leg which has long been the seat of eczema, with perhaps ulcerations, which calls for special mention, as it frequently assumes a form strongly suggestive of *elephantiasis Arabum*, and is indeed a *pseudo-elephantiasis* from a quite different cause. In this the tissues take on an enormous hypertrophy, and the leg and perhaps the foot may be enlarged, even to many times the normal size. The surface may have quite recovered from any eczematous action, and be natural in color, or brownish; the tissues are felt to be hard, firm, and dense, or there may be some pitting on pressure; there is an hypertrophy of all the elements of the skin, owing probably to lymphatic stasis. There is little to distinguish it from true elephantiasis or Barbadoes leg beyond its sporadic character and the absence of the filaria causing the latter.

Eczema is very prone to attack the popliteal spaces in young persons, less commonly so in adults; here it presents the usual characteristics of a more or less evenly reddened and thickened surface, with some crusting or scaling, and often great itching; when severe fissures may form and walking may be very painful.

Eczema of the thighs is generally conjoined with eczema of other parts, and may exhibit any of the phases of the disease. The itching is often excessive, causing great distress. The eruption occurring

about the fork of the thighs will be considered in the next chapter, in connection with that of the anus and genital region.

Upon the thighs and legs there sometimes occurs a very rare disease, *prurigo*, which can easily be mistaken for papular eczema. This is characterized by hard, shotty papules, deeply seated, either of the color of the skin, or reddened, and intensely itchy. When the disease has existed some time the surface may be greatly scratched and the skin thickened and pigmented, and much resemble eczema. But the disease is papular from first to last, generally with considerable swelling of the glands in the groin, and commonly remains largely confined to the thighs and legs.

There is also another affection, *pruritus hiemalis*, which, when the skin has been torn by scratching, may suggest eczema on the legs and thighs; but the history of recurrence with cold weather, the absence of definite lesions, except as the result of scratching, and the peculiar location on the thighs and calves, also on the upper arms, serve to distinguish this *pruritus* from eczema.

Prognosis.—Eczema of the lower extremities is sometimes very intractable and will tax the patience very greatly; but with proper care it can be cured, although relapses are not uncommon, unless the conditions of life can be materially changed. In those who must still remain much on the feet it is often

necessary to continue mechanical support to the parts, in the manner to be described, for a long time even, after all local disease has disappeared; it is also necessary to guard against the intestinal and renal conditions which have been alluded to.

Treatment.—Eczema of the lower extremities should always receive careful attention and thorough treatment, both constitutional and local; for, if neglected, it can lead not only to great distress, but can incapacitate the sufferer from work.

Internal Treatment.—This does not differ in principle from that belonging to the disease elsewhere, but there are certain elements which must be specially attended to in order to secure success. The observation can be very readily made that the eruption, in very many of these cases, is always vastly worse whenever constipation occurs, and the relief afforded by free purgation can also be constantly seen. There is no question that obstructed portal circulation has a great influence in the production and continuance of eczema on the lower extremities. This matter, which should always be very carefully attended to, will be more fully discussed in the next chapter, on eczema of the anus and genital region, where its relations are most striking.

The condition of the urine should also receive most serious attention, for very many of these cases are associated with deficient or imperfect urinary secretion, and success in treatment will often depend

very largely upon the measure of relief afforded to this condition. The matter under consideration does not relate to the presence of albumen or sugar, for, among thousands of examinations made, I have found them but rarely in these patients. It has reference rather to renal inadequacy, in which the secretion may be deficient in its solid or liquid constituents, or both, or be faulty in regard to the urea or its chemical components. This is too large a subject to enter on fully here, but is one which well repays careful investigation and therapeutic consideration, and the application of the broadest medical acumen.

It is not necessary to go over again a consideration of the remedies and combinations which are of value in eczema of the lower extremities, which are much the same as mentioned in other chapters. But a few words may be added in regard to the urinary relations which have been referred to.

As before stated, very radical departures of the urine from normal, deficient or excessive urea, uric acid, urates, oxalates, phosphates, chlorides, sulphates, etc., may be dependent upon conditions quite apart from the kidneys themselves, as witness the presence of bile in the urine in serious hepatic disturbance. The true cause must therefore be sought and the trouble rectified, instead of simply whipping the kidneys into action; for it must be remembered that these organs cannot make healthy

urine from unhealthy blood brought to them. The most varied treatment may, however, be necessary to secure the proper functioning of the various organs which take part in the life processes which lead up to eczema.

It is to be recognized, therefore, that this imperfect or deficient urinary secretion has not always, or even most frequently, to do with the health or action of the kidneys themselves, so much as it has with the proper action of all the organs which contribute to assimilation, nutrition, and disassimilation. Taking the urine as a guide, with a knowledge of the quantity passed daily, the specific gravity, the acidity, the urea equivalent, and the relative quantity of its various salts, etc., and we have an indication of the manner in which the various functions of the body are performed, and a means of determining many matters in the line of diet and therapeutics.

Finally, the rôle of debility in the production of eczema of the lower extremities must never be forgotten; many cases exist and continue simply from a relaxed state of the system and anæmia, which again is conjoined with feebleness of heart action and want of capillary tonicity: and iron, strychnine, digitalis, and ergot often play an important therapeutic part in these cases.

The subjects of diet and hygiene should never be overlooked, as dwelt upon particularly in the special chapter. Alcohol in all forms is generally harmful

in the conditions under consideration, although in the elderly, who are often thus troubled, wines, or even spirits, in moderation may be of service in keeping up the general tone, even in eczema.

External Treatment.—As in eczema in other localities, the selection of the right local remedies and measures in each particular case is of the greatest importance, and sometimes of the greatest difficulty.

Acute lesions are to be treated as detailed in regard to the eruption in other localities, and this need not be dwelt on here; the same is true also in regard to most of the chronic conditions. Sub-acute eczema about the toes does very well with the tannin or tar ointment (Formulæ 56, 59) spread lightly on cotton.

Chronic eczema of the soles can generally be treated more satisfactorily and successfully than that on the palms, by much the same measures, because of the greater ease and readiness with which applications are kept continuously applied; patients are quite ready to wear these day and night when necessary. The diachylon ointment (Formula 58), with, perhaps, the addition of five per cent. of powdered salicylic acid, is one of the most useful applications. It should be spread thickly on the woolly side of lint, cut to fit the affected part, and be worn continuously, renewed twice daily. If there is much itching, tar or ichthyol, six per cent., may be added. An additional method, often of

great service in these cases, is the constant wearing of oiled silk, cut of the proper size and sewed within the stocking; this is worn night and day, the stocking being changed each time, turned inside out, and left to dry and air. The constant maceration of the parts tends to remove the thickening, and gives great relief.

Eczema of the legs requires very different local treatment according to the condition of the eruption and the idiosyncrasies of the patient, and disappointment, from time to time, as to results, is not an infrequent experience. In the more acute conditions cooling lotions (Formulæ 5, 7, 9) are most serviceable, freely and repeatedly sopped on. When there are itchy patches great relief is obtained by painting them with a solution of permanganate of potassium (Formula 20), either used alone or followed, when dry, by one of the lotions. More thickened and hardened patches may require stimulation, by the green soap alone, or in tincture, or with caustic potash solution, as mentioned elsewhere, followed by a proper ointment. Here again the diachylon (Formula 58) seems often about the best, to which tar, salicylic acid, or sulphur may be added. The pastes and pigments (Formulæ 35, 38, 40) answer very well, with from five to ten per cent. of ichthyol.

In the treatment of what has been spoken of as the typical eczema rubrum of the lower leg, where there is an area of some size occupied by a sub-acute

eczema, with a red, raw, oozing surface, it will sometimes be difficult to find applications which are comfortable and curative; occasionally only the mildest zinc ointment will be borne, but as it improves stronger applications, such as tar or salicylic acid (Formulæ 56, 62, 63), will be of service, and in old cases there can, finally, be used with advantage a great amount of stimulation with green soap. The limb may even be rubbed with a brush and the soap to such a degree as to cause the water in a basin in which the foot is placed to be red with blood, as mentioned in the chapter on general therapeutics; but this requires great caution, and the selection of a proper ointment for immediate application after the lather has been bathed off. For this the diachylon often serves the best.

In the earlier part of this chapter attention was called to the very great importance of the circulatory relations to eczema and ulceration in this locality. In many cases of eczema and ulcer of the lower extremities the greatest advantage can be obtained by rest in bed, and some cases seem impossible of cure without such aid. Where this is infeasible, great benefit results, in many instances, from elevating the limb, even higher than the head; that is, when resting, or in the evening, the extremity is to be elevated, not on a stool or chair, but placed actually higher than the head, either by lying down, or leaning back in a rocking-chair and resting the foot on a

table, or higher. It is well also, in many cases, to elevate the foot of the bed by means of a couple of bricks under each post, on the floor, so that during the night the blood pressure is a little relieved.

But the erect posture during the day will often have a most unfavorable effect upon eczema and ulceration of the leg, and unless its effects can be counteracted the condition is often very rebellious, if not incurable. The principle of support to the limb has long been recognized, and various methods have been employed to effect this result, in the way of roller bandages of different materials, elastic and laced stockings, etc. But very considerable experience, in the employment of many of these, has led me for the last twenty years, in hundreds of cases, to use only the solid rubber bandage, which, if rightly managed, will constantly be followed by brilliant results.

The rubber bandage yields with every motion of the limb, as the cotton or flannel bandage cannot do, and by its constant, elastic pressure, supplies that which is lost by disease, in the natural elasticity of the tissues; the maceration produced also aids materially, in certain cases, an element which is wanting in the woven, elastic webbing bandages which have sometimes been advocated. Nor can this be obtained by placing rubber tissue beneath them.

As contrasted with the elastic stocking, still in

common use, the rubber bandage has very great superiority. While the former is of a definite, fixed size, and even stretches with age, thus becoming looser as the limb becomes smaller, the rubber bandage is adapted to the daily requirements of the case; it may be applied loosely if there should chance to be more swelling, while as the limb grows smaller under treatment the bandage follows it, and may be made to suit the necessities of the case to the very end. Moreover, the elastic stocking may give much irritation to diseased surfaces, both by the manipulations necessary for its application and removal, and by its rough, uneven, and often irritating character, and its tendency to adhere to affected parts. The solid rubber bandage leaves a moist surface, and on its removal no violence is done to the tender, newly formed tissues beneath. The rubber bandages are very much cheaper, and under proper care will outlast an elastic stocking; I have known the same bandage to be worn continuously for from six months to a year.

The hard, unyielding laced stocking cannot be compared with the solid rubber bandage for utility and comfort; it combines the disadvantages of the ordinary cotton, flannel, or mesh bandage and those of the elastic stocking.

The solid rubber bandage is not applicable to cases of eczema presenting very acute phenomena, although it may often be applied with advantage to

those with raw surfaces. It is especially serviceable in the more chronic cases, such as usually resist all measures commonly employed. In these cases, where there is a long-standing, red, very itchy, and scaly condition of skin, covering a larger or smaller area, it may be at once applied, with the expectation of great relief. The bandage may, and often does, cause an eruption of its own for a short time, sometimes for a longer period; this takes the form of a few scattered, minute, superficial pustules, running their course rapidly. But these need not interfere with its employment, for they soon cease to be produced, and the affected surface heals kindly. Occasionally it may be best to place a bit of thin linen, well fitted, or a very thin layer of absorbent cotton, over the affected area; but as a rule this is not required, and often does harm instead of good.

The solid rubber bandage is particularly serviceable in those cases where ulceration exists, and especially in those which are associated with enlarged or varicose veins; in many of these cases it forms the sole local treatment, and is alone sufficient for a cure. Occasionally, however, cases occur where the skin, or the fresh granulations of an ulcer, will not bear the bandage, either because it is directly too painful or because the patient does not succeed in so applying it as to have it render the service required. But, even in these instances, a short discontinuance of its use, with suitable local treatment, and a subsequent

careful readjustment, together with particular instructions in regard to its application, will generally remove all difficulties.

In regard to the bandages themselves, they should be made of the best, selected, pure rubber, as thin as possible and very elastic; many of those furnished are far too heavy and clumsy. They are ordinarily three inches wide by twelve to fifteen feet long. Formerly I had tapes attached to one end, but for some years I have discarded or even cut off these, and secured the end with a safety-pin, exactly as with a cloth bandage.

The mode of application of the bandage is comparatively simple, but some attention to details is necessary in order to secure the best results. The envelopment should invariably be commenced at the toes, just behind the joint of the large toe, and after two or three turns around the foot it is passed around the ankle and beneath the foot, and then continued up the leg. It is not necessary or best to reverse the turns, as with the cotton bandage, for with a little manipulation the rubber may readily be made to yield so as to be smoothly applied. In order to have the bandage hold firmly it should extend almost to the knee. In case the eruption extends above the knee, a second one may be begun where the first ceases, and thus the envelopment be made even to the groin; I have had four bandages thus worn at once with success in private practice.

It is to be remembered that grease or glycerin must not be applied to and left on the skin, for either will soon destroy the elasticity and worth of the bandage.

Care must be exercised that the bandage be not applied too tightly; ordinarily it need be drawn only firmly enough to perceive that there is the slightest possible stretching of the rubber, no more. I always apply the bandage myself the first time, and have the patient watch very carefully, taking pains to give instruction at each step; and I find that even the more ignorant patients in public practice can soon acquire a great deftness in their application, and continue to wear them with the greatest comfort, even after all urgent need of them has ceased, simply for the support given to the limb.

As a rule, it is better to have the rubber bandages worn only during the day and taken off after the patient is in bed; in the morning they should be put on also while the patient is still in the bed, care being exercised to avoid, if possible, putting the foot to the floor or even lowering it, without the bandage. On being removed the bandage is immersed at once in water in which there is a little thymol or carbolic acid (1:1000). The leg is then gently wiped off with the same, but with as little exposure and friction as possible, and dried carefully. If there is still a discharging, eczematous surface, a cooling lotion (Formulæ 5, 9) may be

sopped on and allowed to dry, and the leg left free, or covered with a very slight layer of absorbent cotton and lightly bandaged with gauze. When there is a raw, exuding ulcer, it may be protected with a suitable ointment (Formulæ 52, 53) spread on lint or absorbent cotton. If itching or other cause should render it desirable to apply an ointment to an eczematous surface, this should be well, but gently, removed in the morning by wiping, before the application of the rubber bandage. After the leg is dressed for the night the bandage is removed from the water, wiped dry, and hung up to air.

A caution may be given in regard to discontinuing the use of the rubber bandage. Much harm can result by leaving it off during treatment, even for a single day, from the blood distension of the limb, and also if discontinued too soon there may be a relapse of the eczema or the ulcer. Also if it is left off suddenly in cold weather there may be harm, and it is then well to substitute some other extra dressing to the limb, for warmth.

The reason for the great value of the pure rubber elastic bandage in eczema and ulcerations of the lower legs can very readily be understood in the light of the anatomy and physiology of these parts. While the impulse of the blood from the heart, aided also by the elasticity of the arteries, suffices to carry it to the utmost parts of the body, the current is diffused

and impeded in the capillaries, whose total area is enormous. As these are gathered again into the veins the stream becomes very sluggish, but is kept in motion by the *vis a tergo*.

There is, however, another element in the circulation which is of vital importance, and particularly so in connection with eczema of the lower extremities. It is well known that veins have valves directed towards the heart, which are especially large in the vessels of the lower extremities. These are of more service than simply to prevent the return of the blood which has welled up from the capillaries. They are active elements in the circulation; they are, indeed, the valves belonging to a second heart-like power, which assists in propelling the blood, namely the voluntary muscles of the trunk and limbs. Each time that a muscle contracts, as in walking, the blood is forced from it and the flaccid veins which it surrounds, and as it cannot be crowded backward, because of the valves in the veins, the current is impelled onward toward the heart. Now, when there is not this alternate contraction and relaxation of the muscles from constant use, but simply continuous strain, as in standing, the circulation loses just this impulse; and the veins, unable to stand the constant pressure unaided, become dilated, the valves are stretched open and cease to act, and all the consequences of impeded circulation result.

Further, with this slowed and imperfect venous current there naturally follows a defective and blocked capillary and lymphatic circulation, and, as a consequence, retarded absorption of waste products from the tissues; hence the tedious removal of the results of inflammation, eczematous and other. With this imperfect capillary action the lymphatics find the performance of their functions interfered with, and hyperplastic tissues result.

Clinically the processes mentioned and their results may be observed very readily in any dispensary clinic. Thus, it is to be remarked that the patients with varicose veins, ulcers, and eczema of the lower legs are not commonly found in those who are much on their feet in walking, but on those who are obliged to stand for long hours more or less quiet. One rarely sees these troubles in postmen who frequently walk twenty or more miles daily, nor even in policemen on patrol duty, or in girls doing upper house-work, running up and down stairs; but they occur commonly in those with such occupations as cooks, laundresses, typesetters, car-drivers, wood-turners, and others who remain long standing without much active movement.

The practical application of this study relates to the method of treatment which has been dwelt upon at such length, namely, the rubber bandage. This supplies to the tissues of the leg the elasticity which has been lost by disease or otherwise, and during

exercise acts as a propelling force for the blood; the elastic rubber yields with each motion, and contraction follows expansion. As a rule, therefore, the patient wearing a rubber bandage for lesions of the lower extremities will be benefited far more than injured by any moderate amount of exercise. I therefore urge my patients thus treated to walk as far as reasonably possible, short of fatigue, but with caution at first. In one instance a man who had been confined in a hospital for six weeks, with eczema and ulcers of the leg, with very little improvement to his condition, walked six miles the day after the application of this bandage. Another patient, with varicose ulcer of the leg, which was so painful as to confine him to bed, so that the bandage was applied while there, walked several miles the day following its application, and remained on his feet working until cured.

CHAPTER XII

ECZEMA OF THE ANUS AND GENITAL REGION

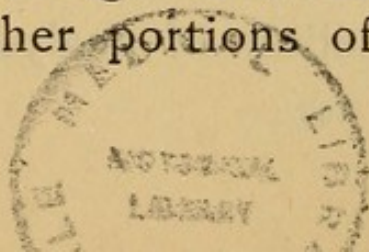
THE misery which may be endured by patients affected at all severely with eczema about the anus and genital region can be but little appreciated except by those who have thus suffered, or who have had much to do with those thus afflicted. Cases of the eruption in this locality are far more common than may be imagined or than appears from any statistics; and the many instances met with where the eruption has already lasted a great length of time indicate that the importance of the disease in this locality is not fully appreciated by the profession, and that the measures which will give relief are not as well understood as they might be.

Among the four thousand cases of eczema in private practice, there were over four hundred, or more than ten per cent. of the entire number, in whom these parts were invaded at one time or another. The records of hospital cases were not kept with sufficient minuteness to allow of analyzing them in

this respect, but I do not think that it would fall far below this proportion. But even these figures do not represent the real frequency of the eruption in this location, for sufferers from eczema of the anus and genital region generally hide the trouble until it has become unendurable; this is especially true in regard to females. Shame undoubtedly prevents many from exposing maladies of these parts to the knowledge of others, while many associate disease of this region with the idea of sexual transgressions. Again, many with eczema of the anus imagine that they have piles, indeed many cases of this trouble very often pass among the general profession as "itching piles," and fall into the hands of advertising "pile doctors," or use some of the many advertised remedies. Eczema about the genital folds often passes for simple chafing until it is deep-seated, and the long continuance of the causes and results has induced a condition difficult of cure.

Eczema of the anus and genital region does not differ essentially from the same disease manifested elsewhere, but there are certain peculiarities which demand especial consideration, and certain elements in its management which require particular description; for it is in the details of practice that the difference often lies between success and failure.

The etiology of eczema in the regions under consideration is, in general, the same as that of eczema affecting other portions of the body; it is not a



purely local malady, but has the constitutional relations which have been previously described as belonging to the disease in general. Indeed the local causes are often more difficult to discover and demonstrate here than in regard to the disease in almost any other region of the body; the eruption will come most unexpectedly, and generally no adequate external cause can be made out, although there are some local elements which probably are of etiological importance in certain cases.

In regard to eczema of the anus it is quite possible that an irritating condition of the secretions of the parts may be the exciting cause in some instances; also an acrid state of the intestinal discharges, and the passage of hardened fæces may excite the eruption. The use of improper or irritating toilet paper, also very rough underclothing, may act as local irritants. Eczema of the scrotum can originate from excitation or chafing from underclothing, or horseback riding, or possibly from an irritating character of the secretions of the part. Eczema in the genitals may follow upon a gonorrhœal discharge, and in the female from deranged vaginal secretions, etc.

But all of these, and perhaps many more, local causes can exist in certain individuals and yet never provoke an eczema, and they may even have occurred to the same person on previous occasions and yet not have caused the eruption. As in the case

of eczema elsewhere, there are other deeper causes, which have to do with the habits and life of the individual.

A very common accompaniment of eczema of the anus, and also of that in the genital region, is a greater or less congestion of the portal and hæmorrhoidal circulation, manifested by a purplish engorgement of the mucous membrane of the anus, or very commonly by a greater or less degree of external or internal hæmorrhoids. These latter may not be sufficient to be recognized by the patient, and may be observed only on deep examination, and yet be an important element in the case, as indicating the state of the deeper circulation and the action of internal organs. With this hæmorrhoidal congestion is commonly found associated constipation, or, as it might be more properly called, imperfect intestinal excretion, generally with faulty liver action. The bowels may perhaps have one or more discharges in the day and yet the total amount be very deficient; or there may be various derangements in the color or character of the stools. The more I see of these cases the more I am convinced of the very great influence which this element has upon them, and of the importance of securing proper intestinal discharges.

The condition of the urinary secretion has also a very great influence in eczema of the regions under consideration. Oxaluria is a common accompani-

ment of eczema of the anus, while all the other derangements alluded to in the last chapter may have a bearing on the case. This secretion should therefore be studied repeatedly in connection with the treatment of eczema in this region.

Diagnosis.—Eczema about the anus and genital region may present the usual features of the eruption, and can also exhibit some which are peculiar.

Acute eczema of the anus is not very common, except when it occurs by extension from other parts; as a rule the eruption is insidiously developed, slowly increasing from a slight pruritus, until, by neglect or bad treatment, and by the irritation of scratching and rubbing, it may involve an extensive area. About the genitals, however, we may and frequently do have a more or less acutely developed eruption, with great heat, redness, and swelling, either alone or in connection with eczema of other parts. All degrees and grades of chronic eczema are observed in this region, and sometimes those cases which present very little external evidence of disease may give rise to great suffering.

About the anus the visible lesion will sometimes consist of but a slight amount of thickening of the muco-cutaneous surface, with a little purplish congestion, and perhaps rather a few superficial excoriations on or between the folds of the part; and yet the distress from itching and pain may be very great. Varying degrees in the extent and severity of

eruption are seen, and in aggravated cases the entire anal and genital region may be the seat of a greatly thickened, moist, exuding surface. Very often the condition seen is a whitened, soggy state of the parts between the buttocks, with some excoriated points, and a thickening and deepening of the natural furrows in the mucous membrane about the anus; the eruption also very often extends over the perineum.

Eczema of the penis and scrotum is commonly seen in the sub-acute or chronic form, although at times the inflammation may be very severe, causing great swelling and distress. Most commonly the eruption takes the erythematous form on the penis, with an even, reddened, and slightly scaly surface, with considerable œdema and thickening of the skin and great itching: on the under surface it is apt to be slightly moist.

Chronic eczema of the scrotum may be general or local. Often the anterior portion alone is involved, or the eruption may attack the under surface of the penis and extend along the raphe, even to the anus; but general eczema, affecting the whole scrotum, is also very common. When affected most severely there may be very considerable swelling, which consists of some œdema but mainly of thickening of tissue, even to many times its normal state, as is felt by pinching a fold between the fingers. The eruption in this location is usually of the erythematous variety, with no vesicles: when left exposed it

is dry and may become covered with thick scales, but when torn by scratching or covered with an impermeable dressing it will exude greatly, and may be moist where it touches the thighs. The itching attending extensive eczema of the scrotum is most severe and distressing, and even the most intelligent patients often cannot refrain from tearing the part in efforts to get relief; in milder cases pinching the tissues suffices and will be done continually.

On the sides of the scrotum there will often develop a papulo-pustular *folliculitis*, which may be annoying: the papules are at first white and shotty, and soon become pustular, but seldom attain much size, and though they may give rise to considerable soreness they do not complicate matters much, as they generally yield to the proper treatment for the disease.

Eczema of the female genitals may likewise exist alone or in connection with eczema of other parts, and is generally of a sub-acute or chronic variety. It may be found in varying degrees, from a slight erythematous or vesico-papular eruption upon the labia, causing relatively little annoyance, except occasional itching, up to one involving the entire region, and giving rise to intolerable suffering from the itching and rawness resulting from scratching. In some cases it extends far into the vagina, and the mucous surface of the labia and beyond is seen to be hard, dry, and thickened, often studded with

excoriations from scratching and rubbing; for often it seems impossible to reach the deep-seated itching. In very severe cases, the labia, external and internal, become the seat of enormous hypertrophic thickening.

In the crotch eczema may occur by extension from other parts, but more commonly arises independently and often as the sole manifestation of the disease. It will frequently begin as a slight intertrigo, or chafing, and from neglect or improper treatment can persist in a mild form for a considerable length of time, giving moderate annoyance; it may then suddenly light up into a severe inflammation, causing great distress, mainly by the soreness. The eruption here is usually of the erythematous variety, with much tendency to exudation, which will form a pasty mass with powders and remedies which have been applied. A good deal of the eruption in this region is of a parasitic origin, the *eczema marginatum*, a variety of ringworm, which will be more fully considered later; often this is an independent affair, but frequently it comes as an addition to a pre-existing eczema, the growth of the parasite being favored by the diseased and moist condition of the epidermis.

There are relatively few conditions which can be confounded with eczema in the region under consideration, but some of them are very important.

In a certain number of cases *pruritus* alone may

exist, both about the anus and also affecting the male and female genital organs; this may give rise to so much scratching that there occur abrasions resembling eczema, and often leading up to it. In simple pruritus, which can give as much distress as eczema, there is an absence of thickening of skin and of exudation, when torn or irritated.

Some of the lesions of *syphilis*, about the anus, notably mucous patches, may simulate eczema, presenting moist, succulent lesions. But with these there is an absence of the itching which is always such a feature of eczema, the patches are often seen to be distinctly raised and quite sharply defined, and there are generally other symptoms of the disease which will aid in establishing the diagnosis. Mucous patches on the male and female genitals can also sometimes suggest eczema.

Upon the penis and vulva the vesicles of *herpes progenitalis* might be mistaken for eczema, but the peculiar and well defined grouping of these, their flat character, and the absence of itching would suffice to differentiate them.

The lesions of *scabies* are not infrequently found upon the penis, and when this exists there may be a great amount of itching in all that region, with many scratched papules on the thighs and lower abdomen. But a careful study of the case, the presence of the characteristic eruption elsewhere, and the history of contagion will differentiate it.

Occasionally *pediculosis pubis*, or the crab louse, will cause intense irritation about the genital region, even in the highest walks of life, with many scratch marks, suggestive of eczema. But sufficient care will discover the nits upon the hairs, and the insects clinging to hairs, close to the skin, appearing like small, dark crusts

Finally, *lichen planus* may attack the glans penis, sometimes even before it appears elsewhere. In this the papules are large, flat, of a dark purplish red, and sharply defined, and quite different from anything seen in eczema.

Upon the scrotum there are really no conditions which should give difficulty in diagnosis. *Pruritus* has already been spoken of; when this exists alone, though there may be scratch marks from the scratching, there is not the tendency to thickening and exudation. The old designation "prurigo scroti" is a misnomer; true prurigo does not attack the scrotum. *Syphilis* sometimes presents large, flat, papular lesions, which may run together, and become scaly or moist, but careful inspection will show them to be arranged in more or less of circles, and there will generally be other indications of the disease to serve as a guide. The scrotum may also be affected with eczema marginatum in the manner about to be described.

In the groin there is considerable danger of mistaking *eczema marginatum*, the *tinea trichophytina*

cruris, or the ringworm disease of this region for eczema, and when it has lasted a long time and lost some of its characteristic features the diagnosis may be very difficult; it may also develop on a pre-existing eczema, and become an annoying complication.

The characteristic feature of eczema marginatum, as its name signifies, is a tendency to advance, with a sharply defined, slightly raised, red, marginated line, while the surface behind tends to clear up more or less, leaving a brownish, slightly scaly surface. Eczema does not present this clearly defined margin, nor has it the tendency to clear up in the parts over which it has passed; so that, in the case of eczema in the crotch, we find the most severely marked disease at the fork of the thigh, and the eruption rather fades towards its outer portion, exactly the reverse of what is seen in eczema marginatum. In males it is common to find the eruption on the thighs in a shape corresponding to the points of contact of the scrotum, and the same may exist on the sides of the latter. In females the two thighs are also apt to be affected symmetrically.

This eczema marginatum may also extend upon the anal region, and we have then on either side of the buttocks, where they touch one another, a sharply defined, red, marginal line, with comparatively little redness or with a soggy condition of the parts within it. This eruption also attacks other

regions, and in those with pendulous bellies there may be the same margined eruption where the two surfaces come in contact, or extending beyond; the same is also seen in the axillæ. It should be further mentioned that there may be a fresh development of other rings, upon the surface which has been gone over, and there may also appear outlying points or circles, red and slightly scaly, resembling ordinary ringworm of the body.

But the diagnosis is not always as easy as might be inferred from this description; for, while in typical cases the features just mentioned are marked, there may also occur much confusion by the commingling of true eczema with the parasitic disease, which is not uncommon. It is essential, however, to recognize the parasitic element when it exists, for otherwise the case will resist treatment; whereas, when discovered, the proper parasitic remedies will often yield very brilliant results.

The existence of a tolerably well-defined margin, or perhaps of simply outlying, circular, red, scaly patches, or the occurrence of newly developed patches within an area previously affected, should always lead to the suspicion of the existence of this parasitic disease. The surface should then be scraped gently with a dull knife and the scales and débris be placed in equal parts of liquor potassæ and glycerin, and magnified three or four hundred times. It is not always easy to find the parasite, but a little

care and familiarity with the subject will generally reveal the spores and mycelium, if present. If not found at first the operation should be repeated.

Eczema marginatum itches most violently, indeed that is often an additional diagnostic mark, for there is generally not so very much itching in uncomplicated eczema in the groins. In females, especially, it is not very uncommon to find a marginate eruption in connection with the pruritus of glycosuria, due to the growth of the *penicillium glaucus* in the skin.

Prognosis.—This must vary somewhat with the case; but the condition is in the main curable. Sometimes there is a deep pruritus, which gives rise to the eczema again and again, from the attendant scratching, and some of these cases, exhibiting relatively little eruption, are often most obstinate. Some of the very severe cases are often most manageable, and an eruption which may have lasted for months or even years can, with exactly right treatment, yield in as many days or weeks.

Treatment.—The importance of a properly combined and rightly directed internal and external treatment in eczema is manifest more clearly in many of the cases under consideration than in eczema in almost any other portion of the body; not only will faulty local treatment be ineffective or harmful, but without proper internal and general measures many a case will prove exceedingly rebellious, if not incurable. Very considerable medical

thought and acumen will often be necessary to overcome entirely an obstinate case of eczema of the anus and genital region.

Internal Treatment.—Imperfect intestinal action was spoken of as an important feature in many of these cases, and this should always receive the greatest attention. It is not enough to give occasional purgatives, nor even to prescribe daily laxatives, for, unless much caution is exercised, the ultimate result in this direction may be bad instead of good. This, and some of the remarks in this and other chapters in regard to the management of this important element in the disease may seem trite and out of place, but I wish to impress the very great importance of dealing with this portion of the treatment rightly, as a *sine qua non* of the successful management of eczema in this locality. All the elements which conduce to bring about a healthy action of the bowels and of the organs of digestion must, therefore, be attended to; consequently, in the treatment of eczema about the anus and genitals, we must not be content with a few occasional and general questions and directions, or with the prescription of one or another purgative or laxative remedy. On the contrary, it may require no little trouble to insure a healthy evacuation of the bowels every day, and yet this must be accomplished. To this end attention is to be directed to the diet, exercise, regularity in attending to the call of nature,

in the morning, directly after breakfast, etc., while such assistance as may be necessary is to be given by means of medicines.

As a laxative in the beginning of the treatment of ezema of this region the pills of blue mass, colocynth, and ipecac (Formula 43) give excellent results, taken two at bedtime and surely repeated on the *second* night after. These pills should be taken only thus twice, and are not to be resorted to continually; but in many cases it is well to repeat them each week for a while. For more continuous action it is well to use a pill of aloes and iron (Formula 44), one or more just before eating. Very much may be accomplished in overcoming the constipated habit if these pills are taken regularly and systematically in diminishing doses; after a few days the noon dose is diminished or discontinued, then the morning dose, and finally they may be omitted; if required, they may be returned to, in full dose, and again diminished. The value of this method I can attest after many years' use in innumerable cases of this nature.

Mineral waters are frequently given to these patients, with the simple direction that the bowels be kept open therewith. In my experience this is an unwise procedure, and I believe that many persons are to-day suffering from constipation and consequent eczema of the lower parts because of injudicious stimulation of the intestinal tract with

these and other purgatives, while the cause of the intestinal inactivity, such as sedentary habits, erroneous diet, over-indulgence at the table, etc., have been allowed to go on unchecked. Nor is it sufficient simply to secure an emptying of the lower bowel by enemata; if employed at all these are to be used very rarely and for a definite purpose; for the habit of depending on water injected into the bowels, to excite the intestines to contraction, is worse even than that of depending on mineral waters poured into the other end of the digestive tube. I have seen some very bad cases of the eruption in this locality where enemata had been used very regularly. The mixture of magnesia and iron (Formula 29) often is valuable in these cases, taken after meals, and if necessary an additional dose on rising in the morning, in hot water. While other proper measures are used a compound cascarn tablet (Formula 45), taken at bedtime, is often of valuable assistance. When there is much hæmorrhoidal congestion, with internal or external piles, ichthyol internally, five to twenty drops, after meals, is very serviceable.

Many other measures may, undoubtedly, be of much value in meeting this feature of constipation in these cases, but I have preferred to mention the methods which have yielded me the best results, without attempting to exhaust the subject. Attention to details is of the greatest importance, and he

will but poorly treat these cases who contents himself with prescribing in a routine manner this or that remedy which has been proposed or vaunted by however high an authority. The character of the movements should be known and appreciated, and treatment directed thereto. When there is evidence of faulty liver action, with light-colored or very dark stools, or signs of intestinal fermentation, most varied remedies may be required ; for auto-intoxication from these causes can induce the disease, and irritating intestinal discharges may provoke anal eczema.

Next to imperfect bowel action has been placed deficient kidney excretion in eczema in general, and this is especially true in regard to the eruption occurring about the anus and genital region. The urine of these patients is seldom that of perfect health ; normal or disordered urinary secretion may be reported by the patient, but not infrequently the alteration from normal will be discovered only by careful chemical and microscopical examination. Often the patient will report the urine as being scanty and high-colored, depositing in and staining the vessel, or with a floating pellicle of phosphates ; or one will complain of frequent and imperative micturition, and the repeated calls to urinate at night will often increase the local irritation, so that the two together will often greatly disturb rest. Not infrequently there will be few if any subjective urinary symptoms and yet on analysis the urine may be of a high specific

gravity and very acid, with abundance of uric acid, urates, oxalates, etc.

These cases, therefore, often receive the greatest benefit from an antacid, and the one I commonly use is the acetate of potassa (Formula 22). Where there is sluggish liver and bowel action this is well combined with cascara (Formula 28), and if taken with absolute regularity, half to one hour before meals, is of the greatest service ; the amount of cascara should vary with the case, and may be gradually diminished, and finally omitted as the bowels regain normal action. Where oxaluria exists nitric acid (Formula 30) is very valuable, a laxative such as aloes (Formula 44) being given before meals, as already directed. In many cases constipation and imperfect intestinal action seem to depend upon simple debility, and iron with other tonics (Formulæ 31, 32, 33) suffice to restore normal action and cure the eruption.

It will be noticed, perhaps, that arsenic has not been especially advised in this or other chapters, and yet I see many cases where this was the only remedy which had been previously prescribed. I will say that the omission has not been intentional, but incidental to the fact that I rely on it so little. When there is a marked eczematous habit, arsenic is of some service, in combination with other remedies, as a modifier of cutaneous nutrition ; but it is often worse than useless where there is acute inflammatory action.

It is not necessary to enter more fully into the internal treatment of eczema in this location, for the principles belonging to the treatment of the disease in general prevail equally here. Strychnine and various nerve tonics may at times be required, and even cod-liver oil may occasionally be of service.

A word may be added in regard to some items not yet mentioned, but which at times have very important relations to certain of these cases. First in regard to stimulants. Alcohol in every form, even in wine and beer, acts very prejudicially in many cases of eczema of the anus and genital region, and must often be absolutely interdicted in order to obtain satisfactory results. Coffee, also, will sometimes be the cause of the persistence of an obstinate eczema of the anus; nor is it well to substitute tea in any amount, for its excessive use will also sometimes induce eczema. Often, also, chocolate and cocoa may be prejudicial to the liver action. Tobacco certainly acts badly in many cases of eczema of the anus, and also in that on the penis and scrotum; this I could illustrate by a number of striking cases, where each use of the article, even in moderation, was invariably followed by fresh eczema in this region. Finally it is to be mentioned that stricture of the urethra, even moderate in extent, sometimes operates, in a reflex manner, to produce and keep up eczema of the anus and genital region: the nervous and vascular supply of all these parts are very closely related.

External Treatment.—If proper internal and general measures are necessary in eczema of the anus and genital region, correct local treatment is, if possible, of even greater importance. Here especially, it is much not to do the wrong thing, and still more to do just the right thing; for these cases are often seen after they have been greatly irritated by injudicious treatment.

The first main point to be ever borne in mind in the treatment of eczema of these parts, is that more harm than good may easily be done by too strong applications, and that a soothing plan must be followed, certainly while there are signs of inflammation; stimulant remedies must be used with great caution.

In eczema of the anus the itching is sometimes so intense that patients will plead for strong remedies to stop the itching, and occasionally one sees cases in which stronger and stronger applications have been employed until the parts had been brought to a lamentable state of inflammation, with only an increase of the itching and pain: these same cases have then yielded to properly directed treatment, with comparatively mild local measures.

It is, of course, very difficult, and often impossible, to check the itching promptly, and relief can only come by the complete and proper treatment of the case. Much benefit can often be obtained by the right use of hot water; the water should be as hot

as can be borne, and applied exactly as follows: A handkerchief is dipped in the water and held to the parts for a short time, a minute or so, and then wet again and applied, three or four times in all, perhaps for not more than three minutes altogether; tepid water, too long bathing, or too frequent sopping of it, etc., may aggravate the trouble. The parts are then dried with a soft napkin, heated, and without friction, and the proper dressing immediately applied. Ordinarily it is best to use the hot water only once in the twenty-four hours, after undressing, and when quite ready to get into bed. It is to be premised that the patient must manage not to scratch before applying the hot water, and if the process is well done, and a suitable application is made immediately, it will not be necessary thereafter.

Before the parts are exposed and the hot water is applied the dressings to be used should be all made ready. Often a cooling lotion (Formulæ 5, 7, 9) thoroughly sopped on, instantly after the hot water, and left to dry, with a second application of it, ten minutes later, will be all that is required. If there should be itching later the lotion may be sopped on again, or the bit of handkerchief with which it is applied may be laid on the parts. In some cases an ointment (Formulæ 53, 55) is more agreeable; whatever ointment is applied should be spread very thickly on the woolly side of lint, cut to fit the affected part, and made ready before the hot water

is applied, so that it can be laid on instantly on removing the hot, drying cloths.

When a more antipruritic action is desired the ointment of tar and zinc, or oil of cade or ichthyol (Formulæ 56, 57, 63) is very effective, and its efficacy may be increased by the addition of a drachm or two of belladonna ointment in the ounce, or half a drachm of tincture of aconite (Formula 67). Where there is much tendency to hæmorrhoidal congestion and piles a tannin and stramonium ointment (Formula 68) gives great relief: this and other ointments may often be spread upon a very thin layer of absorbent cotton, and pushed well within the sphincter.

Great care should be exercised in resorting to stronger local measures in eczema of the anus, although later, when there is not much congestion of the parts, they may be of service. Oil of cade, carbolic acid, menthol, naphthol, resorcin, salicylic acid, calomel, white precipitate, may all be of service if used carefully in increasing strengths. When there still remains thickening, frictions with caustic potash (gr. x-xxx ad $\frac{3}{4}$ j) or the simple or compound tincture of green soap (Formulæ 17, 18), as described elsewhere, followed by diachylon (Formula 58) or a bland ointment, may be used with advantage. It is a common practice to touch fissures with a stick of nitrate of silver, but this must be done with caution, as I have sometimes seen it followed by great inflammation. Where there are well-defined and deep

fissures it may be necessary to have surgical treatment, and deep stretching, but this is very rarely required.

Eczema of the scrotum is to be treated in much the same manner; the applications of hot water, used as just directed, are very grateful, followed by the same local measures. The plasters of ointment on lint should be adapted snugly, and kept in place by a well fitting suspensory bandage; the ointment should not be rubbed on the part. When there is much thickening the pure oil of cade or oil of birch may be painted over the surface, before using the hot water. In milder conditions of eczema of the scrotum, a solution of ichthyol or tar (*Formulæ* 15, 16), followed by a soothing lotion, is often sufficient. It is always well for these patients to wear a suspensory bandage, both to relieve congestion and to prevent friction; but sometimes this proves irritating, and a very thin bit of linen handkerchief, or a very thin film of absorbent cotton may be placed over the parts, within the suspensory.

Eczema of the female genitals being often due to irritating discharges from within, some care must be taken in discovering and rectifying such causes, when they exist. In addition to the general and constitutional measures required, vaginal injections of various kinds are often necessary before eczema of the external parts can be entirely removed. My preference is for carbolic acid half a drachm to a

drachm, with from two to four drachms of borax or chlorate of potassa, in a pint of water as hot as can be borne, and thrown in forcibly with a Davidson's syringe (not from a fountain syringe), night and morning.

The treatment of the external condition is much the same as already described. Hot water is of great service, followed by a soothing ointment (Formulæ 53, 54, 55) spread on lint or a thin layer of absorbent cotton; this latter may often be pushed well up within the parts, reaching all the affected area. When there is considerable itching, without much eruption, an ointment of chloral and camphor (Formula 69) gives great relief, although it may sometimes prove irritating and must be used very weak; also the liquor picis alkalinus (Formula 16), diluted ten to twenty times with water, applied by means of cloths wet with it, and laid over the parts.

The connection of eczema of this region with glycosuria must never be forgotten, and the urine should always be examined for sugar, as well as for other changes representing lithæmia, oxaluria, etc.

Eczema of the anus and genitals is not infrequently seen in children, and often causes great distress, before it is recognized. In them it is sometimes caused by intestinal worms. Under properly directed treatment cases which may have lasted some time will often yield very promptly.

When considering the diagnosis of eczema at the

crotch mention was made of the occurrence of a vegetable parasitic eruption, *eczema marginatum*, alone or in connection with eczema. When this is discovered we may at once use antiparasitic remedies, although it is often necessary to treat the eczema element for a while, until the acute inflammation has somewhat subsided, and then apply the parasiticide; or they may be used conjointly or alternately.

The remedy which I most rely on is the strong, undiluted sulphurous acid, and although this may smart considerably at first, it will often arrest the itching and check the disease admirably. To be effective it should be fresh, for when exposed to the air the sulphurous acid SO_2 becomes changed to sulphuric acid SO_3 , which is very irritating and not efficient as a parasiticide. For this reason I always have the patient purchase an original, unopened package, of a pint or half-pint, and from this fill a two-ounce bottle for use, keeping the other tightly corked. The acid is applied by means of a handkerchief soaked in it, which is held to the part a while, one or two fresh applications being made to insure penetration of the same. After a few moments of drying, the surface is sopped with a soothing lotion (Formulæ 5, 9), or a proper ointment is applied, spread on lint. The acid should be applied night and morning, unless there is too much irritation. Hypo-sulphite of soda ($\text{3 ij} - \text{3 iv}$ ad 7 iv) answers fairly, but is less effective than the sulphurous acid. Weak

bichloride of mercury solutions (grs. j-iv ad $\frac{3}{4}$ i) serve to destroy the parasite, as also beta-naphthol, chrysarobin, sulphur, etc., in ointments. There is always considerable danger of over-stimulating the part, in the attempt to destroy the parasite, and appropriate remedies for the eczematous element should be used conjointly or alternately.

Finally, alkaline and starch baths, as mentioned in the next chapter, will often be of great advantage in eczema of the anus and genital region. When used great care should be exercised to dry the affected parts quickly and very gently with soft, hot towels, and to have the proper applications at hand ; the ointment should be already spread, and is to be applied before the patient has a chance to scratch.

CHAPTER XIII

ECZEMA OF THE TRUNK, AND GENERAL ECZEMA

THE trunk may be affected with eczema in any of its forms, alone or in connection with the eruption elsewhere ; but it is less liable to be attacked than are the more exposed parts. One form, however, seborrhœic eczema, is especially liable to occur on the chest and back, as will be mentioned later.

Acute eczema of the trunk is occasionally seen to follow the use of external counter-irritants, applied for internal troubles, and even mustard has called forth the eruption. It may also develop from the chafing of harsh or irritating underclothes, or from poisonous dyes in them. Most commonly, however, no local cause can be traced, and it evidently depends on the same general causes which produce the disease elsewhere. Overheating and excessive sweating will sometimes be followed by acute eczema, beginning first on the body. Any and all the forms of acute eczema are seen here, though vesicles are seldom found, and the papular form is that which is the most frequent. The greater part of the conditions to be described belong rather to sub-acute eczema.

Beneath the mammæ and about the folds of the abdomen in fat persons, we often have a moist eczema, exhibiting surfaces of a brilliant red color, and exuding a slightly sticky secretion, which when exposed dries into scales or crusts; these surfaces are often raw and painful but generally not so very itchy. In slighter forms this constitutes what is commonly called intertrigo, and may be a purely local affair, from the retention of irritating secretions or harsh usage in removing them; but it is also not infrequently the lightest manifestation of the eczematous state.

In the axilla it is not uncommon to have a sub-acute erythematous eczema, exhibiting much the same features. Here the chafing of the clothing and the difficulty of keeping the proper remedies constantly in close contact often render the eruption very rebellious, and it may give much annoyance both by soreness and itching, though the latter is not often severe. Eczema of the axilla is frequently associated with or followed by abscesses of greater or less size, which may be the source of much distress. Sometimes they are quite deep and constitute true furuncles, but more commonly they are superficially located and are in reality a *hydro-adenitis*, or deep inflammation of the sweat glands; to these the name "sweat furuncle" has also been given. Under proper treatment they usually subside quickly, and I rarely have occasion to incise them.

Eczema of the nipple and breasts is sometimes a very annoying affair, especially in nursing females. Many instances of what passes for ordinary "cracked nipples" are undoubtedly cases of eczema of this region and should be treated as such, both constitutionally and locally. The eruption here is generally of the moist, exuding type, accompanied with both soreness and itching.

Eczema of the umbilicus is sometimes annoying. Beginning deeply there will be a little itching and exuding, and gradually the region, even for several inches around, may be the seat of a raw, red, itchy surface; this sometimes becomes quite obstinate, owing partly to the movements of the abdomen and also to the difficulty of keeping proper remedies in place. Some of these cases will have lasted for years before advice is sought and relief obtained.

There remains to be mentioned an eruption, most commonly seen on the chest and back, which is usually classed as eczema, but about which there has been much discussion of late; this is the *eczema seborrhoicum*, or seborrhœic eczema, of Unna, which many prefer to call *dermatitis seborrhoica*, while others hold it to be only a modified *seborrhœa*.

Upon the chest, generally first in the sternal region, there appear quite well defined, more or less circular patches of a yellowish-red color, slightly elevated, and covered with a moderate amount of rather greasy scales. The patches may remain separate

and discrete, or may run more or less together. There is commonly itching, but it is rarely of a severe character, and not at all comparable to that accompanying many forms of eczema in other localities. When not scratched there is never any moisture, but if much irritated it may exude some and form crusts. Much the same appearances are seen, generally to a lesser degree, on the upper back, especially in the interscapular region. In the axillæ it sometimes takes a more acute form, and the whole region will be invaded, with a tolerably sharply defined margin, and present a raw surface, with a tendency to crust, and considerable itching.

Diagnosis.— There are several eruptions which can appear on the trunk, which might possibly be confounded with acute and sub-acute eczema, and to avoid repetition reference must here be made to the chapter on general diagnosis, where the differences between eczema and other affections were dwelt upon.

In the eruption described beneath the breasts, in the axilla, etc., it is always well to bear in mind the parasitic element alluded to in the last chapter, *eczema marginatum*, which sometimes affects these regions; as in the crotch, it may exist alone or complicate an already existing eczema. The diagnosis and treatment are such as already described.

In eczema of the nipple and breast there is some danger of confounding the eruption with the semi-malignant condition which has been described as

“Paget’s disease,” now known as *malignant papillary dermatitis*. In this the red area has a very vivid hue, the margin is pretty sharply defined, and, when the case has lasted any length of time, the nipple subsides or disappears. The surface is more granular than is common in eczema of this region, there is a burning and tingling pain, rather than severe itching, and the secretion is more viscid than in eczema. Sooner or later there generally appears a hardening, deep in the breast, a cancerous growth, and the axillary glands become infected, and enlarged. The disease is now recognized as malignant and really a form of epitheliomatous degeneration.

It should always be remembered that *scabies* is liable to exhibit its lesions about the breast. But in this we generally have scattered, scratched papules, and not the characteristic moist lesions belonging to eczema in this location; moreover, there would always be other manifestations of scabies, on the hands, for it is from them that the disease is carried to the breast.

Seborrhœic eczema on the chest and back is liable to be confounded with a number of cutaneous affections, *psoriasis*, *tinea versicolor*, *tinea trichophytina*, *pityriasis rosea*, and perhaps others.

The differentiation between this eruption and *psoriasis* both here and on other parts of the body is sometimes most difficult. In both the patches tend to be circular, red, slightly raised, and scaly. But in

general the scales of the eczematous eruption are more greasy, those of psoriasis more pearly and easily detached, with a little tenacious pellicle beneath, and a bleeding corium when this is torn off. There is little if any itching to psoriasis, whereas in the other eruption it is generally annoying; moreover, there are generally more or less characteristic lesions of psoriasis elsewhere, for it seldom attacks the localities under consideration alone.

The eruption of *tinea versicolor* is less pronounced than eczema seborrhoicum, and of a more tawny brown color, in place of the pinkish yellow of the latter. The scales of the former are very slight and small, and furfuraceous, and often show but little until scraped. Under the microscope the parasite, *microsporon furfur*, is usually easily demonstrated in the scrapings.

The lesions of *tinea trichophytina* are seldom if ever symmetrically developed; they are more red, increasing peripherally with some rapidity and clearing in the centre, and exhibit the characteristic spores of the parasite, when the scales are scraped and examined microscopically.

It is hardly possible to confound *pityriasis rosea* with seborrhœic eczema, if attention is carefully paid to all the features of both eruptions. But after the former has lasted some time, and the erythematous patches have become scaly, some of them may resemble the disease under consideration.

GENERAL ECZEMA

Acute general eczema, in the strictest sense of the word, where the entire body is simultaneously affected, is a comparatively rare affection, but it may occur. Sometimes it begins very acutely with more or less of febrile symptoms, and may even be preceded by a chill. The surface becomes heated and itchy, and shortly there is either a violent development of papules or vesicles, or else large areas of acutely inflamed erythematous eczema appear. It is, however, not a very rare occurrence to have a more or less general eruption of eczema develop acutely in patients who have suffered from the disease in a chronic form, for some length of time. Exposure to cold, over-indulgence in eating or drinking, great fatigue, or nerve strain, together with some general local irritation, may combine to cause a large portion or the entire surface of the skin to take on an eczematous inflammation, with great general itching and burning. Acute general eczema will often subside quickly under proper treatment, but may pass into a chronic form, or leave patches of chronic eczema, here and there.

Chronic general eczema is sometimes observed in very distressing forms, often lasting months or years. The entire surface, from head to foot, may be the seat of a chronic inflammation, very red, thickened, excessively itchy, and either scaly or with numerous raw places.

Except when the result of direct irritating agents, general eczema is always of considerable import, even though all the surface may not be affected; it is always the indication of a greatly lowered vitality and should be treated most carefully, not only to give relief but to guard against more severe internal disease. This remark is also true of cases where many scattered areas of eczema exist, as on the extremities and the face. The breaking down of the skin in many places shows general debility, and if the warning is heeded and proper reconstructive treatment is adopted, the gain to the general health is great; it is better, indeed, that the relatively unimportant organ, the skin, should give way, than that organs more closely connected with life should become diseased. If the warning is neglected, and only local treatment employed, grave results may follow.

Diagnosis.—Chronic general eczema is liable to be confounded with *dermatitis exfoliativa*, and in some cases they are hardly distinguishable. The latter, however, has larger, flaky scales, and a more shining and vivid redness, and much less, if any itching, but rather a great heat and burning.

It also closely resembles *pityriasis rubra*, a very rare disease and of very serious character, with a fatal tendency. In this latter the redness is very intense, the scales thin and papery, and the disease slowly progresses, involving more and more surface, with symptoms of exhaustion; the nails become

profoundly affected, the tongue becomes glazed, and the patient gradually sinks, often with a colliquative diarrhœa. There is little or no itching, and the skin is thinned, instead of being thickened as in eczema.

Certain cases of very generalized *psoriasis* and *lichen planus* may also suggest a general eczema, but if attention is carefully paid to the component parts of the eruption, and the individual lesions, away from the main eruption, the diagnosis should not be difficult.

Prognosis.—This is ordinarily good, if the treatment be properly ordered in all respects, as to diet, hygiene, and internal and external medication. But, as remarked before, the more general the eczema the greater attention should be paid to the nutrition and assimilation, for if treated only locally the causes which led to the break-down of the skin may, if unchecked, tend to produce serious complications. It is, however, never harmful to seek to cure an eczema, be it ever so extensive, if due regard is paid to all the features of the case.

Treatment.—All measures which can contribute to the general health must be employed with great care when eczema is at all extensive. In these cases the addition of warm milk taken one hour before meals, as described in the chapter on diet and hygiene, is of the very greatest service. When the general eruption is at all acute the diet should be

light, and rice often serves best. In many cases it is very desirable that the patient should remain in bed and be cared for by a nurse who understands making proper applications and will rigidly carry out the instructions given.

Internal Treatment.—This does not differ essentially from that belonging to the disease in general, as detailed elsewhere, except that when a large surface is affected there is need of a greater attention to a tonic course of treatment. The condition of the kidney excretion should be carefully watched, as this often proves a very valuable indication in regard to the treatment required. Much attention should also be paid to the action of the bowels, on the lines laid down in preceding chapters.

As in eczema elsewhere, alkalies are generally called for, and the mixtures already suggested are of service. Iron is of the greatest value, and when the eruption is more chronic arsenic may be added with advantage; but these are best administered in conjunction with an alkali (Formulæ 29, 32). Strychnine with phosphoric acid (Formula 34) is often needed to meet the nervous debility, and digitalis frequently is of great service. Finally, quinine, cod-liver oil, hypophosphites, vegetable tonics, and a host of remedies may at one time or another be required for the cure of general eczema, as medical judgment may determine, upon the principles laid down in other chapters.

External Treatment.—This will vary very greatly with the case, the character and location of the eruption, and the objects to be attained, and will be considered in connection with the different conditions already described. The treatment of extensive eczema of the trunk will be considered later in connection with general eczema.

Beneath the breasts, and in similar places, ointments are generally the most acceptable, although in milder cases one of the soothing lotions (Formulæ 5, 7, 9) thoroughly sopped on, repeatedly, will often serve very well. Ointments should be thickly spread on the woolly side of lint, cut to fit the entire surface and laid on, and kept in place, if necessary, by a tape passed between the fold and properly supported around the body. A tar and zinc ointment (Formula 56) is often the best application, to which three to five per cent. of resorcin or salicylic acid may be added, if there is an element of seborrhœic eczema. What is known as Lassar's paste (Formula 35) is also very valuable in this condition. Later, if there is persistent thickening stimulation with soap tincture, as described elsewhere, is of service, followed by soothing ointments (Formulæ 53, 55).

In the axillæ much the same treatment is of value, but here it is often best to spread the ointment on thin layers of absorbent cotton, which should be well pressed into the cavity and held in place by a gauze bandage, passed around the neck.

For the abscesses occurring in this region an ointment containing ergot (Formula 72) is most valuable, and often all that is required from first to last; and this is much preferable to poulticing.

Mild cases of eczema of the *nipple and breasts* are best treated by a zinc oxide ointment, with or without two to four per cent. of salicylic acid, or one with camphor (Formulæ 53, 62). For more severe conditions a tar ointment or Lassar paste (Formulæ 56, 35) answers well; these are all harmless and need only to be wiped off before nursing, if the condition is still such as to permit this. If the part is cleansed, it should be with a borax or bicarbonate of soda solution.

Cracked nipple is sometimes a very troublesome and rebellious condition, which may necessitate weaning, but with great care this can commonly be avoided. Directly after nursing the nipple is to be gently dried, with a bit of old handkerchief, simply pressed on it, and then painted freely with the compound tincture of benzoin; when this is dry the zinc or bismuth ointment (Formulæ 52, 54) is applied, spread on a thin layer of absorbent cotton. Deeper and more rebellious fissures may be touched with a stick of nitrate of silver, or the same in solution (gr. v-xxx ad. $\frac{3}{4}$ j) painted on, and the ointment applied; nitrate of lead, half a drachm to the ounce of rose ointment, is very efficacious. Much may be done to prevent cracked nipples and consequent

eczema by the most careful cleanliness and the application of the mother's saliva after nursing; also by the occasional use of brandy saturated with borax, applied several times daily.

Seborrhæic eczema on the chest and back generally yields to resorcin, if thoroughly applied, in the form of ointment (Formula 60), to which sulphur may be added (Formula 61) if it resists treatment. To be effective this should be well rubbed into the eruption, and also subsequently laid over the surface, spread on lint, if the eczema be rebellious. In milder cases a lotion of the same may be used with advantage (Formula 13), well rubbed into the skin. If the surface should be at all raw, other applications suitable for such a condition should be employed, and that of calamine and zinc, with the addition of sulphur (Formulæ 5, 8), serves very well.

Eczema of the trunk and general eczema will require very careful handling; when acutely developed a cooling lotion (Formulæ 5, 7, 9), freely sopped on and allowed to dry, often gives most relief. In conditions which are markedly papular, a dusting powder (Formulæ 47, 50) serves very well. When there is a more dry and scaly eruption, benefit often results from the use of an ointment, lightly used as an inunction. For this purpose the compound lanolin ointment (Formula 70) or glycerite of starch (Formula 71) serves best, and may be lightly medicated to suit the condition. These are applied with

moderate friction, with the palms, and in the instance of the latter it is often desirable to add a trifle of water on the hands, as it is rubbed in. In more chronic conditions the patches may be painted with a permanganate of potash solution (Formula 20) and a lotion or an ointment applied over it, when dry. Some of the prepared plasters, medicated with resorcin or salicylic acid, answer well on patches on the body, but occasionally will be found too irritating. In localized patches on the body it is often desirable to make applications in the form of some of the fixed dressings, and the pastes and pigments (Formulæ 35, 38, 40) and some of the gelatin preparations (Formulæ 41, 42) are also very convenient and serviceable, when properly medicated.

Baths sometimes constitute a valuable accessory in the treatment of eczema, both that which is generalized and even for the more local forms. But these require to be used with much discretion, for it may be stated that as ordinarily employed they are often productive of much harm.

As already mentioned in previous chapters, pure water and soap are frequently the cause of the increase of the eruption, and their use should be restricted. Much harm is also often done by Turkish and Russian baths, and also by vapor baths of sulphur, mercury, etc., and they should be used only with the greatest caution, and in exactly suitable cases. In chronic eczema, where there is great

inactivity of the skin a hot air or plain vapor bath will sometimes serve to restore vitality to the tissues, but as commonly given, with the subsequent rubbing down, etc., it may provoke fresh eruption. If used baths should, at first, certainly be given at not too high a temperature, nor much prolonged; the skin should be gently dried, and the proper application be made to any diseased surfaces immediately on leaving the bath. When there is an extensive eruption of *eczema marginatum*, and sometimes in seborrhœic eczema, a mild sulphur vapor bath may be of service, but the same precautions should be used. Mercurial vapor baths are rarely if ever called for in eczema, certainly not in that which is at all acute or general.

Medicated warm baths are often of great service if given rightly. A very serviceable one is made by the combination of several salts (Formula 1), which may be varied to suit individual cases; the addition of a pound or so of starch or gelatin will make it more soothing. This should be taken at bedtime, and of a temperature from 88° to 98° Fahr., according to the feelings of the patient and season of the year. Ordinarily ten to fifteen minutes' duration will suffice, but when there is much thickening of skin it may be prolonged somewhat. Much friction should be avoided, and, of course, no soap is used. On coming out of the bath the skin should be dried as quickly as possible, and when there is much

affected surface it is well to have this done by means of sheets, laid on a thin blanket and thoroughly heated; the patient is then wrapped in this and the skin dried without rubbing. The proper application for any diseased surfaces should be taken to the bathroom and used immediately, and in the case of lotions they should be well warmed.

But even such a bath should not be taken too often, and it is well to see the results before it is repeated, certainly at first, and until the effect is well known; it should seldom be given every night, and generally it is well to allow several nights to pass between.

Even when the eczema is localized it is frequently desirable to make a general application of a lubricant to the whole surface, and for this purpose the compound lanolin ointment (Formula 70) answers admirably; it is generally well to have about two per cent. of carbolic acid in it, and if there is much general itching two to four per cent. of menthol may be also added. The glycerite of starch, treated in the same manner, is more acceptable to some skins; it should be very lightly applied, and a little water may be added as it is rubbed in. Cosmoline and albolene also answer fairly well for this purpose.

Alkaline baths, given in the above manner, are frequently of service even where the eruption is quite localized, as their action is not wholly confined to the diseased skin but undoubtedly produces some

general results on the life processes in the system. Aside from any possible absorption of the ingredients of the bath, the results from hydrotherapy in general show modifications in tissue metamorphosis, which is often of value in rectifying the eczematous state.

Many patients with eczema seek benefit from the natural mineral waters, at various springs, by drinking and bathing in the water, and undoubtedly the results are beneficial in certain instances. But very considerable observation of many patients who have made trial of many of these, together with personal visits to most of the springs of repute in this country and Europe, have convinced me that their value is very greatly overestimated, and that not infrequently harm is done by them. The subject will be more fully discussed in the next chapter, as will also be that of sea-bathing.

CHAPTER XIV

DIET AND HYGIENE IN ECZEMA

IT is well recognized by all that diet and hygiene must have much to do with the production of disease of various organs; but it is so difficult to trace cause and effect with certainty, in many instances, that clear and positive statements can be made in relatively few directions. This is particularly true in reference to eczema, and very few explicit directions in regard to this are to be found in literature or in the books upon diseases of the skin. The matter following, therefore, represents to a very large degree the experience and personal views of the writer, and although the subject is yet in an undeveloped state, enough has been learned to admit of some definite observations which shall be of more or less practical value.

All are more or less familiar with the acute erythema or urticaria resulting in some persons from the ingestion of certain forms of fish, particularly shell-fish; also occasionally from strawberries, bananas, mushrooms, etc. Some individuals are so

constituted that whenever these are partaken of the eruption will appear, while many others are thus affected only when the articles are stale, or when they themselves are in a peculiarly susceptible condition. It is also well known that in some persons crops of acne follow the free use of certain articles, as buckwheat, nuts, cheese, etc., while those arising from gross indiscretions in diet, as from the partaking largely of fruit-cake, mince-pies, sausages, etc., are of daily observation on all sides. The effects of alcoholic drinks, including wine and beer, on the skin are also well known. Many are also familiar with the eruptions occasionally produced by the internal administration of certain articles used as drugs, such as copaiba, quinine, belladonna, iodide and bromide of potassium, etc. The skin lesions occasioned by all these are transitory affairs, very evidently depending upon the causes mentioned, and disappearing, as a rule, spontaneously when the causes cease to act.

Now, just as these acute disorders of the skin are produced by acutely acting dietary causes, so a chronic error in diet can and often does induce, or at least keep up a more chronic cutaneous lesion, which of necessity will return as often as a conjunction of causes operates with sufficient force. A most evident and well recognized illustration of this is found in scorbutus, where the hemorrhagic tendency in the skin and other organs is plainly due to a deficiency

in the vegetable portion of the diet, and is rectified when fresh vegetables or fruits are supplied. It is also shown in the tendency to the development of the tubercle bacillus in the lungs and other organs, including the skin, in those whose diet is deficient in proper fatty matter. The results of errors of diet are often seen in psoriasis, where an excessive consumption of red meat may bring on a fresh attack, whereas there will be comparative freedom from the eruption while this is abstained from. Also in pellagra the eruption is ascribed to the eating of diseased maize, and Mr. Hutchinson has accumulated much evidence to show that leprosy is in some way associated with fish eating. In addition to the acute effects of alcohol on the skin, which have been alluded to, there is much evidence to show that the habitual use of it has much to do with the occurrence of ulcerative lesions in syphilis, while its prejudicial effects on many chronic diseases of the skin are a matter of daily observation.

Exactly in what manner diet has its influence upon the state of the skin cannot be accurately stated at present; but from what is known in regard to the matters just mentioned, and others, we may conclude that there are four methods by means of which this may occur: 1. There may be a direct irritating action from the ingesta upon the stomach and intestines, giving rise to reflex cutaneous eruptions, as in the erythema and urticaria from shell-

fish, strawberries, etc. These eruptions sometimes vanish very promptly when the offending mass is rejected by the stomach or removed by purgation. 2. Certain elements appear to act directly upon the skin tissues, as iodide and bromide of potassium, etc., possibly the uric acid, in the case of red meat in psoriasis, and probably alcohol, etc. 3. Articles of diet may produce various forms of gastric and intestinal indigestion, giving rise to imperfectly elaborated material or to toxins, which then have a direct irritating effect in their circulation through the capillaries, as in acne from indulgence in sweets, pastry, cheese, etc.; and, 4. The error in diet may consist in the absence of certain requisite elements in the food, as in the case of scorbutus, tuberculosis, etc.

Dieting, as popularly understood, represents a famishing process, which is to be continued for a longer or shorter period of time, with the view, as it were, of starving out a disease. One leading dictionary defines the verb diet "to eat and drink sparingly, or by prescribed rules"; another, "to eat according to rules prescribed"; Foster has it, "to subject a person to a prescribed course of food."

Unfortunately we are not able, at the present time, to map out any prescribed course of food which will surely cure eczema, or prevent its occurrence, as we have so few data in regard to its production from dietary errors; for it is to be noted

that the eruptions previously mentioned were other than eczema, and in very few instances has definite proof been afforded that specific articles of food have caused this eruption. But, on the other hand, daily experience shows that dietary errors, of the most varied kinds, have very much to do with the beginning, continuance, and recurrence of eczema, and that many cases are at once benefited, while many patients remain free from the disease, when a correct dietary is established.

In the present connection, therefore, the diet as related to eczema must have a very broad meaning, and signifies *such a regulation of the quantity and quality of the food and drink taken, its mode of preparation, and the time and method of its consumption as shall conduce to the restoration and maintenance of health.*

There is no question whatever in my mind that proper dieting, as understood in the above definition, is of the very greatest importance in the treatment of eczema. It is essential that the proper nutriment be taken, in the proper manner, if the tissues are to be properly formed and maintained; not only are articles which experience has proved injurious, to be avoided, but other articles necessary to the system are to be taken, in order to form a total of healthy life of the skin and other tissues.

Undoubtedly a healthy appetite and good judgment are reliable guides in the majority of instances;

but unfortunately every one does not possess one or both of these, and the surroundings of modern society will often act very prejudicially. The patient with eczema has, in the vast majority of instances, committed errors of diet, and is still committing such, which, if they do not render the disease incurable, certainly retard its cure. There is little doubt but that the gouty patient has produced or aggravated his disease by the pleasures of the table, or by his mode of life. There is little doubt that many strumous and rachitic persons have become so by their diet and course of living. There is little doubt, again, that the neurotic patient has induced his condition, to a very large degree, by erroneous or deficient nutrition, and by his habits and surroundings. Eczema is related to these three states, and in the strictest investigation of the diet, hygiene, and conditions of life, and in the proper regulation of the same, will be found the surest road to perfect and complete restoration of the skin to health.

The first point alluded to in the definition of diet was a regulation of the *quantity* of the food and drink taken. Errors may occur in the direction of too little food being taken, but I am convinced that in no small share of the cases of eczema, in the easier walks of life, the quantity of food taken is rather in excess than in deficiency. In answer to the question if these patients have dyspepsia, the answer will often be that they are not troubled un-

less they eat too much ; and it will constantly be found that in these cases it is not the healthful and nourishing articles of food which are in excess, but those which are of questionable character, Witness the very common remark when a very tempting dessert is offered : “ I have had enough to eat, but that looks very good ; I will try a little.” And so it is that the digestive organs are often taxed just a little beyond their powers. Not every one discriminates between taste and appetite ; the taste is gratified long after the appetite is satisfied.

When the infant is over-fed it rejects its food by a natural process, and thereby saves much sickness, and the gourmand in China is said to take an emetic, that he may again enjoy the pleasures of the table. But the refinement of to-day rejects this coarse method of getting rid of the burden, and relies on the dinner pill or laxative mineral waters to carry off food which should never have entered the stomach. The result is that the digestive organs do their duty insufficiently, and the partly digested food is hurried along, while the products of imperfect assimilation are circulated in the blood. The excretory organs cannot act properly with improperly elaborated material, and there follow biliousness, sick headache, and skin lesions, mainly eczema. Medicine is resorted to, which whips the organs into action ; the surplus is removed ; some relief follows ; the organs rest from the medicinal stimulation ; the over-feeding is re-

peated; the system is again over-burdened; and again the same process is resorted to. The result must be apparent to all.

It will be understood, of course, that this is not claimed to be the fact in every case of eczema; for in many instances far too little proper food is taken and assimilated, and in many others it is very difficult to find much wrong in the mode of eating. But even in many of these there is a history of past indiscretions which have impaired the digestive functions, and so prevented further indulgence. Among the poorer classes mal-nutrition from insufficient food is also often the cause of eczema; but even with them the fault is frequently not so much in the actually small quantity consumed, as it is in its erroneous character or quality.

In regard to the quantity of drink, or fluid taken, much could be said which must be omitted for want of space. The injurious effects of alcohol, even in wine and beer, in eczema, have been repeatedly alluded to in this and previous chapters. While some eczema patients may take a very moderate amount without harm, all these preparations of it should be restricted greatly, if not entirely avoided, in the majority of cases; a well marked case of gouty eczema cannot be thoroughly and permanently cured if stimulants are resorted to.

Tea and coffee are commonly supposed to be injurious in eczema, and, to a certain extent, rightly

so. Tea is apt to be more harmful than coffee, perhaps because it is more common for it to be taken in excess ; among the poor, as also among domestics, it is often found that large amounts are consumed, many times daily. In great moderation neither tea nor coffee appears to have a decided effect upon eczema, although in individual cases even a small amount seems to do harm. It is a good rule to allow neither to be taken more than once daily.

Chocolate and cocoa are sometimes harmful in eczema, if consumed in any quantity, mainly on account of the amount of sugar and milk taken with them. Used in moderation, and made with more water, they may generally be taken without harm. Other substitutes for coffee, as postum cereal, are often of service, and many patients learn to take simple hot water, with a trifle of sugar, as a warm drink with meals and find it not unacceptable. Very cold and iced drinks should be avoided in eczema. To relieve the thirst it is often very desirable to take hot water half an hour to an hour before meals.

Milk and cream are commonly thought to be advantageous in eczema, but as ordinarily employed they are constantly found to be harmful, increasing the sluggish metabolism and aggravating the eruption ; numerous instances could be cited where this was very evident, and where the benefit from a change of procedure was most striking. As a further illustration may be mentioned the case of the

daughter of a medical friend who had suffered for years with distressing urticaria, rebellious to all medication; the eruption ceased entirely when milk was discarded, and returned when it was again indulged in.

Milk as ordinarily taken, in connection with food, is very apt to embarrass the digestion, and to create what is popularly known as biliousness, and many patients have learned to avoid it for this reason; and yet they will often take just enough to operate disadvantageously. It is quite possible, however, for most persons to use it freely, and with the greatest advantage if taken exactly according to the method which the present writer has practised, and advocated for many years past on several public occasions. But to obtain satisfactory results the plan must be adhered to absolutely, even to the minutest particular. In order that the method may be fully and intelligently understood and carried out, it has seemed best to reproduce here, somewhat *in extenso*, the matter which the present writer has previously presented on the subject.

Neither words nor argument are necessary to show the advantage of milk as a nutriment. Millions of human beings, from the cradle to the grave, have proved its life-giving powers; and untold millions will continue to use it, wholly ignorant of any physiologic facts concerning its mode of influencing nutrition, and guided only by instinct, which in animals

is unerring, but which in man is often perverted by the surroundings of civilization.

Milk is food. Alone and unassisted it is capable not only of sustaining life for an indefinite period, but it furnishes all the elements for the complete construction of the human frame; on it alone the infant learns to talk and walk, and develops all the tissues of the system. Adults have lived on it alone for weeks or months, and by it convalescents from grave sicknesses have recovered vitality and strength. Milk is a complex and delicate substance. While composed very largely of water—87 per cent. in an average good specimen—the remaining 13 per cent. contains a variety of substances wonderfully united, chemically and mechanically, in a manner suitable for absorption and appropriation by the economy.

It is not necessary to discuss the value of milk as a nutriment, nor to study its composition or chemistry; the present purpose is only to present fully a practical theory in regard to the physiology of its *absorption*, under proper circumstances, as opposed to the commonly received notion that it must undergo *digestion* before it is assimilated in the system.

Some years ago a number of observers reported the intravenous injection of milk. It is not necessary here to recount the experiments and experiences; suffice to say that reliable men have succeeded in introducing pure milk directly into the veins of patients, where it has mingled with the blood, going

first to the lungs, without digestion, such as takes place in the alimentary canal. These patients lived and thrived under the process.

This intravenous injection and assimilation of milk first called the writer's attention to the fact that this substance could be thus appropriated by the system without digestion, and led to the study and development of the theory to be propounded; which theory he has put in practical application for ten or fifteen years, in hundreds and perhaps thousands of cases, and which daily experience confirms in a most substantial manner. I may say that the theory has been partially presented from time to time before medical societies and to friends, and also mentioned in writing; and while objections have been raised, these have generally been satisfactorily met, and the plan proposed has been adopted successfully by very many physicians, who have borne testimony to its value.

Recognizing that milk could enter the system without passing through stomach digestion, I began to consider under what physiologic conditions this could be effected other than by intravenous injection. An analogy to the absorption of milk was found in the chyle and its discharge into the venous blood, in the subclavian vein and vena cava, on its way to the pulmonary circulation. When examined microscopically the chyle is hardly to be distinguished from rich milk, and it was argued that the milk globules could pass unchanged by the same

channels through which the elements of the chyle were absorbed from the stomach and intestines; the problem was to present the milk in such a manner to the absorbents that it could be taken up immediately, without having to undergo the process of coagulation, caseation, and subsequent gastric digestion. Remembering that the blood was alkaline, and chyle alkaline, and normal milk also alkaline, it was conceived that if the milk could be presented to the absorbents in an alkaline state, and at a proper temperature, absorption might take place immediately without the intermediate process of digestion.

The activity of the stomach is such, as shown by the well-known experiments on Alexis St. Martin and others, that with the least excitation gastric juice is immediately poured out, which would, of course, at once coagulate some portion of the milk; and from this it would continue until all the milk was attacked, coagulated, and digested. The problem was, therefore, to introduce the milk in such a manner that there should be no stomach activity and no secretion of gastric juice. Plainly, then, it must be given quite apart from all solid food, or any substance or condition which could excite gastric secretion. Even the least amount of acidity from a preceding meal would coagulate some of the milk and so start on the whole process of caseation and digestion.

Physiologically it is well recognized that the stomach in health does not ordinarily secrete gastric juice except under the stimulus of food. At a varying period after the taking of food, the time being dependent upon the amount and quality of the food taken and the powers of digestion, the stomach has finished its task; absorption of certain elements has taken place, some portions have been passed on to the intestine, for further action, and the stomach is found to be empty, awaiting further cause for activity. At this period the stomach loses its turgid red color, becomes paler and somewhat flaccid, and its surface is bathed with more or less of an alkaline secretion; this constituting the alkaline tide. As stated, this exists at varying periods of time after the ingestion of food; it may occur in an hour or so after a very small amount of very digestible food, or not for four, five, or even many more hours after a very heavy or unusually indigestible meal, or with very weak or sluggish digestion. This should constantly be borne in mind in connection with the plan of treatment to be proposed, otherwise failure is sure to result. It is only when this alkaline tide is perfectly secured and utilized that the real beneficial results of this plan can be secured.

The idea, then, is to introduce the milk, pure and alone, and at the body temperature, just after this alkaline tide has set in, or during its continuance, and to avoid food or any substance which could call

forth gastric secretion until after its absorption has been fully accomplished. It is believed, then, that the warm alkaline milk is absorbed directly by the lacteals and carried at once by the thoracic duct into the subclavian vein, and so reaches the blood and is acted upon in the lungs before it is submitted to liver action.

In contrast to this stands the physiologic process which takes place when the milk is taken with other food and submitted to ordinary gastric and intestinal digestion. Here, after being acted upon by the gastric and intestinal juices its casein passes through the state of proteose into peptone, and thence through the portal circulation into the liver, to be transformed into urea.

It is difficult to present absolute physiologic proof of the mode of *absorption* of milk here claimed, as opposed to its *digestion*, under the circumstances detailed, but strongly corroborative evidence is furnished in some experiments made by Dr. Andrew H. Smith, of New York, who has kindly consented to my mentioning them. Some years ago, while experimenting on kittens, to determine certain facts in regard to blood pressure, he accidentally wounded the jugular vein. To his surprise, the blood from it appeared of a lighter color than expected, and in marked contrast to that obtained from the saphenous vein. Taking another kitten from the mother's breast, he opened the jugular vein and found the

same condition, and, I believe, he did the same with a third nursing kitten. He says that he could never explain the phenomenon until I propounded to him the theory of milk absorption, in full, which he at once accepted and regarded as an explanation of the condition found in the kittens; the milk being absorbed at once by the lacteals was poured by the thoracic duct into the subclavian vein and found ready exit on the opening of the jugular. I remarked to him that he had supplied the one missing link in support of my theory. It would be interesting to test the condition of the stomach, after taking milk on this plan, by means of the stomach-tube; but possibly this procedure might of itself excite gastric activity, which would confuse matters and vitiate the value of the experiment.

It would lead us too far from the practical object in view to attempt to enter at all fully into the physiology of digestion and assimilation, or to elaborate any of the physiologic chemistry of the subject. Suffice to say that this difference in the course which milk can take under varying circumstances becomes clearly evident, clinically and practically, with close and sufficient observation. Proof could be furnished by hundreds of cases in which the present writer has carefully directed this method of taking milk and has observed and recorded the facts. Constantly those who have been quite unable to use milk in the ordinary way have followed the plan proposed,

with the most satisfactory results. In the writer's own person, milk taken in the ordinary manner and with food invariably disagrees, causing sick headache and functional liver disturbances; whereas, following the method proposed, he has taken a quart of milk daily for ten and more years with the greatest benefit.

A few words may be added in regard to the practical features of the subject. It has constantly happened to the writer that patients have returned, after full directions had been given, as it was believed, with the statement that the plan was not successful, and that it was impossible for them to take milk, as had always been the case. In some instances undoubtedly there may be such an aversion to milk, or such an idiosyncrasy in the patient, that even this scheme does not succeed. But almost invariably it has been found that the want of success was due to some failure in carrying out the plan proposed; for it must be clearly understood and most strongly and forcibly declared, that unless the theory is perfectly acted upon and the method absolutely carried out as to all its details, the results claimed cannot be expected. But after an experience with it of ten or fifteen years, and with the most varied and often difficult class of patients, and with many temporary failures, I again assert that when perfectly carried out results can be obtained which are of the greatest and most lasting benefit; there is hardly a single

fact in medicine or a feature in therapeutics of which I am more confident. It is sometimes difficult, however, to succeed at first in getting patients to carry out the plan exactly; for it must be remembered that the smallest possible amount of gastric juice or acidity will cause some portion of the milk to be coagulated; and when this digestive process is once begun, even in the slightest degree, it must go on until all the milk has been attacked and digested.

In many instances I have found that patients had taken with the milk a small amount of food, as a cracker, following the advice of a former physician or that of friends. Again, some will put an egg in the milk, or add whiskey or brandy, and in many ways I have had the correct operation of the plan interfered with. It repeatedly happens that the milk is taken too soon after a meal; or perhaps even when a long enough interval of time has elapsed, it has happened that, owing to a sluggish digestion, it has come upon the products of a former meal, and not during the alkaline tide. Thus, patients will often take milk at half-past ten or eleven in the morning or at three or four in the afternoon, because at that time they had felt a faint and "gone-feeling" and mistook the uncomfortable sensation of delayed digestion for hunger. It will, therefore, often be very difficult to be sure that the stomach has reached the alkaline condition, at which time

only the milk can be taken with advantage. My rule is not to have it taken longer than an hour before the coming meal, but under proper conditions it may sometimes be taken even up to thirty minutes before eating, although this is rarely the case.

Occasionally, if the digestion is sluggish, it is necessary to administer pepsin or other digestives very freely and repeatedly, to secure an empty stomach early enough; and at times when there is any doubt, I have taken one or more doses of bicarbonate of soda half an hour or so before taking the milk. It is also often advantageous to put a little bicarbonate of soda into the milk, if there is any question as to its perfect alkalinity or as to the alkaline state of the stomach. But these measures will not be successful if there is food or any remains of an acid digestion.

The temperature of the milk is also an element of importance. If taken iced cold the perfect action of the plan is frequently interfered with; the effort to warm the milk in the stomach, which is necessary before absorption, will often seem to give occasion for an attempt at stomach digestion, and a sensation of pressure and discomfort will follow, which is far different from the agreeable sensations accompanying its proper use. My directions, therefore, are that the milk shall be brought to the body temperature, by heating it carefully in hot water, if possible; if boiled so as to produce the slightest

scum on the surface, and this is taken, it acts prejudicially by exciting gastric action, and the aim of the process is defeated. It is often desirable to warm the milk by the addition of boiling water, as absorption is even more readily effected thus than when the milk is too rich and thick.

I have also often seen harm done when cream had risen, and had been stirred into the milk, forming flakes; these small solid particles being incapable of immediate absorption may result in causing the secretion of gastric or pancreatic fluid in the process of digestion.

Many of these points—and more could be mentioned—may seem trivial and unnecessary; but long experience in following the plan proposed, under the most diverse circumstances, has convinced me that in this, as in so many other medical matters, attention to details is of the utmost importance; and, as reiterated here more than once, it is essential that the plan be perfectly followed in every detail, in order to obtain perfect success.

When prescribing milk according to the plan proposed, pure, warm, and alone, one hour before meals, patients often fear that it may destroy what appetite they have. But it is an interesting fact, based on physiologic reasons, that, when thus taken successfully, it not only does not impair the appetite, but greatly increases it. If a particle of food, as a cracker, is taken with it, or if for some reason or

fault it does not act exactly rightly, then the appetite is impaired; naturally so, because there is a process of digestion which takes a longer time than the hour, or rather half-hour required for its absorption, and the stomach can not be ready for fresh food again so soon.

The physiologic basis or reason for the improvement of the appetite is simple. The process of secretion from the glands of the stomach and elsewhere depends largely upon osmosis and blood pressure. By the quick absorption of milk the pressure of the blood in the capillaries is increased, and a richer blood is offered for the production of the gastric juice. This improvement in the appetite under this plan of treatment has been observed by myself and others in scores of instances.

A common time for administering milk with me, especially in poorly nourished eczematous females, is in the morning, one hour before breakfast, the directions being that the patient shall lie still for a quarter of an hour thereafter; it is often found then that instead of rising fatigued, with no appetite for breakfast, the patient gains in strength and enters on the day with a vigor quite unknown before. I also very commonly have weak females lie down in a darkened room for a half-hour nap after taking the milk at 12 and 5 o'clock. I could give many, many instances where the transformation of the patient by this simple procedure has been really marvelous.

The soporific qualities of warm milk at bedtime or in the night are also sometimes remarkable.

I trust I may be pardoned for my seeming enthusiasm in regard to the plan proposed, for it is presented after mature thought and very extensive experience, dating back many years; and I only wish to make this theory and plan so clear and plain that many may be led to adopt it in daily practice; feeling sure that, if properly understood and faithfully carried out, their experience will be the same as mine and that of many other physicians who have accepted and worked upon it.

This method of improving nutrition has been of peculiar service in many cases of eczema, and is applicable to almost all types and forms of the disease, especially in those with greatly lowered vitality.

The next item in the definition of diet refers to the *quality* of food taken, and this is often of very great importance in eczema. While man is omnivorous and a mixed diet is undoubtedly healthful to most persons, in disease it is often desirable to limit or increase one class or another of nutrient elements. While not subscribing fully to the doctrine of Haig, in regard to the direct action of uric acid circulating in the blood, as a cause of disease, clinical experience certainly shows that excessive meat eating does greatly aggravate certain cases of eczema; and it is always desirable to look into this matter, both in

acute and chronic cases, for in this country meat is often eaten far in excess of the proper proportion; the error is generally, in the cities at least, in the direction of beef and mutton.

Fish is commonly supposed to be injurious, because on certain occasions an acute eruption of urticaria may follow its use. But, on the other hand, fish is often most serviceable in eczema and may well replace meat at one of the meals; this is especially true in regard to neurotic eczema.

Fats and oils are often wrongly avoided in eczema, but given under proper conditions they are most valuable, and should often be increased largely, to take the place of the carbo-hydrates; for, if they can be assimilated, they will furnish the material for combustion with less fermentation, and consequent acidity, than the sugars and starches. Butter, the fresh fat of meats, oils, and especially bone marrow, often serve a very valuable end, in eczema; cream agrees with some cases but frequently has to be abandoned on account of biliousness.

The sugars and starches, if used at all freely, are certainly harmful in many cases of eczema. They must, of course, form a certain portion of the diet, except in diabetic cases, but it is well to limit them as much as reasonably possible, substituting the coarser cereals and fresh vegetables. Candy, preserves, layer-, jelly-, and frosted-cake should be avoided.

Oatmeal, however, is not very desirable for eczematous patients, and in many instances it will be seen to produce the eruption anew, or to aggravate that already existing. The best cereal preparations are those composed of the whole wheat, of which there are a large number on the market. But in using these it is better to avoid taking sugar and milk, and to eat them as a vegetable, with a little butter and salt.

Nuts and cheese will often be found harmful in eczema, as also such rich combinations as mince-pie, etc.

The *mode of preparation* of food is often very important in eczema. While raw oysters, crackers, and butter would not be harmful, the same ingredients made up into fried oysters are often most injurious. In the same manner flour, when baked into good bread, and eaten not too fresh, with plenty of butter, serves well, but when commingled into pie-crust these same ingredients can work injury. Meat when freshly cooked can be taken in moderation, but when re-cooked in stews and minces is often found to disagree, etc.

The *time and method of consumption* may also play an important part in connection with eczema and its treatment. Irregular meals, or those hurriedly taken, cannot conduce to health, and stand as obstacles to the cure of eczema; also eating between meals should be guarded against, especially in the young. Regularity in the time of taking food should be insisted

on, and a proper amount of time taken for the meals. Care should also be exercised in regard to perfect mastication, and the practice of washing down food with copious libations should be prevented. In some instances I have found the state of the teeth to be an element requiring attention before eczema could be cured.

The mental and physical state at the time of eating may also have a bearing upon success in the treatment of eczema; great mental pre-occupation before or after meals, also nervous excitement and shock can delay digestion and lead to fermentation and the formation of toxins, which can produce auto-intoxication and induce or prolong an eczema. Also great fatigue before eating, or heavy exercise thereafter, can operate in the same manner. In many instances, where practicable, I have insisted that patients should lie down and rest before meals; this is often done in connection with the milk treatment, the rest being taken just one hour before eating, for half an hour.

Many of the points alluded to in this chapter may seem exceedingly homely, and perhaps out of place in a scientific treatise. But it will be remembered that in the chapter on Etiology there was a quotation which it is well to bear in mind; namely, that "eczema, perhaps more than any other affection, seems to be the reflex of the life and of the functioning itself of the human organization, with all its com-

plexity." Unless the physician personally looks into all the items which combine to produce disease, there may be some one which will prevent a perfect restoration to health. The chain is not stronger than its weakest link, and in some error of diet will often be found the cause of the obstinacy of eczema.

We may now consider some points relating to the practical application of the matter thus far given.

Infantile eczema often exhibits in a most striking manner the ill results from errors of feeding, and many cases can be cured solely by correction of the same, with the slightest amount of local treatment. Too frequent feeding is a common source of harm in eczema, if not the sole cause, in some instances. The mother will give the child the breast whenever it cries, or is restless with itching, thereby aggravating the existing digestive disorder, and consequently the eczema; this should be strenuously resisted, and the breast given not oftener than every two hours or more. It is often well to give the infant a little water in the interval.

But, again, the times of feeding may be correct, and the error may be in the quality of the milk, from a faulty diet or condition of the mother. Ale, porter, beer, wine, tea, and chocolate are often taken to increase the flow of breast-milk. These are harmful to the nursing infant and should be interdicted; gruels of various kinds may be taken, but the best food from which to form milk is milk, taken freely

on the principle and method already described. The mother should also take milk at night, every time the baby nurses.

Often the health of the mother is such that perfect milk cannot be produced. In the case of nursing infants with eczema, therefore, attention should always be turned first to the mother, and in a large share of the cases errors will be found which must be corrected before great or permanent benefit to the eczema in the child can be expected. It must be remembered, however, that these errors are not always apparent upon a casual observation of the case, but often need to be sought for in the mother, as has been elsewhere insisted upon in regard to the eczematous subject. Dyspepsia, constipation, urinary derangements, etc., in her case affect the quality of the milk, and these must be looked into and corrected. Often it is only debility, and a strong iron and arsenic tonic (Formula 32) given to the mother benefits the eczema in the child; or she may require cod-liver oil, hypophosphites, or many other tonics, together with a regulation of her food, exercise and various hygienic elements.

When the nutriment from the mother is still too weak, cod-liver oil may be given even to infants with eczema, with excellent results, or sometimes a trifle of cream. Occasionally it is desirable to apply oil freely to the infant, as an inunction, night and morning; and for this cod-liver oil, linseed, sweet-, or

almond-oil may be used alone or combined with lanolin.

Many infants with eczema are also found to be fed very erroneously, either in conjunction with nursing, or in lieu thereof; and unless this is carefully looked into errors will occur. Milk is the proper nutriment and yet all kinds of additions and substitutes will be used. It is, of course, often necessary to modify it for particular cases, and the addition of an alkali, liquor potassæ, bicarbonate of soda, lime water, or milk of magnesia is frequently required. Many of these little patients take far too much starchy food, and in many instances too much sugar is allowed. Again, in the desire to avoid this, animal matter will be given in too large proportion, and I have seen very young children stuffed with beef tea, or beef juice or extract, to an alarming extent. Eggs are sometimes given too freely; it is better to give only the yolks.

A very valuable food for infants and small children with eczema may be prepared from wheat. A cup full of the ordinary, coarse, wheaten grits or crushed wheat is put in a pint of cold water, in a double rice- or milk-boiler, and cooked slowly for two hours, in the afternoon. It is then set aside, covered, and left till morning, when it is found to be more or less jellified. More water is then added, with stirring, till quite thin, and it is cooked slowly for two hours more. It is then turned out on a fine

sieve, and rubbed with a spoon, more water being added if necessary, until the soft portion is made to pass through, and forms what I have named "wheat jelly"; it should be prepared fresh every day. This separates all the nutritive properties of the wheat kernel, and may be given alone, in any reasonable quantity; it may also be added to milk, and passes readily through the feeding bottle. It is slightly laxative. The *rationale* of the process is simple. By the prolonged soaking and slow boiling all the soluble elements of the whole wheat are extracted, including the phosphates, and combine in a thoroughly cooked mass. By standing overnight a certain fermentative change, a partial digestion, takes place, which is arrested by the morning cooking. An experience of ten years and more with this process leads me to highly recommend it.

When the child with eczema has passed beyond the period of nursing, great care is often necessary that its diet be correct. It must be remembered that servants, to whom the care of children is often too largely committed, are commonly taken from the plainer walks of life and are frequently totally ignorant of all the principles of life and health. Unless the matter is carefully looked into, it will often be found that even children at the breast are fed somewhat from the table, with the food of adults, and especially that they often get a little tea or coffee, of which children are universally fond. Even among

young eczematous patients in the easier walks of life I have frequently found indulgences in the most improper mode of living, not only in the line of candy, chocolate, cake, etc., but even pickles, nuts, and most indigestible articles. I am positive that severe restrictions in these respects have been followed, in my hands, by results which had not been, and could not be, attained under previous treatment, which was otherwise proper; and yet I could give many instances where very intelligent persons were feeding children with eczema in a most outrageous and inexcusable manner, unchecked by their medical adviser.

In *acute eczema* of adults, it is often desirable to modify the diet very considerably, cutting off, for a period, most if not all of the meat, and even eggs. Rice is about the best thing that can be taken, as long as the patient can stand it. Milk often serves well, if it is taken strictly on the lines previously laid down, but if mingled with other food, or medicines, it often acts badly; it is well to dilute it with hot water. Light soups and gruels may be taken, also preparations of wheat, dry toast, stale bread and butter, and some lighter vegetables. As the acute process subsides, lighter meats, as fowl and game, also raw oysters and fish, may be added.

In *chronic eczema* the thought and ingenuity of the physician may often be greatly taxed to regulate the diet in exactly the right manner. It is to be

remembered that the disease is one of debility, and the aim must be to bring the nutrition of the patient to the highest point possible. Hence it is often not wise to make any great restrictions at first, and certainly not to put the patient on any close diet, until the case is thoroughly understood; for, many a time have I seen these patients who, by the successive restrictions of different physicians, had been reduced to a very low state of vitality. Of course gross errors may be corrected at the first, but severe restrictions should be reserved for complete knowledge of the patient's condition.

The diet, therefore, will vary very greatly with the case. In those with a gouty eczema a pretty mixed diet is required, avoiding excess of meat on the one hand and excess of sugar and pure starches on the other. Wine and beer should be interdicted and only when necessary a little whiskey taken, during meals, well diluted. Cold drinks during the meals, or indeed at any time should be avoided, and a tumblerful of hot water, perhaps with a lithia tablet in it, be taken an hour before eating. The effervescing waters often seem to do harm.

In those with symptoms of gastric or intestinal indigestion, the greatest care will be necessary in arranging the diet according to general medical principles, which need not be detailed here. Sweet potatoes, cabbage, salted food, hot bread, pastry, fried articles, sweets, bananas, nuts, cheese, and many

more articles must often be cautioned against, or error will occur.

In cases of *neurotic eczema* the diet should be arranged so as both to remove any assimilative or other derangements which lead up to the trouble, and to nourish the nervous system. To this end the fats and phosphates should be increased in the food. Bone marrow, properly cooked, is very acceptable to many, and crisply fried bacon can be taken freely. The phosphates, as found in whole wheat preparations, also some oatmeal, are valuable, as also fish.

Much the same line of diet is suitable to cases of *strumous eczema*, but in both these classes of patients care must be exercised in regard to the action of the digestive organs and the emunctories; for frequently, in attempting to build up the system, the organs of digestion and excretion will be overtaxed, and harm result to the eczema therefrom.

In all varieties of chronic eczema very great benefit will often accrue from the addition of milk, one hour before one or more of the meals, in the manner previously detailed. Great care must be exercised, however, in being sure that the previous meal is completely digested and the stomach empty, or harm to the eczema instead of good may result.

HYGIENE

If dietary elements are of importance in eczema, because they affect the health and vitality of the body

and the skin, hygiene, understood in its broadest sense, is also worthy of consideration for the same reason. It is difficult, perhaps, to fully define all that can be understood under the term hygiene; but in the present connection it is used as referring to every element which can conduce to the health and vigor of the individual: such as *employment, rest, time and hours of sleep, ventilation and sunlight, clothing, exercise, massage, bathing*, etc.

1. Employment.—This should always be known and taken into consideration in connection with eczema. Some employments are injurious of themselves, others incidentally so, as when they involve long standing, or are in badly ventilated or overcrowded rooms. In some instances it is necessary to make a change in order to effect a cure, but commonly a little thought and planning will overcome many of the injurious elements. It is often necessary to consider this very seriously in regard to school children and teachers, and regulate the life according to circumstances. The milk treatment often comes in very advantageously in some of these cases.

2. Rest.—It is often important to secure proper rest, at proper times, for many an eczema comes from the breakdown incident to prolonged exertion without adequate rest. It is by no means always in the line of actual work that the harm comes, but in the mingling with it of what is often wrongly called recreation or pleasure; when rest would have been

more proper *re-creation*. Rest before meals, as previously mentioned, is most valuable, and is worth much more than rest or lying down after meals, which often induces a very sluggish state of the system.

3. Time and Hours of Sleep.—In the cities, at least, many errors are made by eczematous patients in regard to sleep; reference is not to sleep as disturbed by itching, but to the careless or neglectful regard to securing proper sleep, when in relatively good health. In many cases of eczema it will be noted that the eruption has followed a period of insomnia engendered often by the habits of the individual. Too late bed hours and insufficient hours of sleep often predispose to eczema. Unless this matter is inquired into and sternly corrected by the physician the eruption will often be persistent or recurrent.

4. Ventilation and Sunlight. — These seemingly small items may sometimes contribute their quota to the general failure of nutrition which induces eczema, and need not be dwelt on here. A suggestion may be given, however, in regard to atmospheric conditions which sometimes have much to do with the comfort and well-being of eczema patients. In many houses the atmosphere is so dried by furnace heat that there is great discomfort, which is relieved when sufficient moisture is given by pans of water in the apartments or in connection with the heating apparatus.

5. Clothing.—This is often an important element

in connection with eczema, which should receive medical consideration. Atmospheric changes certainly have very much to do with the eruption, and patients affected with eczema should always be properly protected. But, on the other hand, harsh or irritating underclothing can often irritate old or excite new eruption, and it is sometimes a difficult matter to adjust clothing satisfactorily. Wool is the best substance to wear next to the skin, and I constantly urge it, even though it seems to irritate at first; affected parts should be properly protected and treated, and the rest of the surface modified by baths, powders, lotions, or ointments, so that it may learn to bear the contact. The benefit, especially to subjects of gouty eczema, when absolutely pure wool has been substituted for silk, cotton, or even linen underwear, is often very striking. In some instances, however, the recently introduced linen-mesh underclothing answers excellently. Eczema patients should be very careful in regard to outer garments, changed with the surrounding temperature, in order to avoid either overheating or chilling of the surface; either of these may be both productive of eruption and of internal conditions which lead to the same.

6. Exercise.—While exercise in the main is necessary for good health, some care is necessary that eczema patients do not overdo it, either in the direction of too great fatigue or in overheating the system. Specific directions must vary with each case, and the

plan and method may be left to individual discretion ; not, however, wholly to that of the patient, except as guided by the physician. Regular, proper, and sufficient exercise should be insisted on, at suitable hours. I have repeatedly seen harm result from exercise when the patient was already in a tired and exhausted condition ; and I have also seen many eczematous patients who suffered greatly because they had not had sufficient exercise to secure a free and natural metabolism.

7. Massage.—When exercise cannot be taken massage may be employed, but this must be done with great caution, for repeatedly I have seen the skin greatly irritated by the process, and fresh eruption thereby developed. Some bland lubricant like the compound lanolin ointment (Formula 70) should be used, which may be slightly carbolated, and proper applications made at once to any affected surfaces.

8. Electricity.—Aside from direct medication by this means, which may occasionally be of service, especially in neurotic eczema, general static electricity, or central galvanization, may sometimes be of value as a general hygienic measure.

9. Bathing.—Frequent reference has been made in previous chapters in regard to the injury to eczematous surfaces which often comes from injudicious bathing or washing, and this should ever be borne in mind. But, on the other hand, it is well to remember that the skin is an excretory organ, giving

off at times even more liquid than the kidneys or lungs; a certain, though small proportion of solid matter is also given off in the sweat, while the total amount elaborated and discharged by the sebaceous glands is very considerable. It is important, therefore, that it be kept in good condition, although opinions vary greatly as to how this is to be accomplished. I may state that I share the view of Hebra, who toward the close of his life, wrote very strongly to the effect that the matter of bathing was constantly overdone, he stating that he saw more eruptions in those who were active bathers than in those who neglected the skin in this respect. Animals do not bathe, and yet the skin in them performs its function satisfactorily. I find that I am more and more restricting eczema patients in the application of water to the skin.

Turkish, Russian, sulphur, and mercurial baths have already been spoken of and do not require further discussion. They have often been taken with a view to "purifying the blood," and eliminating some *materies morbi* through the skin; the fallacy of this need not be dwelt on. As a means of promoting the activity of the skin they are occasionally of service, but it is questionable if the powerful stimulation of its glands to action is not often followed by a corresponding depression, which in the end is harmful; Turkish and Russian baths may be likened to the action of purgatives to the bowels,

which, while occasionally valuable, are prejudicial if abused.

10. Mineral Springs.—This is a subject of very great interest in connection with eczema, but one about which there is still considerable difference of opinion, at least in printed statements, which are too often colored by personal bias or commercial interest. It certainly requires much more scientific observation and records before definite statements can be made which shall be of positive practical value.

My observations have been largely of an adverse or negative character, for it has fallen to my lot to see hundreds of eczema patients who have visited mineral springs either with no benefit, or with but temporary gain, or who were even made worse thereby; while I have seen a relatively small number who have been very greatly benefited or apparently cured by this means. To be of real service the mineral water should be as intelligently prescribed as any other remedy; certain springs may be of value in certain forms of the disease or conditions of the system, while in others quite a different mineral water is required. Failure to discriminate in this respect has led to innumerable disappointments and fruitless journeys, at vast trouble and expense. To advise a patient to visit some of the mineral springs without further directions, is likely to be as useless, if not as harmful, as to send one to a drug store without a prescription.

But visits to mineral springs, even if they are such as are suitable to the condition, are often of relatively little value because of the neglect of proper dietary, hygienic, and perhaps medical measures at the same time. At the spas abroad these are generally attended to, more or less efficiently, on the advice of physicians who have been long resident thereat; and patients seem more willing to seek and follow such advice there than in this country. The sea trip, rest from care, change of air, scene, and diet contribute largely to the greater benefits often obtained from such treatment abroad, as compared with the results attending visits to the watering-places in this country.

As already stated, and as may be judged from what has preceded in regard to the nature and treatment of eczema, the character of the mineral water to be advised and the method of its use must vary very greatly in individual cases. The subject is far too great a one to handle fully in the present compass, but a few indications can be given which may be of service.

Mineral waters may be regarded according to their action, as (1), Laxative; (2), Diuretic; (3), Diaphoretic; (4), Tonic; and (5) Alterative. But as many of them have varied action, it is perhaps more intelligible to class them under their principal ingredients.

1. Pure Waters.—There are many of these acces-

sible, which often serve a good purpose in simply washing out the system ; they thus lead to the introduction of a sufficient, or surplus quantity of water, which after all is the main element of value in most of the spas visited, whatever be the nature of the mineral ingredients. Such are the Poland water of Maine, the Waukesha and Bethesda of Wisconsin, Blue Ridge in Virginia, and Divonne, Wildbad, Gastein, and others abroad. They are valuable in chronic eczema, especially in high livers.

2. *Alkaline Waters*.—A large variety of these are found here and abroad, such as the Vichy at Saratoga, Berkshire soda in Massachusetts, Capon in Virginia, and Vichy, Baden-Baden, Contrexeville, Teplitz, Vals, and others abroad. These are useful in lithæmic and gouty conditions associated with eczema, and by their antacid action benefit many cases of this eruption ; they are milder in their action than the next class. To this class also belong the various so-called lithia waters, whose value in eczema has been greatly overrated.

3. *Saline Waters*.—Many of this class contain much of the alkaline element, while in others sulphates of sodium and magnesium predominate, giving rise to the name "bitter waters," which are laxative. To the former belong many of the Saratoga waters, Congress, High Rock, Empire, also St. Catharine in Canada, Carlsbad, Marienbad, Wiesbaden, Royat, and many others in Europe. Among the latter, or more pur-

gative waters, may be mentioned the Crab Orchard of Kentucky, Bedford of Pennsylvania, and Hathorn of Saratoga, all of which are, however, relatively mild compared with the Rubinat, Villacabras, Pullna, Hunyadi, and others abroad. Most of these latter are bottled, and not used for bathing. Between these two stand a large class of milder saline waters much used both for drinking and bathing, represented by Leamington and Malvern in England, and Ems, Kissingen, Homburg, and Nauheim in Germany. All these waters may be of value internally in suitable cases, to relieve abdominal plethora, but used externally waters of this class may prove very irritating to diseased skin.

4. *Sulphur Waters*.—These have attained the greatest reputation in the treatment of diseases of the skin, and so eczematous patients continually resort to them, often to their great detriment. As alterative and anti-rheumatic agents they often serve a good purpose in certain very chronic cases of eczema, but in conditions which are at all acute they frequently prove harmful. There are a very large number of this class of springs, well known, here and abroad: such are Richfield and Sharon in New York, Alburg and Highgate in Vermont, Greenbrier White Sulphur in West Virginia, French Lick in Indiana, Upper and Lower Blue Lick in Kentucky, Glenwood Springs in Colorado, and many more in various parts of this country; Aix-les-Bains,

Aix-la-Chapelle, Uriage, Ischl, Harrogate, and many more abroad. As stated before, the value of sulphur waters in eczema has been very greatly overrated; taken internally they are of some value, partly by virtue of the water itself, and partly from its alkaline and other ingredients, but used locally they may irritate acute conditions greatly.

5. *Chalybeate Waters*.—Mineral springs containing iron are sometimes of very considerable benefit to eczematous patients, and it is often wise to give a course at one of them after a visit to one of the alkaline or saline purgative springs. There are many of these all over the world; such are the Chalybeate at Sharon, New York, the Sweet Chalybeate and Rawley in Virginia, Pyrmont and Plombières in France, Schwalbach in Germany, Eisenbach in Austria, St. Moritz and Tarasp in Switzerland, Spa in Belgium, and Bath and Gloucester in England.

6. *Arsenical Waters*.—While it might be expected that these would be of much service in eczema, practically they are not of the value which could be hoped. In some chronic cases they will produce an improvement, but generally the time spent at the spring is too short to be of great or permanent advantage. There are few of any note in this country, those best known abroad are Levico in Austria, said to be the strongest known, La Bourboule and Royat in France, Gerace in Italy, and Louèche-les-Bains in

Switzerland. At the latter place much attention is paid to bathing, patients often remaining many hours daily in the pool. Most of these springs contain also a considerable quantity of iron, and are quite unsuitable for acute conditions.

7. *Bromo-Iodine Waters*.—If there be any real virtue in the small quantity of bromine and iodine found in some waters, they have little applicability in eczema, except in strumous cases or those with a syphilitic history. Their virtues are very little known scientifically. The principal ones are Bex in Switzerland, Kreutznach in Germany, Baassen in Hungary, and Woodhall in England.

8. *Thermal Waters*.—Many of the springs already mentioned are hot, some of them very hot, but the term thermal waters is generally given to those which are indifferent, or without any very active medicinal ingredients. Such are the hot springs of Virginia, Arkansas, Idaho, California, and many of the western States; there are few of these indifferent hot waters well known in Europe. These hot baths are sometimes of value in very chronic cases, where there is great inactivity of the skin, but they seldom effect a cure of the disease.

It will be thus seen that the number and variety of mineral waters which have at times been recommended for eczema are almost as great as that of the remedies which have been proposed, and the secret of success with the one, as with the other, lies in the

proper adaptation of the remedy to the case. As an adjuvant to careful and complete treatment, many of them may often render valuable service ; and when it is reasonably convenient for an eczema patient to pass some time in the summer at a proper spring, it may prove great gain, both from the direct use of the waters, and by the enforced vacation, change of scene, etc. But it is idle to expect that a short course of three or six weeks at any spring can effect the radical change often necessary to cure the disease.

It is impossible here to give any indication in regard to the use of the different mineral waters, it is best always to have the details arranged by the resident physicians at the various springs.

Many of the waters are bottled, and can sometimes be used advantageously at home, in connection with other treatment, but, as a rule, other measures are quite as efficient. Some of them are also furnished in the form of salts, and artificial preparations of the same are on the market. If used these should be taken in large quantities of water, and preferably hot, one hour before eating.

II. Sea Bathing.—In regard to the effects of visits to the sea-shore, and sea-bathing in eczema, there is still necessity for much observation and clinical record. Sea-bathing appears generally to be injurious to parts affected with the eruption, certainly to those at all acutely inflamed. But sea air and sea-bathing are often very beneficial to eczematous patients,

especially to those who have lived at some distance from the ocean. As a rule, those dwelling on the seaboard receive most gain from an entire change to a mountainous region.

In this chapter many different items have been considered and much more could be said bearing upon the diet and hygiene of eczema; for, as already quoted, "eczema is the image itself of the life, the reflection on the skin of the constitution of the individual." No item which can conduce to the welfare of the patient should be beneath the notice of the medical man who would successfully treat eczema. Diet and hygiene represent to a large degree the elements pertaining to human existence, and are often, or rather always, more potent for health or ill-health of the skin than are many of the articles commonly known as medicines.

CHAPTER XV

THERAPEUTICS OF ECZEMA

IN the presentation of the following prescriptions, and in the references made to them in the text, it is not intended that they shall represent fixed formulæ from which there shall be no deviation to suit the requirements of individual cases; they are rather given to indicate, in the main, the mode in which the remedies spoken of are employed by the writer, in daily practice. Individual cases differ so greatly that a certain amount of latitude must always be taken, and no hard and fast rules can ever be given for the administration of any drug, or the employment of any local application. The prescriptions here recorded, therefore, only represent the average method of use of remedies which are of service in eczema, and in many instances they must be modified to suit the case in hand. The combinations must be used with knowledge and discretion, and in the light of what has been stated in previous chapters. The doses indicated are mainly for adults.

BALNEA

The capacity of bath tubs varies so greatly that it is generally necessary to have the quantity measured accurately the first time, when the tub may be marked at the height of the water, for subsequent baths; the amount required for the following formulæ is thirty gallons. Directions in regard to temperature, duration, etc., have been given in previous chapters.

1. *Balneum alkalinum.*

R	Potassii carbonatis, ℥ iv	125	
	Sodii carbonatis, ℥ iij	90	
	Sodii boratis, ℥ ij	60	

M. Use for 30-gallon bath. It may be made more soothing by the addition of a pound or two of starch, or a pound of gelatin, or a pound or two of bran or linseed meal, soaked in a muslin bag, and well kneaded.

2. *Balneum potassii et glycerini.*

R	Potassii acetatis, ℥ vi—℥ x	180	—300
	Glycerini, O j—O ij	640	—1280

M. For 30-gallon bath.

3. *Balneum ammoniæ et glycerini.*

R	Spiritus ammoniæ aromatici, ℥ viij	240	
	Glycerini, O ss—O j	320	—640

M. For 30-gallon bath.

4. *Balneum acidi carbolic.*

R	Acidi carbolic, ℥ j—℥ iv	30	—120
	Gelatinæ, lb. j	480	
	Aquæ, Oij	960	

M. For 30-gallon bath: carbolic acid in greatest strength = 1:1000.

LOTIONES

Great care should be exercised in preparing lotions with mineral ingredients, in order to avoid coarse

and gritty particles, which can irritate the skin; the ingredients should be finely pulverized and then rubbed up in a mortar, with a little glycerin. Lotions containing a powder should be well shaken and some poured out in a saucer, or china box, and sopped on, with a bit of handkerchief; never with a sponge or absorbent cotton. The sediment should form a smooth, even, non-irritating coating on the affected part, which may be increased by repeating the process in ten minutes. As a rule, lotions in eczema should be allowed to evaporate and not be covered with rubber, oiled silk, or heavy covering. Some skins do not bear glycerin well, and its place can be supplied by other demulcents, as tragacanth, gelanthum, or marsh-mallow decoction.

5. *Lotio calaminæ et zinci.*

R̄	Acidi carbolici, 3 ss—3 j	2	—4
	Pulveris calaminæ preparatæ, 3 j.....	4	
	Zinci oxidi, 3 ij.....	8	
	Glycerini, 3 iii.....	15	
	Liquoris calcis, 3 iv.....	15	
	Aquæ rosæ ad 3 iv.....	120	

M. et ft. lotio.

USE: Cooling and slightly astringent.

6. *Lotio calaminæ et cretæ* (Startin.)

R̄	Pulveris calaminæ preparatæ, 3 j.....	4	
	Cretæ preparatæ, 3 j—3 ij.....	4	— 8
	Acidi hydrocyanici diluti, 3 ss.....	2	
	Glycerini, 3 ii—3 iv.....	10	—20
	Liquoris calcis, 3 iij.....	90	
	Aquæ sambuci, ad 3 viij.....	240	

M. et ft. lotio.

USE: Cooling and antipruritic in sub-acute inflammation.

7. *Lotio calaminæ et picis.*

℞ Pulveris calaminæ preparatæ, 3 j....	4	
Zinci oxidi, 3 ij.....	8	
Glycerini, 3 iij.....	15	
Liquoris picis alkalini (Formula 16)		
3 j — 3 iv.....	4	—15
Aquæ aurantii florum, ad 3 iv.....	120	

M. et ft. lotio.

USE: Cooling and antipruritic.

8. *Lotio calaminæ et sulphuris.*

℞ Acidi carbolici, 3 ss — 3 j.....	2	— 4
Pulveris calaminæ preparatæ, 3 j.....	2	
Sulphuris precipitati, 3 ij — 3 iv.....	8	—16
Zinci oxidi, 3 iij.....	12	
Glyceriti boroglycerini, 3 iv — 3 vj...	20	—30
Aquæ lauro-cerasi, ad 3 iv.....	120	

M. et ft. lotio.

USE: Cooling and astringent, in seborrhœic eczema. Resorcin 3 j — 3 iij may be added if necessary.

9. *Lotio magnesiæ et zinci.*

℞ Magnesii carbonatis, 3 j.....	4	
Zinci oxidi, 3 j — 3 ij.....	4	— 8
Aquæ rosæ, 3 iv.....	120	

M. et ft. lotio.

USE: Cooling and astringent in acute conditions. Carbolic acid 3 ss — 3 j or ichthyol 3 j — 3 ij may be added to check itching.

10. *Lotio zinci et plumbi.*

℞ Zinci oxidi, 3 j — 3 ij.....	4	— 8
Liquoris plumbi subacetatis diluti, 3 vj	24	
Glycerini, 3 j — 3 iij.....	5	—15
Infusi picis liquidæ, ad 3 iv.....	120	

M. et ft. lotio.

USE: Cooling, astringent, and antipruritic.

11. *Lotio bismuthi et amygdalæ.*

℞ Bismuthi sub-nitratis, 3 iss.....	6	
Acidi hydrocyanici diluti, 3 — ss 3 j..	2	—4
Emulsi amygdalæ, 3 iv.....	120	

M. et ft. lotio.

USE: Antipruritic, especially in eczema of scrotum.

12. *Lotio boracis et camphoræ.*

R	Sodii boratis, 3 ij — 3 iv.....	8	—16
	Glycerini, 3 iv.....	20	
	Aquæ camphoræ, 3 iiss.....	105	

M. et ft. lotio.

USE : Demulcent and cooling in squamous conditions.

13. *Lotio resorcini.*

R	Resorcini, 3 j — 3 ij.....	4	— 8
	Spiritus vini rectificati, 3 ii — 3 iv...	8	—16
	Glycerini, 3 ij — 3 iv.....	10	20
	Aquæ rosæ, ad 3 iv.....	120	

M. et ft. lotio.

USE : Eczema seborrhoicum, especially of the scalp.

14. *Lotio thymolis.*

R	Thymolis, 3 ss — 3 j.....	2	— 4
	Liquoris potassæ, 3 j — 3 ij.....	4	— 8
	Glycerini, 3 ij — 3 iv.....	10	20
	Aquæ sambuci, ad 3 iv.....	120	

M. et ft. lotio.

USE : Cooling and cleansing in squamous eczema of scalp.

15. *Lotio ichthyoli.*

R	Ichthyoli, 3 ij — 3 ji.....	8	—60
	Aquæ (vel olei lini) ad 3 iv.....	120	

M. et ft. lotio.

USE : Antipruritic and astringent.

16. *Liquor picis alkalinus.*

R	Picis liquidæ, 3 ij.....	60
	Potassæ causticæ, 3 j.....	30
	Aquæ, 3 v.....	150

M. Dissolve the potash in the water, and add slowly to the tar, in a mortar, with friction.

USE : Stimulant and antipruritic in chronic eczema ; when diluted ten to twenty times, with water, cooling and sedative in more acute conditions.

17. *Lotio saponis viridis* (Spiritus saponis kalinus, of Hebra).

R	Saponis viridis, $\frac{z}{3}$ ij.....	60	
	Spiritus vini rectificati, $\frac{z}{3}$ j.....	30	
	Spiritus lavandulæ, $\frac{z}{3}$ ss.....	2	

M. et ft. lotio.

USE : Stimulant to the skin ; used also for shampoo, on the scalp, with friction, adding a little water, until lather is formed.

18. *Tinctura saponis cum pice.*

R	Olei cadini.....		
	Saponis viridis.....		
	Spiritus vini rectificati, āā $\frac{z}{3}$ j.....	30	
M. filtra, et adde			
	Spiritus lavandulæ, $\frac{z}{3}$ j.....	4	

M. et ft. lotio.

USE : Stimulant in chronic eczema.

19. *Lotio olei cadini et ichthyoli.*

R	Olei cadini.....		
	Ichthyoli.....		
	Olei lini (<i>vel</i> olei morrhuæ), āā $\frac{z}{3}$ j.....	30	

M. et ft. lotio.

USE : Antipruritic and stimulant in chronic eczema.

20. *Lotio potassii permanganatis.*

R	Potassii permanganatis, $\frac{z}{3}$ ss — $\frac{z}{3}$ j.....	2	— 8
	Aquæ, $\frac{z}{3}$ iij.....	90	

M. et ft. lotio.

USE : Antipruritic ; to be painted over patches of chronic eczema and allowed to dry on.

21. *Lotio quiniæ et zinci.*

R	Quiniæ sulphatis, $\frac{z}{3}$ j.....	1	25
	Zinci sulphatis, gr. x.....		65
	Tincturæ cantharidis, $\frac{z}{3}$ iij.....	12	
	Alcohol absoluti $\frac{z}{3}$ ss.....	15	
	Glycerini, $\frac{z}{3}$ iv.....	20	
	Spiritus myrciæ, <i>ad</i> $\frac{z}{3}$ iv.....	120	

M. et ft. lotio.

USE : Mildly stimulating hair lotion to use after eczema of scalp.

MISTURÆ

No fixed formulæ can be given which are universally applicable even to typical cases of eczema. Each case is to be treated on its own basis, with reference to the constitution and idiosyncrasies of the individual, the state of the various organs, the character of the eruption, and the object to be attained. The following mixtures are samples of combinations which often prove useful, and represent average doses for adults. Occasionally the efficient dose is larger than here given, or even smaller. The dosage for children must be governed by general rules.

22. *Mistura potassii acetatis.*

R̄	Potassii acetatis, 3 vj ad ʒ iss.....	24	—48
	Tincturæ nucis vomicæ, 3 ij.....	8	
	Infusi quassiaæ, ad ʒ iv.....	120	

M. Sig. Teaspoonful in water after meals.

USE: An antacid tonic in acute eczema, and also in chronic eczema in gouty subjects.

23. *Mistura ammonii acetatis.*

R̄	Potassii acetatis, 3 j—3 iij.....	4	—12
	Spiritus ætheris nitrosi, 3 ij—3 iv.....	8	—16
	Liquoris ammonii acetatis, ad ʒ iv.....	120	

M. Teaspoonful well diluted, half an hour before eating.

USE: In acute eczema, especially in children; aconite may be added in febrile conditions.

24. *Mistura diuretica.*

R̄	Potassii citratis, ʒ j—ʒ ij.....	30	—60
	Tritici repentis, ʒ ij.....	60	
	Seminis lini ʒ j.....	30	

M. Place in a pint of hot water, and when cold take two to four tablespoonfuls every three or four hours.

USE: In acute or chronic eczema with deficient kidney action.

25. *Mistura antarthritica.*

R	Sodii benzoatis, 3 iv.....	15		
	Lithii citratis, 3 iv.....	15		
	Vini colchici radiceis, 3 iij—3 vj.....	12	—24	
	Infusi digitalis, ad 3 iv.....	120		

M. Sig. Teaspoonful in water after eating, or every four hours.

USE: In gouty eczema.

26. *Mistura rhei et cretæ.*

R	Pulveris rhei, gr. v—xx.....	30—1	25
	Pulveris ipecacuanhæ, gr. v—x.....	30	65
	Misturæ cretæ, 3 ss—3 ij.....	15	60
	Liquoris ammonii acetatis, 3 j.....	30	
	Aquæ anethi, ad 3 iv.....	120	

M. Sig. Teaspoonful in water, after food.

USE: Mild corrective, especially in infantile eczema.

27. *Mistura rhei composita.*

R	Pulveris rhei, 3 ss—3 iss.....	2	—6
	Pulveris ipecacuanhæ, gr. x.....	65	
	Potassii acetatis, 3 ij.....	8	
	Sodæ bi-carbonatis, 3 ij—3 iv.....	8	—16
	Tincturæ nucis vomicæ, 3 ij.....	8	
	Aquæ menthæ piperitæ, ad 3 iv.....	120	

M. Sig. Teaspoonful in water, after meals.

USE: Antacid and corrective in dyspeptic eczema. Fowler's solution may be added, or the carbonate of iron, in anæmic conditions.

28. *Mistura rumicis composita.*

R	Potassii acetatis, 3 iv—3 j.....	15	—30
	Tincturæ nucis vomicæ, 3 ij.....	8	
	Extracti cascaræ sagradæ, fl. 3 j—3 iv..	4	—16
	Extracti rumicis fluidi, ad 3 iv.....	120	

M. Sig. Teaspoonful half an hour before meals, largely diluted.

USE: Especially in eczema of the anus and genital region.

29. *Mistura ferri et magnesii* (Startin's mixture).

R	Magnesii sulphatis, 3 vj—3 iss.....	24	—45
	Ferri sulphatis, 3 j.....	4	
	Acidi sulphurici diluti, 3 ij—3 vj.....	8	—24
	Syrupi zingiberis, 3 j.....	30	
	Aquæ, ad 3 iv.....	120	

M. Sig. Teaspoonful in water, through a tube, after meals.

USE: Aperient and cooling tonic in acute eczema. Strychnia and quinine may often be added with advantage.

30. *Mistura acidi nitrici.*

R	Acidi nitrici fortioris, 3 j—3 iij.....	4	—12
	Syrupi zingiberis, $\frac{3}{4}$ ss.....	15	
	Aquæ, ad $\frac{3}{4}$ iv.....	120	

M. Sig. Teaspoonful in water, through a tube, after meals.

USE: Alterative in cases exhibiting oxaluria and liver derangement.

31. *Mistura arsenici chloridi.*

R	Liquoris acidi arseniosi, 3 j—3 iv.....	4	—15
	Acidi muriatici diluti, 3 iv— $\frac{3}{4}$ j.....	15	30
	Tincturæ ferri chloridi 3 ij—3 iv.....	7	50—15
	Aquæ, ad $\frac{3}{4}$ iv.....	120	

M. Sig. Teaspoonful in water, through a tube, during or after meals.

USE: Powerful tonic in chronic eczema.

32. *Mistura ferri et arseni.*

R	Ferri et ammonii citratis, 3 j.....	3	75	
	Liquoris potassii arsenitis, 3 j—3 ij....	3	75—7	50
	Liquoris potassæ, 3 ij—3 iv.....	7	50—15	
	Tincturæ nucis vomicæ 3 ij.....	7	50	
	Tincturæ cinchonæ compositæ vel tincturæ gentianæ compositæ, $\frac{3}{4}$ ss— $\frac{3}{4}$ j.	15	—	30
	Aquæ, ad $\frac{3}{4}$ iv.....	120		

M. Sig. Teaspoonful in water, after meals.

USE: Tonic and alterative in chronic eczema.

33. *Mistura ferro-arsenicalis.*

R	Ferri et ammonii citratis, 3 ss—3 j....	2	—	4
	Liquoris potassii arsenitis, 3 ss—3 ij..	2	—	8
	Liquoris potassæ, 3 j—3 ij.....	4	—	8
	Syrupi pruni virginianæ, $\frac{3}{4}$ j.....	40		
	Vini ferri dulcis (Malaga), ad $\frac{3}{4}$ iv.....	120		

M. Sig. Teaspoonful in water after meals.

USE: Especially valuable in children with eczema.

34. *Mistura strychninæ et phosphori.*

R	Strychninæ, gr. j.....		06	
	Acidi phosphorici diluti, $\frac{3}{4}$ ss— $\frac{3}{4}$ j....	15		30
	Syrupi hypophosphiti, ad $\frac{3}{4}$ iv.....	120		

M. Sig. Teaspoonful in water after meals.

USE: In neurotic eczema.

PASTÆ ET PIGMENTA

The object of this class of applications is to secure an adherent dressing to the skin, which may simply serve as a protection or contain active medicinal ingredients. They may be soft, and applied with some friction, or fluid and painted on and allowed to dry, or solid, requiring heat for their application. They are mostly serviceable in localized forms of chronic eczema.

35. *Pasta acidi salicylici* (Lassar).

℞	Pulveris acidi salicylici, gr x—3 ss....	65—2
	Pulveris amyli.....	
	Zinci oxidi, āā 3 ij.....	8
	Petrolati mollis, 3 ss—3 j.....	15 —30

M. et ft. pasta.

USE: Soothing and protective in sub-acute eczema; resorcin, boric acid, or ichthyol may take the place of the salicylic acid when indicated.

36. *Pasta amyli et zinci* (Ihle).

℞	Pulveris amyli.....	
	Zinci oxidi.....	
	Lanolini.....	
	Petrolati mollis, āā 3 ij.....	8

M. et ft. pasta.

USE: Soothing and protective in sub-acute eczema; salicylic acid, resorcin, boric acid, sulphur, or ichthyol may be added.

37. *Pasta exsiccans* (Pick).

℞	Tragacanthæ, 3 j.....	4
	Glycerini, 3 ss.....	2
	Aquæ bullientis, 3 iiss.....	75

M. et ft. mistura.

USE: Brush over skin in sub-acute eczema, and allow to dry on; zinc oxide, 3 ii—3 iv, may be added, also carbolic acid, 3 ss—3 i, or salicylic acid, resorcin, boric acid, and ichthyol.

38. *Pigmentum magnesi carbonatis* (Bulkley).

R	Acetanilidis, 3 ss.....	2	
	Magnesi carbonatis, 3 i—3 iij.....	4	—12
	Gelanthi, 3 iv—3 j.....	15	—30
	Aquæ rosæ, ad 3 iij.....	90	

M. et ft. pigmentum molle.

USE: Soothing and protective; paint over patches of acute or chronic eczema and allow to dry. Carbolic acid (3 ss—3 j), ichthyol (3 j—3 iij), sulphur (3 j—3 iij), salicylic acid (3 ss—3 ij), or resorcin (3 ss—3 j), etc., may be added to meet indications.

39. *Pigmentum gelanthi et amygdalæ* (Bulkley).

R	Acidi carbolici, 3 j.....	1	25
	Glycerini, 3 j.....	5	
	Gelanthi, 3 j.....	30	
	Emulsii amygdalæ, ad 3 iij.....	90	

M. et ft. pigmentum.

USE: A bland protective covering to irritated surfaces; paint on and allow to dry. This does not keep very well and should be used fresh.

40. *Pigmentum ichthyol* (Unna).

R	Acidi carbolici, 3 j.....	1	25
	Ichthyol, 3 ij.....	7	5
	Pulveris amyli, 3 iv.....	15	
	Aquæ, 3 v.....	7	

M. et ft. pigmentum.

USE: To be painted over surface in sub-acute eczema.

41. *Pasta gelatinæ et zinci* (Unna, modified).

R	Dextrini, 3 j.....	30
	Gelatinæ albæ, 3 vj.....	24
	Zinci oxidi, 3 vi.....	24
	Glycerini, 3 ix.....	45
	Aquæ, 3 ij.....	60

M. Melt the gelatin in the water, add the glycerin and dextrin; when liquid stir in the zinc. Two to four per cent. of ichthyol may be added.

USE: Melt with gentle heat and apply with brush; a protective covering in eczema.

42. *Pasta gelatinæ et adipis* (Jamieson).

R	Gelatinæ, 3 ij.....	7	5
	Zinci oxidi, ℥iv.....	5	
	Adipis recentis, ℥iv.....	5	
	Glycerini, ʒj.....	30	

M. Heat together over water bath, and add two per cent. of powdered salicylic acid.

USE: Melt and paint on; a protective covering in eczema.

PILULÆ

Many remedies may be given in pill form: the following formulæ, repeatedly referred to in the text, are given as samples of combinations which have proved valuable.

43. *Pilulæ hydrargyri, colocynthidis, et ipecac.*

R	Massæ hydrargyri.....		
	Extracti colocynthidis comp., āā gr. x.....	64	
	Pulveris ipecacuanhæ, gr. ij.....	13	

M. et divide in pilulas No. iv.

SIG: Take one or two at night and on the second night after.

USE: A moderate cathartic in cases exhibiting liver derangement.

44. *Pilulæ ferri et aloes.*

R	Ferri sulphatis exsiccati, ʒ ss.....	2	
	Pulveris aloes purificatæ, ℥j.....	1	25
	Pulveris aromatici, ʒj.....	4	
	Confectionis rosæ, ℥j.....	1	25

M. et divide in pilulas No. xl.

SIG: Take one or more after each meal, and diminish the dose and its frequency as rapidly as possible.

USE: A tonic laxative in habitual constipation.

45. *Pilulæ cascari compositi.*

R	Cascarin		
	Podophyllin		
	Aloin, āā gr. x.....	64	

M. et divide in pilulas No. xl.

SIG: Take one or more at bedtime, with water freely.

USE: A mild laxative in habitual constipation. (This formula is made in tablet form.)

46. *Pilulæ rhei, sodæ, et ipecac.*

℞	Pulveris rhei.....		
	Sodæ bicarbonatis, āā 3 ss— 3 j.....	2	— 4
	Pulveris ipecacuanhæ, gr. x.....	64	

M. et divide in pilulas No. xxx.

SIG. Take one after meals.

USE: Corrective in dyspeptic eczema; arsenate of soda (gr. $\frac{1}{20}$ — $\frac{1}{10}$) or extract of nux vomica (gr. $\frac{1}{4}$) may be added to each pill in nervous cases.

PULVERES

Dusting powders for external use should be prepared with the greatest care, and passed through a fine sieve; they should be well shaken before being applied. Care must be taken that powders be not allowed to cake upon the skin or to become worked into a paste, as in the flexures of the joints and elsewhere.

47. *Pulvis antipyreticus.*

℞	Pulveris camphoræ, 3 ss— 3 j.....	2	— 4
	Magnesii carbonatis.....		
	Zinci oxidi.....		
	Pulveris oryzæ sativæ, āā 3 ss.....	15	

M. et ft. pulvis.

USE: As a dusting powder in acute eczema.

48. *Pulvis acidi salicylici compositus.*

℞	Pulveris acidi salicylici, 3 j— 3 j.....	1	25— 4
	Zinci stearatis, 3 ss.....	15	
	Pulveris marantæ, ad 3 ij.....	60	

M. et ft. pulvis.

USE: Astringent in sub-acute eczema; powdered resorcin may be substituted for salicylic acid in seborrhœic eczema.

49. *Pulvis bismuthi compositus.*

℞	Bismuthi sub-nitratis, 3 j— 3 ij.....	4	— 8
	Pulveris talci venetii.....		
	Pulveris amyli, āā 3 j.....	30	

M. et ft. pulvis.

USE: Astringent in sub-acute eczema.

50. *Pulvis magnesi compositus.*

R	Pulveris acetanilidi, 3 ss—3 ij.....	2	—8
	Pulveris calaminæ preparatæ, 3 ij.....	8	
	Magnesi carbonatis, ad 3 j.....	30	

M. et ft. pulvis.

USE: Antiseptic in seborrhœic eczema.

51. *Pulvis antipruritus.*

R	Chloralis hydratis.....		
	Camphoræ, āā 3 j.....	4	
	M. Rub together until liquid and incorporate with		
	Pulveris amyli, 3 j—3 ij.....	30	—60

M. et ft. pulvis. Keep tightly corked, in wide-mouthed bottle.

USE: Antipruritic, to be well rubbed in with the hand, in chronic papular eczema.

UNGUENTA

Great care should be exercised in regard to ointments, and the physician should exercise personal supervision over their preparation, and also frequently inspect those in use by the patient; for the least rancidity renders an ointment irritating, and often harm is done by coarse or gritty particles or imperfect mixing. It is well to grind down mineral ingredients in a mortar, adding a trifle of sweet almond oil, making them into a paste, which is then mixed with the excipient.

The base of the ointment is often very important. The preparations of petroleum, vaseline, cosmoline, and albolene, are often found not to have body enough, where protection is needed, and most of the following prescriptions are made with "cold cream," the unguentum aquæ rosæ of the U. S. P.,

a most invaluable aid in the treatment of skin diseases. Lanolin is a desirable addition to many ointments, twenty to thirty per cent., but used alone it is too sticky.

When the surface is raw ointments should be spread thickly on the woolly side of lint, or on a thin layer of absorbent cotton; in chronic conditions gain is had by rubbing them in, and then covering in the same way. It is generally well to have the new dressing already spread before old ones are removed, to avoid exposure to air.

52. *Unguentum zinci oxidi.*

R̄	Acidi carbolici, gr. iij—x.....	20	20	64
	Zinci oxidi, 3 ss—3 j.....	2	— 4	
	Unguenti aquæ rosæ, 3 j.....	30		

M. et ft. unguentum.

USE: Soothing and protective in acute eczema.

53. *Unguentum calaminæ et zinci.*

R̄	Tincturæ camphoræ, 3 ss.....	2		
	Pulveris calaminæ preparatæ, 3 j.....	1	25	
	Zinci oxidi, 3 ss.....	2		
	Unguenti aquæ rosæ, 3 j.....	30		

M. et ft. unguentum.

USE: Soothing and protective in acute eczema.

54. *Unguentum bismuthi.*

R̄	Acidi carbolici, gr. iij—x.....	20	20	64
	Bismuthi sub-nitratis 3 ss—3 j.....	2	— 4	
	Lanolin, 3 ii.....	8		
	Albolene, 3 vj.....	124		

M. et ft. unguentum.

USE: Soothing and mildly stimulating to acute and sub-acute eczema.

55. *Unguentum plumbi sub-acetatis.*

R	Zinci oxidi, 3 ss.....	2	
	Glyceritum boro-glycerini, 3 j.....	5	
	Lanolin, 3 ij.....	8	
	Cerati plumbi sub-acetatis, 3 vj	24	

M. et ft. unguentum.

USE: Cooling and astringent in sub-acute eczema.

56. *Unguentum picis et zinci.*

R	Zinci oxidi, 3 ss—3 j.....	2	— 4
	Unguenti picis liquidæ, 3 j—3 ij.....	4	— 12
	Unguenti aquæ rosæ, ad 3 j.....	30	

M. et ft. unguentum.

USE: Antipruritic and mildly stimulating; of especial service in infantile eczema.

57. *Unguentum cadini et zinci.*

R	Zinci oxidi, 3 ss.....	2	
	Olei cadini (<i>vel</i> rusci), 3 ss—3 j.....	2	— 4
	Unguenti cucumis sativi, 3 j.....	30	

M. et ft. unguentum.

USE: Antipruritic and mildly stimulating in sub-acute eczema.

58. *Unguentum diachyli* (Hebra's diachylon ointment).

R	Olei olivarum optimi, 3 xv.....	450	
	Plumbi oxidi, 3 ij + 3 vj.....	115	
	Olei lavandulæ, 3 ij.....	8	
	Aquæ, q. s.....		

M. et ft. unguentum.

The Pharmacopœia directs diachylon ointment to be made by heating together equal parts of lead plaster and olive oil, but a much more soothing ointment is made by following this formula.

Add the oil to two pounds of water, and heat with constant stirring; the litharge is to be slowly sifted in, while it is well stirred, fresh water being added as required. The ointment is to be stirred until cold, and the lavender then added. In winter a slightly larger quantity of oil is required to make a soft ointment.

USE: Astringent and soothing, but irritating to some skins, in acute conditions.

59. *Unguentum acidi tannici.*

R	Acidi carbolici, gr. v—x.....	32—	64
	Glyceriti acidi tannici, 3 ss.....	250	
	Pulveris acidi tannici, 3 ss.....	2	
	Unguenti aquæ rosæ, 3 j.....	30	

M. et ft. unguentum.

USE: Astringent; of especial service in eczema of scalp and ears.

60. *Unguentum resorcini.*

℞ Pulveris resorcini, ℥i— 3 j.....	1	25— 4
Zinci oxidi, 3 ss.....	2	
Unguenti aquæ rosæ, ʒ j.....	30	

M. et ft. unguentum.

USE: Slightly stimulating; of especial service in seborrhœic eczema.

61. *Unguentum resorcin et sulphuris.*

℞ Acidi carbolici, gr. v—x.....	32	64
Pulveris resorcini, ℥j.....	1	25
Sulphuris precipitati, 3 ss.....	2	
Lanolin, 3 ij.....	8	
Albolene, 3 vj.....	24	

M. et ft. unguentum.

USE: In seborrhœic eczema.

62. *Unguentum acidi salicylici.*

℞ Pulveris acidi salicylici, gr. xv— 3 j.....	1	— 4
Zinci oxidi (<i>vel</i> bismuthi), 3 ss.....	2	
Unguenti aquæ rosæ, ʒ j.....	30	

M. et ft. unguentum.

USE: Slightly stimulating in sub-acute and chronic eczema.

63. *Unguentum ichthyoli.*

℞ Ichthyoli, 3 ss— 3 j.....	2	— 4
Pulveris acidi salicylici, gr. x— 3 ss.....	65— 2	
Zinci oxidi, 3 ss.....	2	
Unguenti aquæ rosæ, ʒ j.....	30	

M. et ft. unguentum.

USE: Antipruritic and astringent; in weaker form valuable in infantile eczema.

64. *Unguentum hydrargyri et bismuthi.*

℞ Bismuthi sub-nitratis, 3 ss— 3 j.....	2	— 4
Unguenti hydrargyri ammoniati, 3 j—		
3 iv.....	4	— 15
Unguenti aquæ rosæ, <i>ad</i> ʒ j.....	30	

M. et ft. unguentum.

USE: Astringent and slightly stimulating; of value in pustular eczema.

65. *Unguentum hydrargyri cum plumbo* (Startin).

℞	Plumbi acetatis.....		
	Hydrargyri chloridi mitis, āā gr. x.....	65	
	Zinci oxidi.....		
	Unguenti hydrargyri nitratis, āā gr. xx.....	1	25
	Adipis recentis.....		
	Olei palmæ rectificatæ, āā $\frac{z}{3}$ ss.....	15	

M. et ft. unguentum.

USE: Moderately stimulating; much used in England in eczema capitis.

66. *Unguentum picis et hydrargyri.*

℞	Liquor picis alkalinus (Formula 16), 3 j		
	— 3 iij.....	4	12
	Unguenti hydrargyri ammoniati, 3 ij—		
	3 iv.....	8	15
	Unguenti aquæ rosæ, ad $\frac{z}{3}$ j.....	30	

M. et ft. unguentum.

USE: Antipruritic and stimulating.

67. *Unguentum picis et belladonnæ.*

℞	Zinci oxidi, 3 j.....	4	
	Tincturæ aconiti, 3 ss.....	2	
	Unguenti belladonnæ, 3 j— 3 ij.....	4	— 8
	Unguenti picis, 3 ij— 3 iv.....	7	5 15
	Unguenti aquæ rosæ, ad $\frac{z}{3}$ j.....	30	

M. et ft. unguentum.

USE: Powerfully antipruritic; of especial service in eczema of the anus and vulva.

68. *Unguentum plumbi et stramonii.*

℞	Liquoris plumbi sub-acetatis, 3 j.....	4	
	Pulveris opii, gr. x—xx.....		65— 1 25
	Pulveris acidi tannici, 3 ss.....	2	
	Unguenti stramonii, $\frac{z}{3}$ j.....	30	

M. et ft. unguentum.

USE: Astringent and cooling; of especial value in eczema of anus.

69. *Unguentum antipruriticum.*

℞	Gummi camphoræ.....		
	Chloral hydratis, āā 3 ss— 3 ij.....	4	— 8
	Rub together until liquid results, then add slowly with friction		
	Unguenti aquæ rosæ, $\frac{z}{3}$ j.....	30	

M. et ft. unguentum.

USE: Powerfully antipruritic; if applied where the surface is abraded it causes burning and irritation.

70. *Unguentum lanolini compositum.*

℞	Glyceriti boro-glycerini, 3 j.....	4	
	Lanolin, 3 ij.....	8	
	Unguenti aquæ rosæ (<i>vel</i> albolene), 3 vj.....	23	

M. et ft. unguentum.

USE: Emollient for rough skin; also for inunction after baths; also as a base for other ointments. With the addition of carbolic acid (gr. v—xv) and menthol (gr. x—xx), a valuable general antipruritic.

71. *Unguentum emolliens.*

℞	Acidi carbolici, ℥j—3 ij.....	1	25— 8
	Glyceriti amyli, ℥ iv.....	120	

M. et ft. unguentum.

USE: Antipruritic; of especial value after alkaline baths; menthol, two to five per cent., may be added.

72. *Unguentum ergotæ compositum.*

℞	Acidi carbolici, gr. x—xv.....	65— 1	
	Extracti ergotæ fluidi, 3 j—3 ij.....	4	— 8
	Pulveris amyli, 3 ij.....	8	
	Zinci oxidi, 3 i.....	4	
	Unguenti aquæ rosæ, ℥ j.....	30	

M. et ft. unguentum.

USE: To be spread thickly on absorbent cotton, and kept applied by adhesive plaster, in boils and abscesses of eczema.

GENERAL REMARKS

In the application of therapeutics to eczema, more is to be accomplished by a careful study of the patient in every aspect, and the application of remedies suitable to the condition found, than by the employment of any special prescription which is supposed to be of value in the disease.

In the main it is better to have a comparatively small list of remedies, internal and external, and to acquire skill in their use, than to attempt to have a large pharmacopœia with which one is but little

acquainted. The necessity is not for new remedies for eczema, but for a more perfect knowledge of the means already well known, which if rightly employed, combined with all recognized measures, are quite sufficient for the cure of most cases. Many of the new remedies suggested now and again are often put forth on very slender experience, and large numbers of them soon pass into oblivion.

Attention to details is of the first importance in eczema, and the good effect of even the best remedies may be frustrated by failure in some particular in the management of the case; while the best local application will often fail of its end, or even do harm if wrongly applied. In conclusion, therefore, it is urged that patient study be given to eczema cases and to the principles and details set forth in the preceding pages, rather than to the use of the formulæ or the directions given in connection with them.

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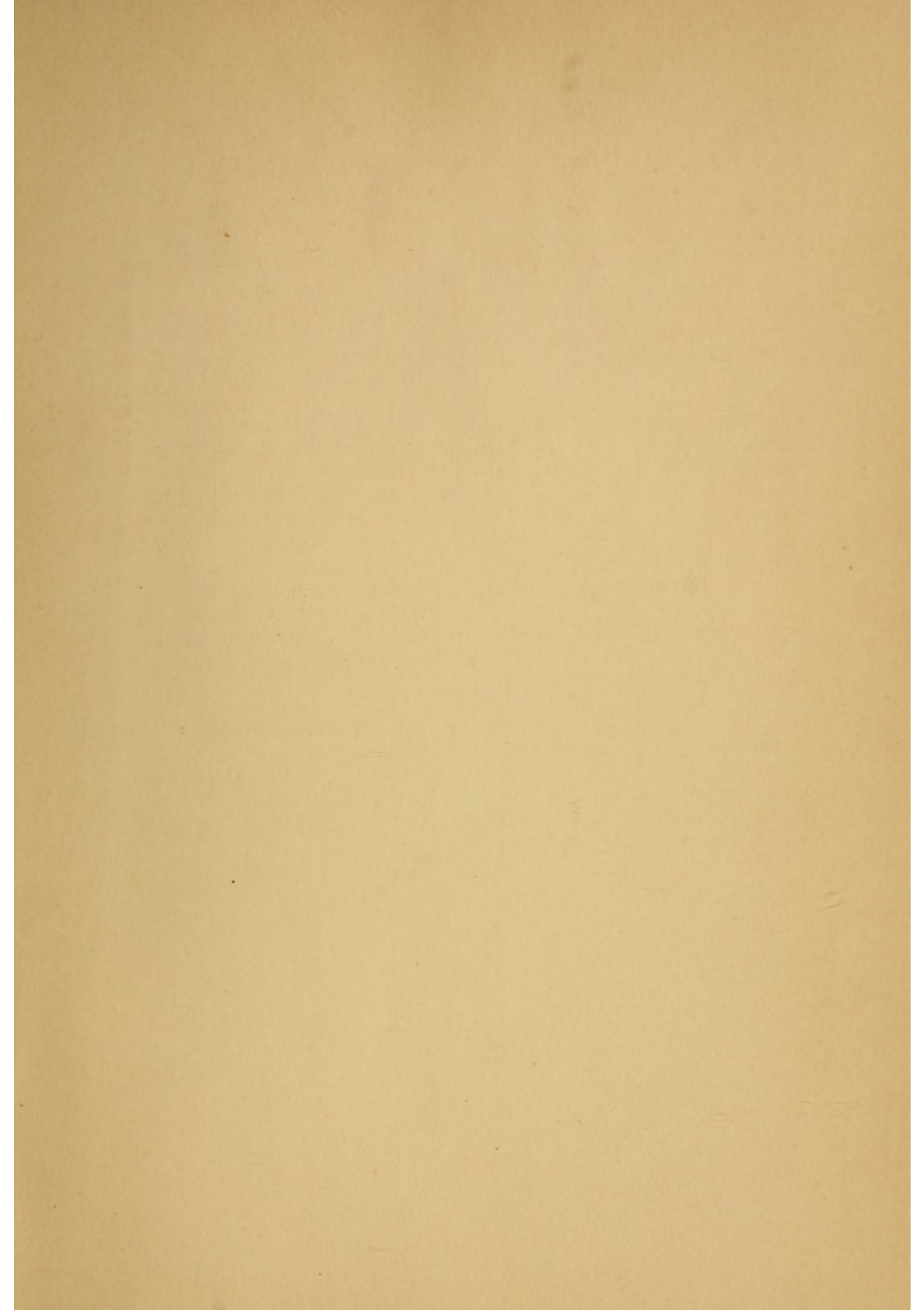
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