

On scarlatina : its nature and treatment / by I. Baker Brown.

Contributors

Brown, Isaac Baker, 1812-1873.

Publication/Creation

London : John Churchill, 1857.

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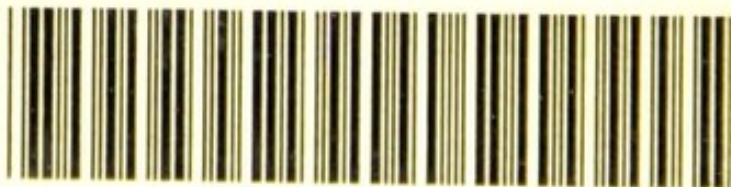


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ON

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ON

SCARLATINA.



ON

SCARLATINA:

ITS NATURE AND TREATMENT.

By I. BAKER BROWN, F.R.C.S.

(BY EXAMINATION);

SURGEON-ACCOCHEUR TO AND LECTURER ON MIDWIFERY
AND DISEASES OF WOMEN AND CHILDREN AT ST. MARY'S HOSPITAL;
CONSULTING SURGEON TO THE WESTBOURNE DISPENSARY;
LATE VICE-PRESIDENT OF THE MEDICAL SOCIETY OF LONDON;
FELLOW OF THE EPIDEMIOLOGICAL AND OF THE HARVEIAN SOCIETIES;
CORRESPONDING FELLOW OF THE OBSTETRIC SOCIETY OF BERLIN;
HONORARY FELLOW OF THE GENERAL ASSOCIATION OF
SURGEONS, NORTHERN GERMANY, ETC. ETC.

Second Edition, Revised and Enlarged.

LONDON:

JOHN CHURCHILL, NEW BURLINGTON STREET.

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LONDON:
SAVILL AND EDWARDS, PRINTERS,
CHANDOS STREET.

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Dedication

TO THE FIRST EDITION.

TO CHARLES LOCOCK, M.D.,

FIRST PHYSICIAN-ACCOUCHEUR TO THE QUEEN,
ETC. ETC. ETC.

MY DEAR SIR,

In offering these Practical Remarks on Scarlatina to my Professional Brethren, and, through them, to the public at large, under the sanction of your name, I have an opportunity of publicly thanking you for very many acts of kindness, and of saying how highly I prize your friendship and esteem, and, moreover, how deeply sensible I am of the immense importance of bringing out this little Work under your special auspices.

That you may long be spared to benefit your fellow-creatures by that sound judgment, and

vi DEDICATION TO THE FIRST EDITION.

kind and watchful care, which have always characterized your practice, is the sincere and earnest wish of,

My dear SIR,

Your faithful and obliged Servant,

I. B. BROWN.

Dedication

TO THE SECOND EDITION.

TO CHARLES LOCOCK, M.D.,

FIRST PHYSICIAN-ACCOUCHEUR TO THE QUEEN,
ETC. ETC. ETC.

MY DEAR DR. LOCOCK,

If I had strong reasons for dedicating my first edition to you, how very much stronger must my reasons be now!—how many more years of warm friendship, how many more acts of professional kindness have I experienced at your hands! If I were grateful then, how much more so must I be now, after the great, liberal, and unvarying encouragement you have given me in the pursuit of other and more severe work!

That you may be long spared to adorn our

viii DEDICATION TO THE SECOND EDITION.

noble profession and benefit our fellow-creatures,
is the most earnest wish of,

My dear DR. LOCOCK,

Your grateful Friend,

I. B. BROWN.

16, *Connaught-square, Hyde-park,*

January, 1857.

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ON SCARLATINA:

ITS NATURE AND TREATMENT.

PRELIMINARY REMARKS.

It is now ten years since I introduced the method of treating scarlatina by dilute acetic acid, conjoined with a supporting regimen and stimulants, to the notice of the profession, in the first edition of this little book. My reasons for trespassing on the attention of my professional brethren were then fully stated, and seemed sufficient to justify me in so doing. To recapitulate them briefly, they were,—the loss of my eldest child by the disease, an event which necessarily affected me greatly, and first drew my special attention to the subject; the inefficiency of all known methods of treatment in a large number—indeed, in most severe cases, both in my own experience and in that of others; the excessive fatality of this disease, instanced in the accounts of the mortality of London, and of various town and country districts; and,

lastly, the success which had attended me, and some few of my medical friends, on adopting the mode of treatment I advocated.

To similar reasons I must again appeal, on appearing a second time as a writer on the treatment of scarlatina. That the best-directed efforts, made according to the accepted routine of practice, frequently fail, and that the disease is very fatal and productive of a large mortality, are reasons as cogent as ever to induce every practitioner to aim at discovering some improved scheme of therapeutics, and also to justify any one who believes he has found a better plan, and who has sufficiently subjected it to the test of experience, in making it known as widely as he can; nay, he would not be justified, under such circumstances, in withholding the discovery, inasmuch as every person is called upon as a duty to publish to the world any fact, the knowledge of which promises, in whatever degree, to alleviate human suffering or to avert death.

Moreover, the last reason adduced—viz., the success which has attended the line of practice I have laid down—has its force strengthened by the results of my experience, and of that of many others, during the whole ten years which

have elapsed since the first edition was printed: My advocacy of the use of acetic acid, and, in general, of the stimulant and supporting treatment of scarlatina, has not been in vain: numerous medical practitioners have been induced to adopt it: and besides these, many non-professional men, clergymen, and others, who have witnessed its beneficial operation, have further extended its employment by their recommendations. This I know from the many interesting and flattering letters I have received from all parts of the country, bearing, unsought for, the most ample testimony to the value of the plan proposed.

The object, therefore, of this *brochure* remains the same as on its first appearance—viz., to propagate the knowledge of a mode of treating scarlatina, in all its varieties and stages, which in my experience, as also in that of many others, surpasses all others in mitigating the severity and in diminishing the mortality of a disease which ranks among the most severe and dangerous which afflict the human race.

I deem it, consequently, quite unnecessary to enter very fully either into the history, the pathology, or the description of the various means of cure which have from time to time

been proposed. I shall, therefore, confine myself to presenting a brief history of the disease, of its varieties and consequences, which constitute the objects of treatment; and, this done, I will proceed to propound the plan I advocate, and to illustrate it by a detail of a few cases, and finally conclude by some general reflections on the more striking points of treatment, and on some peculiarities of the disease.

But, let it be understood, so that no false or unjust inferences be drawn, that I do not pretend that the plan I put forward and no other can be successful in scarlatina, or that every case of the disease can be cured by it. All I desire to advance is, as the result of my firm conviction, matured by many years' reflection and experience, that of all the plans pursued in the treatment of scarlet fever, it is by far the most successful. And, having this persuasion, my wish is to induce as many other practitioners as possible to put this method to the test—to compare results, and to collate facts from bedside observation, believing that in this way I shall best serve the cause of medical science and promote the benefit of mankind.

Before, however, commencing a history of the disease, I think it desirable to present a chapter

on its mortality; for this, to my mind, affords the strongest evidence that the plans of treatment usually resorted to must be very unsatisfactory;—the proportion of deaths caused by scarlet fever, both absolutely and relatively considered, is so very large—the number of deaths so great compared with the number of attacks. Hence it is that I place this circumstance as one of the reasons why any plan promising an amelioration should be promulgated and fairly tried.

CHAPTER I.

On the Mortality of Scarlet Fever.

“EVERY writer on this disease,” says Dr. Richardson, in a paper read before the Epidemiological Society, March, 1853, “since its full recognition as a disease, has described in mournful terms its frightful ravages. Mr. Kearsley, of Philadelphia, writing about a hundred years since of the disease as it appeared in America, says, ‘It baffled every effort to stop its progress, and seemed, by its dire effects, to be more like the sword of vengeance to stop the growth of the colonies, than the natural progress of a disease.’” So the newspapers of every week recount instances of the havoc produced by this formidable malady in towns and villages, or in families. Just lately, the pleasure-seekers of Boulogne were scared by its appearance in a malignant form, chiefly attacking the throat, and cutting off families, partially, and, indeed, entirely; and many instances ever

and anon arrest the attention, where scarlet fever invades the most distinguished families of this country, and carries off many victims.

No person who watches the records of the daily or weekly press can fail to recal numerous instances of the sad fatality of scarlatina, even should examples not have occurred in his more immediate circle of friends and acquaintances. But the returns of the Registrar-General afford more definite information, and give an importance in all social and medical considerations, to this disease, which many have, probably, not assigned to it.

Thus, Dr. Richardson (*op. cit.* p. 21), after a digest of the data furnished by the Reports of the Registrar-General, draws this conclusion,—that, in relative mortality, it is second only to typhus fever, of all the ordinary epidemic diseases. This he has taken great pains to illustrate by several tables, which we extract. “The following table shows,” he writes, “the relative mortality of seven epidemical diseases. The returns are, for England in the years 1838, 1839, 1840, 1841, and 1842, and for London in 1843. The calculations are based on the numbers of deaths in a population of a million.

Diseases.	No. Deaths.	Rel. Order.
Typhus	6,442	1
Scarlet fever	4,015	2
Hooping cough	3,540	3
Measles	3,486	4
Smallpox	3,183	5
Erysipelas	488	6
Influenza	395	7
	<hr/>	
Total	21,549	

“In special years, the relative position of these mortality figures is somewhat changed.

“In the next table, the relative mortality in a total of 79,256 deaths from six epidemical diseases, occurring in London during the period of twelve years, from 1840 to 1851, is exhibited :

Diseases.	No. Deaths.	Rel. Order.
Typhus	23,964	1
Scarlet fever	21,551	2
Measles	15,460	3
Smallpox	10,710	4
Erysipelas	4,276	5
Influenza	3,295	6
	<hr/>	
Total	79,256	

“In the following and final table the subject of relative mortality is carried further, by a calculation based on 462,227 deaths from seven epidemical diseases, occurring during a period

of eleven years, viz., in England in 1838, 1839, 1840, 1841, 1842; in London in 1843; Kent in 1843; in London in 1844, 1845, and 1846; and in England in 1847 and 1848:

Diseases.	No. Deaths.	Rel. Order.
Typhus	141,517	1
Scarlet fever	105,250	2
Measles	63,793	3
Hooping cough	62,867	4
Smallpox	59,460	5
Influenza	18,553	6
Erysipelas	10,787	7
	<hr/>	
Total	462,227	

“Thus, the three tables I have given all prove that scarlet fever, in its rate of mortality, is second only to typhus fever.”

In truth, the relative mortality will assume even a higher figure, if, as Dr. Richardson most justly remarks—and as every observant medical man would also remark—it is considered that “the word ‘typhus’ is often unjustly returned in cases of pneumonia and other diseases which assume in their last stages what is absurdly called the ‘typhoid type;’” and hence, the writer we quote even went so far as to state his belief that scarlet fever is, in all probability, more fatal than even typhus fever.

The following table and remarks, taken from Dr. Copland's "Dictionary of Medicine" (art. Scarlet Fever, p. 688), deduced from the Reports of the Registrar-General, point to the same fact:—

Years.	Scarlet Fever.	Measles.	Small- pox.
1838 ...	1,524 ...	588 ...	3,817
1839 ...	2,499 ...	2,036 ...	634
1840 ...	1,954 ...	1,132 ...	1,235
1841 ...	663 ...	973 ...	1,053
1842 ...	1,224 ...	1,293 ...	360
1843 ...	1,867 ...	1,442 ...	438
1844 ...	3,029 ...	1,182 ...	1,804
1845 ...	1,085 ...	2,318 ...	909
1846 ...	928 ...	747 ...	257
1847 ...	1,433 ...	1,778 ...	955
1848 ...	4,756 ...	1,143 ...	1,617
During 11 } years . }	20,962 ...	14,632 ...	13,079

“During the last eleven years, the deaths in the metropolis from scarlet fever have been greater than from measles, or from smallpox, or from hooping cough, or from continued fever. In only three of these years have the deaths by measles been greater than those by scarlatina; and in only two has the mortality from smallpox exceeded that of scarlet fever. In 1841 and 1846 the mortality of scarlatina and measles was low; and in the latter year

that of smallpox was the lowest. In 1839, 1843, and 1844, the mortality of both scarlet fever and measles was high. During 1848 the deaths from scarlatina were about three times greater than the average of the former years. The maximum mortality from measles occurred in 1845, and from smallpox in 1838."

In 1848 scarlatina was so rife in the metropolis, and caused so much alarm, that I considered it a suitable subject to bring before the notice of the members of the Medical Society of London. This I did in an essay read in 1849, which I prefaced by a consideration of the extreme prevalence and of the mortality of the disease under the ordinary treatment. I assumed as not improbable in a severe epidemic, that the average of deaths was 10 per cent., and from this datum calculated that the number of persons in London attacked during the twelve months ending September 30th was actually 38,260, and that even on Dr. Gregory's average of 6 per cent. there must have been 22,956. Taking 1840 as a year of average mortality from this scourge, Dr. Gregory computed that at this rate of 6 per cent. the number of seizures must have amounted to about 330,266 in that year, for the whole of England. During the two last years, the deaths from

scarlatina in London have been respectively, in 1854, 3439, and in 1855, 2602; *i. e.*, in the latter year one-fifth less than in the former. Moreover, if for every one who dies 94 are attacked, then $3439 \times 15.68 = 51,923$ persons suffered from scarlet fever in 1854 in the metropolis alone.

The whole of this chapter goes clearly enough to show that scarlet fever is an increasing disease, even when considered relatively to the increase of population.

In the preceding observations scarlet fever has been referred to generally; whereas, the malignant form might be particularly adduced to demonstrate the virulence and mortality, being in itself unsurpassed by the most dire diseases in those particulars—a fact which every writer on systematic medicine does not fail to note.

These facts speak for themselves, and need no comment to impress upon every considerate mind the claim that such a disease as scarlatina has upon our attention; the call it makes on our endeavours to obstruct its propagation, to remove exciting causes, to mitigate its virulence, and to omit nothing which holds out any prospect of successful treatment.

CHAPTER II.

Scarlatina, or Scarlet Fever—Origin—Both contagious and infectious—Influence of age, sex, and season.

THE word scarlatina has, of comparatively late years, been largely used in the room of the old English name scarlet fever. Its derivation is from the Italian word *scarlatta*, signifying deep red, and so far is expressive of the external cutaneous manifestation of the disease. But many erroneously believe that by scarlatina is intended a milder disease than scarlet fever—an error, perhaps, due to its etymology, the termination *ina* being in the Italian language a diminutive. The two appellations are, however, synonymous.

The disease was either unknown, or not distinguished from measles, by the earliest physicians: the merit of so doing is attributed to Ingrassias. Dr. G. Gregory ("Practice of Physic") says, "no mention is made of it by the ancient or Arabian authors; and the first time it is distinctly noticed is but little more than two hundred years ago. It has been suspected

that the contagion came originally (p. 2) from Africa: be this as it may, it first showed itself in a severe form in Spain in 1610, from whence it spread to Naples, where it raged epidemically in 1618. In 1689 the same disease made its appearance in London, and was described by Dr. Morton, though not with the accuracy of the first Spanish and Italian authors. In 1735 it broke out in North America, and spread gradually but slowly over the Continent. One of the most curious circumstances in the history of the disease is the slowness of its diffusion.”

Scarlet fever ranks as one of the Exanthemata, or eruptive fevers, all which have certain common characteristics. It appears to be the result of a morbid animal poison received into the blood, which manifests its influence externally upon the skin in the shape of an eruption, and on the system generally by active fever; and, like other maladies of its class, runs a certain, definite course, marked by determinate periods, and by a certain order of pathological phenomena; rarely recurs in the same individual, and prevails either sporadically or epidemically. It is both contagious and infectious, and can be propagated also by inoculation.

The general law of this, as of other Exanthemata, is that susceptibility to contagion or infection is annihilated by one attack. Willan believed this to be a law without exception, for in two thousand cases he saw no instance of recurrence: nevertheless, it is now generally admitted that this eruptive fever, like the rest, may recur as a rare exception. I have met with such cases of second attack, and one of third attack, followed by deafness in both ears. Dr. Tweedie writes—

“We certainly have met with several well-authenticated instances of a second attack of scarlatina in the same person. Speaking generally, I may say that I have seen second attacks of scarlet fever in the same person on three or four occasions. For particular evidence, the following cases may suffice:—A little girl whom I attended in 1850, took scarlet fever. The disease was very decided in character, but passed over favourably. A month afterwards, the little patient complained of feeling sick and cold, and it was feared that the symptoms of dropsy were about to present themselves. Instead of this, to the great surprise of every one, the skin a second time became universally red, and the throat sore; and the patient passed again

through a most marked attack of scarlet fever.”

Dr. Richardson, moreover, relates his personal experience in illustration of the same fact.

“ When a child, I suffered, as I well remember, from scarlet fever, during a time when it was occurring epidemically in my native village. The rash was universal, and intensely red; the throat sore; the recovery slow. In the spring of 1850, whilst attending cases of scarlet fever, I sickened, became ill, and passed through a very severe second attack of the disease. The skin was again red, the throat sore and ulcerated, and the recovery gradual. Still more curious, whilst attending a boy, in the month of April, 1852, who had a severe attack of scarlet fever, I became exceedingly unwell, suffered from shivering and sore-throat, and had a faint red blush on the chest and neck. I am minute in these particulars, because it is important to settle satisfactorily all points that admit of being settled in epidemiological inquiries; for by such means difficulties are exhausted, and fewer questions are left for investigation. I have not been able to collect statistical information on this subject of recurrence, so that it is impossible to state the

frequency of recurrences. That they are rare is evident, for I have not, in reading or conversation, met with a single author or practitioner who has seen a second attack of scarlet fever prove fatal.”

Respecting the influence of age, children have a proclivity to scarlatina, much augmenting after the first year until about the end of the fourth, when it remains nearly stationary, or slightly declines, until the fifth year. Above this age the predisposition decreases more rapidly; in fact, no predisposition can be said to exist after the adult age is reached. Yet, all persons who have not had the disease are liable to it. Out of 431 cases, the particulars of which were collected by Dr. Richardson, “no fewer than 329 occurred in children under ten, and 102 only at ages past that point.” This is corroborated by the accompanying table, drawn up by the same gentleman:—

Total number of deaths.	Under 5.	5 and under 10.	10 and under 20.	20 and under 40.	40 and upwards.
31,744	21,469	7756	1755	552	212
per cent.	67·63	24·43	5·52	1·73	0·66

And he adds the following summary, to show

the degree of proclivity under five years old. In a total of 3795, there were—

Under the second year . . .	410
Over the second year, and under the third	1797
Over the third, and under the fifth	1588

Dr. Copland has the following remarks:—
 “As the susceptibility of infection is greatest in childhood, and as the proportion of those who have had the disease at this epoch is very great, it follows that the number of non-infected at adult and advanced age is comparatively small. Although cases of the disease at these ages are thus few, yet they are generally of a most severe character, especially about and after forty years of age, as respects not merely the complications, but also the type of the eruptive fever, from its commencement, and the danger is increased with advancing years. According to my experience, the younger the child the milder is the attack; but there are numerous exceptions to this law, arising out of the aggravating circumstances connected with weaning and dentition, and the numerous concurring predisposing causes, observed among the poor.”

As to the sexes, they seem attacked in equal proportion, taking the gross totals of males and females given in the Registrar-General's mortality returns. This statement Dr. Richardson qualifies by adding, "subject to certain laws," and then proceeds to analyse the data furnished by the public registers. The 'laws' arrived at are—that, in general, "under the age of ten, more males die from scarlet fever than females; but that, above ten, the contrary obtains;" and that, "collectively, the calculations indicate that scarlet fever makes no selection as regards sex, but attacks more males, or more females, according to the relative number of males or females who are resident in any district where it is epidemical." Even the general fact that a larger proportion of males under ten die, this writer would also explain by the circumstance, "that at the period of life when the body is most susceptible of the disease (the first ten years), the male population is larger than the female." Many suppose women in childbed to be more prone to the contagion of scarlet fever; but it may be the returns on which this opinion is founded are rather explicable on the circumstance of the great fatality of the malady when conjoined with the condition in question.

The seasons have a perceptible influence on the prevalence of scarlatina: it is during the last quarter of the year that statistical tables indicate the greatest activity of this malady, and the least in the spring.

CHAPTER III.

The Course of Scarlet Fever—Its three principal types—Scarlatina simplex, Scarlatina anginosa, and Scarlatina maligna—Symptoms of each—Sequelæ.

THE course of scarlet fever is distinguishable into three periods:—1. That intervening between the exposure to the contagion and the outbreak of the special symptoms of fever—the period of *incubation*; 2. The period of *eruption*, or of eruptive fever; 3. The period of *maturation* of the eruption, or the stage of *desquamation*. To these some would add the period, observed in most cases, of secondary fever. But, further, these periods are affected by the type or variety under which the disease manifests itself. Three types are distinguished: 1. *Scarlatina simplex*, or *mitis*; 2. *Scarlatina anginosa*; and *Scarlatina maligna*: yet, besides these, experience makes us acquainted with every intermediate and with various irregular forms. All, however, are but modifications of one single disease, the most prominent varieties of which have been seized upon and specially named by nosologists. These

subdivisions, however, have too frequently only impeded medical science, by diverting attention from the one morbid condition—the disease as characterized by its special group of symptoms.

The period of incubation is marked by no particular features; for oftentimes the patient seems to be as well as usual, or merely a little more dull and heavy. It lasts for ten or fourteen days, and is followed by the stage of *invasion*, when the febrile symptoms ushering in the eruption make their appearance. These are chills, headache, nausea and loss of appetite, heat of skin, thirst, and a feeling of stiffness or soreness, attended by redness in the throat, and a frequent pulse. Or the accession of fever may be more severe, with intense headache, and even delirium,—and, in the young, convulsions, with frequent vomiting, and aching in the back and limbs.

In the slightest or simple variety, the eruption makes its appearance on the second day about the neck and upper part of the chest, and thence at once extends over the face above, and then downwards over the trunk and extremities. The eruption consists of minute red points on a rose-coloured ground, and on the face and trunk occurs in irregular patches, whilst on the extre-

mities it is generally seen in spots,—but in all parts never presents a perceptible elevation above the general surface. The expansion and coalescence of the patches commonly produce, when the eruption is fully established, one uniform bright scarlet colouring of the skin, which disappears under the pressure of the fingers. During this time the skin is very hot, dry, and rather rough to the touch; the face often sensibly swollen, and the eyes suffused; the tongue is red at the edges, and elsewhere coated, but the elongated red papillæ project through the whitish coating, and give origin to an appearance which has been compared to that of a strawberry. Usually the rash continues out for three or four days, when it reaches the period of maturation, and begins to fade about the seventh day, the urine gets more copious, and desquamation or detachment of the cuticle, in the form of scurf or of scales, advances in the same order as the eruption appeared, commencing with the face and chest. On the completion of this last process, the series of morbid phenomena constituting the disease are at an end, except the engorgement of the kidneys be considered one of them, since the effects of this derangement, where the case has been neglected or injudi-

ciously treated, make their appearance at a still later period. It is a fact, indeed, that the renal complication and consequent dropsy are of as frequent occurrence after this mild variety of scarlet fever as after the more severe ;—some say, indeed, more frequent.

The second variety of scarlatina—viz., the *scarlatina anginosa*—is of more frequent occurrence than the preceding, and more severe. The throat, which has but slightly or even not at all suffered in the mild form, becomes in this the most evident local lesion of the malady. The eruptive fever is, as a rule, more severe, and from the commencement the symptoms of inflammatory engorgement of the throat evidence themselves in a greater or less degree, by stiffness of the throat, soreness and swelling, and very soon by a perceptible enlargement of the tonsils externally. The tonsils and uvula, at first simply congested and slightly enlarged, and of a deep red colour, soon become so swollen that swallowing is difficult, and ultimately impossible; and when inspected are seen to be covered with a viscid secretion, and with patches of exuded lymph of a greyish or whitish-grey colour, which often are mistaken for ulcers. The speech is thick, and, owing to the swelling

of the glands at the angles of the jaws, it is difficult to open the mouth even sufficiently to examine the throat thoroughly. The throat is clogged with the viscid phlegm, and the breath very fetid, and respiration and deglutition more or less considerably impeded—sometimes, indeed, so much so as in itself to endanger life. The inflammation of the throat is also very prone to extend upwards into the nostrils, causing obstruction and a copious unhealthy discharge, and also through the Eustachian tube into the ear, and hence the frequent discharge from that organ and the subsequent deafness. The mucous membrane covering the eye, moreover, is commonly affected by the extension of the inflammatory action, but it is rare that this advances to the larynx; if it does, suffocation may be the consequence from the obstruction produced. Besides these symptoms, referrible to the inflammation of the throat and contiguous parts, and the more severe and intense fever, the eruption is mostly peculiar in being delayed to the third or fourth day; or if it appears earlier, which it may do even on the first day, it disappears to recur again in a day or two. The pulse is very rapid, and full, but compressible; the thirst urgent; the heat of skin very great, rising

to 103 and 104 degrees : delirium may supervene at the outset, and as the disease progresses, a heavy, comatose condition follow. The urine is scanty, high-coloured, and thick, and passed frequently.

On the decline of the eruption it is that internal complications are most to be feared, and particularly if the eruption has suddenly disappeared. Indeed, the breaking out of inflammatory mischief in an internal organ is often the cause of the irregular eruption. The membranes of the brain, the pleura, the peritoneum, or the pericardium, maybe the seat of the inflammation. "Scarlatinal pericarditis," says Dr. Barlow ("Practice of Medicine," p. 670), "is perhaps a more common affection than most practitioners are aware of." Disorder of the kidneys is also very common, but does not prominently display itself until a later period.

In all these complications the inflammatory process has not its usual active or sthenic character, but is modified by the asthenic, depressing action of the morbid poison of the scarlet fever, which exhibits itself in the general condition of the patient so soon as the febrile excitement abates. The depressed, typhoid condition, indeed, constitutes of itself one of the chief dangers

of the malady, when the active fever declines about the eighth day. The diseased state of the blood and its injurious influence, the depraved and disordered state of all the internal organs and functions, and the exhaustion consequent on the previous febrile excitement, jeopardize the patient's existence by sinking, and call for careful attention and support for several days after the period named.

In truth, not a few are lost within the first fortnight by erroneous views of treatment,—from the neglect of stimulants and nourishment—*i. e.*, from exhaustion, and from inattention to the state of the tonsils and fauces, to remove the viscid secretion which chokes the patient.

Scarlatina maligna is scarlet fever in its most terrible form, when it equals in virulence any known disease, and sometimes, when prevailing in an epidemic form, bids defiance to all medical skill, and carries off the patient with the rapidity of cholera. The leading features of this form of malady are those of asthenia adynamia, or are called typhoid and malignant. When prevailing epidemically, none are secure against its attacks; but when sporadically, the weak and debilitated, and those suffering from want and misery, are the usual victims.

It is usually ushered in by rigors with giddiness, acute pains in the head, the back, and the throat, with extreme prostration and restlessness, oppression at the pit of the stomach, suffused eyes, small and feeble pulse, with nausea and frequently with vomiting, especially in the case of children. The chills which appear at first give place to great heat of surface, less however than in the last type considered, yet altogether the initiatory fever is more intense than in the other types, and strongly disposed to a typhoid form. The throat, tonsils, and uvula are swollen and dusky red, and very speedily are covered with greyish patches, appearing like unhealthy ulcers, and actually very soon becoming seats of a morbid disorganizing process, or sloughing. Although the heat of skin and dryness of mouth would seem to imply great thirst, yet this symptom is little developed; but the breath has a great and peculiar fetor, the tongue gets brown, and sordes cover the lips and teeth.

The eruption is delayed longer than in the anginose type; appears irregularly, imperfectly, and partially, and instead of a bright red, is livid, or at least dusky. Interspersed with the eruption, little patches looking like bruises,

petechiæ, and puerperal spots display themselves; the throat becomes much clogged by a viscid, adhesive mucus on the fauces; a thin, sanious, acrid discharge distils from the nose; whilst, externally, a swollen puffy state is seen on the throat, neck, the parotid glands, and often the face. The swollen state of the neck, fauces, and tonsils, and the obstruction caused by the tenacious mucus, render the breathing laborious, quick, and noisy, and the voice hoarse and indistinct; whilst, moreover, the swollen throat and glands impede the opening of the mouth. The acrid discharges from the nostrils and mouth produce soreness of the parts they flow over; and, internally, the unhealthy inflammation is transmitted along the internal auditory ducts—the Eustachian tubes, into the internal ear, and ends in inducing ulceration and destruction of the small bones, and other structures of the internal ear. The disease necessarily renders swallowing very difficult and painful, and, moreover, is not always confined to the fauces, but extends backwards into the œsophagus, and at times into the larynx, when it causes suffocation. Coma and low muttering delirium are also not unusual concomitants; and insensibility to natural wants supervenes in extreme cases, causing the

evacuations to be passed involuntarily and unconsciously. The tongue is excoriated by the slightest touch; the gums and nose bleed readily; and severe diarrhœa, with watery, and most offensive, occasionally bloody evacuations, excoriating the anus, is another prevalent concomitant. The dark patches of eruption come and go at different parts, but the heat of surface is not an attendant phenomenon, and ere the close of the disease, mostly or always simultaneously with the production of internal congestions, the body is cool. The urine, which at first is ordinarily high-coloured and thick, becomes later brownish and scanty, or suppressed. Another circumstance of the inflammatory swelling about the neck and throat is, that the areolar tissue is apt to become affected by a low inflammation, and to assume a very close analogy with erysipelatous inflammation, swelling, and sloughing.

Death may be the consequence of extension of the disease of the fauces into the larynx, or simply of the complete clogging of the throat by the viscid phlegm, or of apnœa from congestion of the lungs, or of insensibility—coma from congestion and diseased blood in the brain, probably with serous effusion; or of exhaustion

or collapse. The fatal termination may occur on the second day, or be postponed until the eighth or ninth. The death may be sudden and unlooked for; an event explicable, at times, by supposing a slough in separating to be drawn in the larynx, and to cause sudden suffocation.

Such are the general symptoms of the three principal types of scarlatina. Other varieties exist, but demand no such special consideration: such are—*scarlatina sine exanthemate*, in which there is the throat ailment, often a putrid, sloughing sore-throat, but no eruption; and the *scarlatina latens*, evidenced by the kidney disorder and dropsy, without eruption and without sore-throat. These varieties are seen where contagion prevails during epidemics, or during the prevalence of scarlet fever in a family. There are, besides, cases in which the poison of scarlet fever, without producing any of its evident features, kills suddenly and rapidly, apparently from the destructive operation of its morbid poison upon the nervous system and blood, before it has had time so to mature itself as to make itself apparent on the throat or skin.

Now, all the types described are but varieties of one and the same disease, which takes on this or that form according to various condi-

tions existing within or external to the patient: such are, existing atmospheric conditions; the locality, whether town or country, and whether on high dry, or on wet low ground; the prevailing epidemic; the social and hygienic circumstances generally of the individual. Indeed, I believe that the type may be altered by prompt treatment; that in this way the progress of a case to the anginosa type may be arrested by efficient measures applied to the throat; and that the like may even be of service in preventing the assumption of the malignant type.

The sequelæ of scarlatina are in themselves often of very serious import, and may destroy life when the febrile condition, of which they are pendants, is passed away, and may be said to be cured. Some have already been incidentally noted: a *résumé*, however, will not be useless. The ear is not uncommonly diseased, its internal structure destroyed, and deafness produced: at times, indeed, the destructive process in the ear penetrates the petrous bone so far that the membranes of the brain become involved, and the patient dies from cerebral disease. A yet more frequent sequel is severe inflammation and abscess of the parotid glands; when, too, at times, an erysipelatous character is assumed,

and the skin and subcutaneous areolar tissue slough, and are destroyed over a considerable extent. But the most frequent sequel of scarlet fever is the kidney disease, and its result, anasarca or general dropsy. In every case, the kidneys are called into unnatural activity to throw off morbid matter during convalescence from scarlet fever; but when the healthy peeling or desquamation of the skin is interfered with by cold, or more indirectly checked by improper medicines or food, diverting the process from it to the kidneys, then the latter organs become severely deranged; overcharged, as they previously are, with blood to be depurated, irritated by the morbid matters, and suffering from the effects of diseased blood and from abnormal congestion, the consequences of the fever itself. The kidneys become affected with what Dr. George Johnson calls acute desquamative nephritis, and being thereby unable to carry off the superabundant watery part of the blood, dropsy makes its appearance, with effusions into the shut serous sacs, into the areolar tissue, and into the cavities of the brain. The urine is scanty, and contains a large quantity of epithelial scales and albumen, and is frequently mixed with blood-globules, which filter into the

ducts of the kidney from the engorged vessels. However, it would be out of place here to enter into the pathology of renal disease: for a clear and philosophic view of the affections of the kidney, the work by Dr. George Johnson will supply everything needed.

It is, as already said, during desquamation, and when the patient appears advancing favourably towards convalescence—*i. e.*, from seven or eight days after the fading of the eruption to four or six weeks, and even occasionally more,—that the renal affection occurs, at first, perhaps, suspected from a puffiness about the face and ankles, but ere long clearly manifested by general dropsy, not only in the subcutaneous areolar tissue, but also in the serous cavities of the body. Several writers have observed that this disastrous sequel, as to its frequency, stands in no immediate relation with the severity of the antecedent fever; but that rather, on the contrary, it is more common after the slighter attacks. But further, I am inclined to believe it a proportionately more common event after that irregular type in which sore-throat is the chief, or almost the sole lesion complained of, and which is consequently apt to be neglected, or to have its true pathological importance

overlooked until the renal complication reveals it.

Like every other professional man, I have been frequently asked, How long after infection does the disease show itself, and how long does the infection continue communicable to another? To the first question,—I have known a case of scarlatina pronounce itself as early as the third day after infection in a house near which there was no fever, but the child had visited a friend's house where scarlet fever was raging at the time. Again, on the sixth and seventh day I have also noted its development after infection; and as late as one month after exposure, I have seen a child of languid and enervated constitution exhibit symptoms, which developed themselves slowly and unsatisfactorily, and yet the fever passed through all the stages. In fact, there is no decided day or period for saying positively how early or how late the disease may show itself after infection, but I believe it will *generally* be found that it usually commences on the twelfth or fourteenth day after the exposure.

Although I cannot speak so positively concerning the question of communication, I believe it will in most cases be found that scarlatina is

more readily imparted during the second or eruptive stage, and also during the desquamating stage. It may be asked whether, taking the longest duration of each of the stages, viz., twenty-five days in all, I mean to infer that, at the end of that number of days, from the first onset of the disease, the infection is at an end? I reply, certainly not; on the contrary, I have often known—and I have heard my friend Dr. Locock assert the same thing—the desquamation or peeling lasts from ten to twenty days; and during any portion of that time, I believe the patient capable of communicating the fever to another.

CHAPTER IV.

Tissues affected—State of the Blood—Indications for Treatment deduced from a consideration of the pathology of Scarlatina—The employment of Acetic Acid proposed.

THE tissues affected by the poison of scarlet fever are the skin and the internal integument or mucous membrane, and particularly that portion of it lining the fauces and covering the tonsils. The serous membranes are, indeed, very liable to suffer; but, in general, their lesion must be looked upon to be secondary, resultant on the renal embarrassment and the consequent retention of urea and other noxious matters in the blood. The blood, again, looked upon as a liquid tissue, is very seriously diseased; perhaps it should be esteemed the primary recipient of the disease, in which, as the old medical writers would say, the morbid matter is concocted, and by which it diffuses itself and kindles a general disease. Such diseased blood operates by prostrating the nervous system, and by arresting the vital changes in

its own constitution, and also those vital affinities which subsist between it and the tissues, whereby congestions and low inflammations are engendered.

The blood is evidently deficient in fibrin; it forms no clot when drawn, but remains a diffuent, dark, grumous mass. The same fact is evidenced by the proneness to bleeding from the nose, and from the difficulty in arresting the hæmorrhage from a wound, owing, that is, to its watery character, and to its inability to form a plug of lymph to close the bleeding orifices. The influence of the morbid blood, coupled with its effect on the nervous system, explains the prostration or asthenia, the typhoid state, the unhealthy erysipelatous inflammations, the ulcerated and sloughing throat, the delirium, and the coma. The action of the skin is arrested, and, in consequence, the kidneys become overloaded, and then congested. So, likewise, from the mutual relations between the diseased blood and mucous membranes, coupled with other causes, the latter become congested.

Regard, therefore, being had to these particulars—to the evident fact that the apparent inflammation is not a sthenic, but an asthenic process, and that the tendency of the disease is

to destruction of tissue, and to a typhoid condition, it seems pretty clear that antiphlogistics are out of place in the treatment of scarlatina. Moreover, I would set aside as useless, if not irritant and mischievous, saline purgatives and febrifuges, so-called, and, in short, would eschew the employment of any measures tending to reduce vital power. Saline purgatives are apt, I believe, to act as irritants to the intestinal mucous membrane, which is already in a state of disorder, and to induce diarrhœa, which it should be our desire to avoid. Emetics, likewise, although much vaunted, are to my mind unnecessary and undesirable, inasmuch as they debilitate; but, apart from this, vomiting is often a disagreeable symptom to be encountered when arising spontaneously.

Now, the first circumstance to which a medical man would look before determining on the treatment is, the severity of the disease he has to treat, and here, also, in the case of scarlatina, to the type it assumes. In so doing, the season of the year, the degree of prevalence of the malady, the epidemical constitution of the air, besides the pathological conditions just advanced, and the existing complications, together with the age, and other minor particulars, with which

every practical man is conversant, have to be weighed. But, besides these considerations, others, suggested by the morbid phenomena of the disease, present themselves, and in some degree absorb the rest. Such are the questions—First, How can the diseased blood have its morbid operations curtailed, and how can it best be purified? Second, How can local congestions, and the excessive vascularity of the mucous membranes, be avoided or allayed? And, Third, What can be done to arrest the inflammation and ulceration of the tonsils and fauces, which so seriously compromise life?

Now, concerning the first question—Although it is a fact generally acknowledged, that the eruptive fevers will run through a certain course,—or, in hypothetical language, that the morbid poison in the system, considered as a ferment, will continue to operate until the whole mass of blood is leavened,—yet I believe it possible to abate the vigour of the process, to lessen the severity of its action, and in some measure to curtail it, by opposing measures to the reproduction of the poison in the system, and to obviate its destructive and septic tendencies. In short, an antiseptic and stimulant medication is indicated.

Concerning the second question for considera-

tion—The excessive vascularity of the mucous membrane, especially that of the bowels and kidneys, is to be avoided by withholding irritant purgatives—saline and others: and local congestions are to be guarded against by means calculated to restore the blood to its normal condition—since, to the diseased blood, and its consequent abnormal or suspended vital affinities, the congestions are traceable; to give tone to the over-filled vessels, and to relieve them indirectly of the fluids engorging them, by medicines promoting the secretions and excretions, and by counter-irritation.

The third query—how to arrest or relieve the inflammation and ulceration of the throat—is met by the practice of applying at the outset of the morbid action, directly to the diseased parts, those agents which experience teaches us to be efficient under such circumstances; and such is lunar caustic, applied in the solid state, or in solution.

Now, excepting the indication pointed out in the last paragraph, I believe that most of those enumerated in the other two, in answer to the questions advanced, are to be met by the administration of acetic acid internally, along with nourishment and stimulants. The acid named we know to be refrigerant, stimulant,

antiseptic, and styptic in action; and that, in certain atonic conditions of the stomach, with irritating secretions, it promotes digestion, and corrects the depraved matters it contains. It consequently seems to supply in a great measure most of the purposes we have in view,—since it allays fever and the supernatural heat of the surface—sustains the patient by its stimulant action—acts as an antiseptic to the poisoned blood and excretions, as a promoter of digestion and assimilation; as a styptic in checking hæmorrhage, and as a tonic to the coats of the vessels. In my opinion, moreover, the acid acts as a stimulant to the kidneys and skin, exciting them to their proper action; and, in my experience, so soon as a free secretion of urine sets in, and a moisture breaks out on the skin, the patient is safe—unless some untoward event, such as exposure to cold, should arrest these symptoms.

Let me, however, not be misunderstood; for although acetic acid may to my mind be the most important medicament in the treatment of scarlatina, yet I am not so absurd as to suppose it to be the only means required: it must, I believe, be conjoined with other agents, as intimated above, as auxiliaries. This, the account of the plan of treatment I shall presently sub-

mit, and the details of cases appended, will sufficiently demonstrate.

Before proceeding further, it behoves me to state the circumstances which drew my attention to the employment of dilute acetic acid as a remedial agent for scarlet fever. More than sixteen years since, having lost my eldest child from scarlatina, and also several patients, and therefore having my attention specially aroused to the disease, and being very dissatisfied with the treatment in vogue, I sought to learn from my medical acquaintance what methods they found most beneficial. Whilst so engaged, I learned from my brother, Mr. George Brown, then an assistant to Mr. G. Yates Hunter, of Margate, well known as a careful and successful practitioner, that this gentleman had largely used acetic acid (distilled vinegar) most beneficially in scarlatina, and that he seldom or never lost a patient from the disease. Feeling that my brother's recommendation would not be rashly and inconsiderately given, and that Mr. Hunter's experience deserved much consideration—reflecting also on the known properties of the acid, I determined to make trial of it in any future cases. This I accordingly did, and have, as before said, derived the greatest satisfaction and success from the experiment.

CHAPTER V.

*Mode of Treatment—Lunar Caustic to the fauces—
Applications to the throat—Aperients—Acetic
Acid—Nutriment—Management of Sick Room.*

ON being called to a child exhibiting the usual symptoms of scarlet fever, I proceed to examine the throat; and on finding it inflamed, as it always is to a greater or less extent,—at all events, it will have a deeper red blush than ordinary, and be somewhat tumid,—I forthwith apply stick caustic to the tonsils and fauces. This speedy application very frequently not merely relieves, but prevents the progress of the inflammation and the resultant ulceration. The next proceeding is to apply some stimulating application externally to the throat. I am fond of warm gin on flannel, or a hot linseed-meal poultice, for the purpose; but an embrocation of turpentine and camphor liniment, or a mustard poultice, may be advantageously substituted. In the shape of medicine, I give a dose of calomel, two grains to a child under three years, and three grains to those above

that age, to be followed two hours afterwards by a tea- or a dessert-spoonful of castor-oil. If, as it sometimes happens, the patient cannot keep the oil on the stomach, a dose of rhubarb and magnesia may be given instead; but I always administer the oil first, notwithstanding the patient or his friends object that it cannot be retained, for it frequently happens that they are in the wrong; and, according to my views, castor-oil, or some equally bland aperient, is demanded by the irritable state of the alimentary canal, which cannot but be aggravated by saline or acrid purgatives: and, indeed, I have several times seen diarrhœa follow a dose of Epsom salts, or of sulphate of potash, proving much to the detriment, or even fatal to the patient, by the ensuing debility and increased sore-throat.

The patient is at the same time ordered to be sponged all over with tepid vinegar and water, and directed to be kept to one bed-room, *constantly* in bed. As soon as the aperient has operated, I commence with the acetic acid mixture, containing half a drachm to each dose for a child under three years, increasing it to two drachms for one under fifteen, and still further if the fever is severe. The strength of the acid used is, acetic acid of the Pharmacopœia, one

part to seven parts of water, and the form of giving it as follows:—

Acid. Acetic. diluted . . .	Two drachms.
Syrup	Four drachms.
Water	Two ounces.

Mix, and take a fourth part every three hours. The room should be kept at an equable and cool temperature, and be well ventilated, not overheated, as is too often the case; nor must the patient be smothered in blankets, from the idea that great warmth is needed; although, under all circumstances, currents of air which may chill the surface and stop the eruption must be avoided, since the disease is rarely got over when its course is arrested at this stage. I order the bed-furniture, carpets, and curtains out of the room; sprinkle chloride of lime and water, or Burnett's solution, freely over the floor, and in the passages leading to the room. I give at first bland diluents, as barley-water, gruel, or arrow-root; but as I look upon this disease as one requiring early support, I soon give (frequently on the second day) veal- or chicken-broth, or beef-tea, with some arrow-root in it; and where the fever is of a more typhoid character, I begin with strong nourishment on the second day; good beef-tea or soup, port wine in arrow-root,

and sometimes brandy besides. From this diet I have never yet seen any danger, even in those cases which have been considered inflammatory, and which, as some affirm, require bleeding and emetics. I never allow the night-clothes to be removed during the efflorescence; and believing the most effectual way to save my patient to be strict attention to the tonsils and fauces, I apply once, twice, or thrice, during the day, the solid stick caustic, or a solution in the proportion of ten grains to one ounce of distilled water. The application is effected by tying a small piece of sponge on the end of a black-lead pencil, or of a thin piece of stick, dipping it in the solution, pressing down the tongue with a spoon, and sponging the tonsils and fauces thoroughly, removing all that peculiar viscid phlegm which is so marked in this disease. The relief this proceeding gives the patient is most striking: respiration, which was most difficult and short before, now becomes free and full; the pulse soon partakes of the benefit, and the countenance is relieved from anxiety and distress, and assumes a more cheerful appearance; deglutition, before difficult and almost impossible, becomes comparatively easy—consequently nutriment can be readily given; and, as before stated, I lay

great stress on the judicious and careful administration of nourishment. To remedy the sanious, acrid discharge from the nostrils, when this is present, which it frequently is, I inject, by means of a small syringe, repeatedly, through the lower chamber of the nose, the caustic solution into the back of the throat, and find this plan valuable both in checking the discharge, and in removing an impediment to the patient's breathing.

The importance of attending carefully to the skin in all the stages of this disease, and of avoiding, as far as possible, any cold during the stage of desquamation, it is impossible for me to insist too strongly upon; for not only is the immediate result of neglect, namely, dropsy, to be dreaded, but derangement and disorganization of the kidneys may be the termination if any considerable degree of inflammation is set up in this exquisitely delicate and important organ. In fact, I consider that the patient is never safe till the desquamation is fairly over; and that for the purpose of promoting this, warm baths are useful, and entire rest in bed absolutely necessary. In support of this, I quote from the admirable paper by Mr. John Simon, on "Chronic Inflammation of the Kidneys," the following passage:—"The lowest amount of inflamma-

tory action, or even an excitement of function hardly rising to inflammation, may and does become a thoroughly irreparable disease.”—*Medico-Chir. Trans.* p. 143, vol. xxx. I would also recommend careful inspection of the quantity and of the quality of the urine, both chemically and by the aid of the microscope. By this instrument we can frequently discover evidences of excitement of the kidney which are inappreciable by the ordinary chemical process. Simon says, in the paper before alluded to (p. 145, *op. cit.*),—“It has twice happened to me lately in cases of scarlatina, to find groups of blood-corpuscles in the urine, when nitric acid had given no precipitate visible to the naked eye.”

CASES.

CASE I. *Scarlatina simplex*.—October 29th, 1843.—Was sent for to Miss S., æt. nine, who had just been brought home ill from a school at Clapham.

The rash fully out over the body and extremities, of a deep scarlet colour; skin hot; pulse 120; tongue white and chalky in appearance. Bowels had been opened by some senna tea; tonsils inflamed; swallowing attended with

much difficulty. Ordered three grains of calomel with powdered sugar to be placed dry on the tongue, and a dessert-spoonful of castor-oil two hours afterwards: to apply a piece of flannel from ear to ear round the throat, saturated and kept constantly moist with the following liniment:—

℞ Soap liniment . . . One ounce.
 Camphor ditto . . . Two drachms.
 Laudanum . . . Two drachms. Mix.

After the operation of the oil, to take the acid mixture as before written:—

Take of distilled vinegar, diluted . . . One ounce.
 „ syrup Four drachms.
 „ distilled water, to . . . Six ounces.
 Mix, and take two table-spoonfuls every four hours.

Ten, P.M.—Bowels copiously relieved; tongue cleaner; slight delirium; pulse 120; tonsils covered with a thick viscid secretion. The solution of nitrate of silver applied freely to the throat; to continue the acid mixture and the liniment.

30th, Nine, A.M.—Passed a comfortable night; bowels relieved; tongue red like a strawberry; throat better; pulse 110. To re-apply the caustic solution; to have a linseed poultice over

the flannel wet with the liniment; and to continue the acid mixture.

31st, Nine, A.M.—The rash gradually disappearing; skin much cooler; bowels relieved; pulse 110; throat better. To continue the local applications, internally and externally, as before, and the acid mixture: to have some mutton-broth—made of the lean of a chop cut up, and half-a-pint of boiling water poured over it; let stand a quarter of an hour, then strained. To be taken with a little toasted bread.

Nine, P.M.—Better in every respect. Broth discontinued.

September 1st, Nine, A.M.—Had a good night; bowels relieved; dressed the throat as before. To have some more broth; pulse 108; mixture continued, with the addition of diluted distilled vinegar, four drachms. Not to leave her bed.

2nd, Ten, A.M.—Had a good night. The rash disappeared; throat dressed as before; pulse 108; dejections costive; to take a teaspoonful of castor-oil; tapioca pudding and mutton-broth for dinner. Continue mixture.

3rd, Ten, A.M.—Passed a good night; pulse 100; throat so much better, that I discontinued the nitrate of silver, and added four drachms of acid to the mixture; poultices discontinued,

mutton-broth as before. To leave her bed for another in the same room, and to lie outside, partly dressed, but on no account to sit up.

4th, Ten, A.M.—Passed a good night; bowels relieved freely. To continue mixture; to have some chicken for dinner. Pulse 100.

The patient progressed so satisfactorily from this time, that I discontinued noting further. In five or six days, desquamation came on, and she speedily recovered. I was careful to allow no exertion or amusement that could fatigue. Ordered a warm bath as soon as desquamation commenced. At this stage of the disease I have always found a bath most refreshing and useful in bringing back the skin to its normal condition and functions.

It will be seen that this was a case of simple fever, offering no particular symptoms, except its tendency to pass into the anginose form; but one thing, however, must be particularly noticed, as on it I lay great stress: in the evening of the first day, there was slight delirium, and the tonsils were covered with *thick viscid phlegm*: it will be observed, I applied again the caustic solution, which quickly removed that secretion, and the patient was the next morning much

better. Now, had I allowed this phlegm to remain, free respiration would have been impeded, the delirium would have increased, and the fever would soon have put on the character of scarlatina anginosa, and the patient would have been in great danger. I believe many patients may be saved by careful attention to this practice at the *critical moment*.

CASE II. *Scarlatina anginosa*.—Miss Isabella N., æt. seven.

April 13th.—In the morning I was requested to see her, and found the rash appearing over the face, neck, shoulders, and arms.

To take three grains of calomel directly, and two hours afterwards some castor-oil; and as soon as the bowels have been relieved, to begin the acid mixture, and apply liniment outside the throat.

14th, Nine, A.M.—Tonsils enlarged and ulcerated; dressed with the caustic solution; to continue mixture. Stomach rejects almost everything. Diet—gruel, barley-water, and weak tea.

Evening.—Still sickness and great fretfulness; throat ulcerated. Continue acid mixture, with increased quantity of distilled vinegar; liniment to be kept constantly applied outside,

and the tonsils and fauces dressed with caustic solution.

15th, Ten, A.M.—Eruption out about the body, groins, and thighs ; but several patches over the body exhibit a languid, dusky character: skin not warm ; pulse low ; restless, sleeping for ten minutes, and waking suddenly ; throat outside very sore ; tonsils enlarged and ulcerated, to be sponged with caustic solution. To take arrow-root with a dessert-spoonful of brandy in it: to have face, hands, chest, and legs sponged with tepid vinegar and water ; one-third vinegar, two-thirds water : to continue acid mixture, with the addition of one drachm of compound spirits of æther. To have linseed poultices applied to the throat ; to take a cup of good mutton-broth at one o'clock.

Four, P.M.—Pulse rallied ; countenance better ; skin warmer ; throat outside very sore ; some sickness, rejecting the mixture. Continue the same treatment and diet, dressing the tonsils with solution.

Half-past Nine, P.M.—Pulse 120 ; skin much warmer ; no dejection ; to have a castor-oil enema directly ; to be repeated in two hours if needful ; to take twenty drops of tincture of henbane. Tonsils and fauces still ulcerated ; dressed with

solution; the liniment applied to the throat outside, and over it a linseed poultice. To have some more arrow-root.

16th, Eight, A.M.—Had a good night, but bowels not relieved; to take two grains of calomel, and after it a mixture composed of rhubarb and magnesia, with some tincture of henbane and tincture of jalap. Sponge throat with caustic solution; take beef-tea and barley-water.

Half-past Nine, P.M.—Has had two free evacuations; pulse very low, no nourishment having been taken for five hours; to have some brandy in arrow-root, and beef-tea. Dress throat with solution.

17th, Eight, A.M.—Night restless, although she took thirty drops of tincture of henbane; tonsils deeply ulcerated, and outside the glands much swollen; dress inside with solution, and continue poultice externally. Give the aperient mixture (as oil will not remain on the stomach) at five o'clock if the bowels are not opened. Beef-tea and barley-water.

Nine, P.M.—Throat better; slough coming away; pulse 120; tongue very furred; bowels constipated. To take two grains of calomel at bedtime, and aperient mixture in the morning if necessary, and a henbane draught if restless.

18th, Eight, A.M.—Pulse 100; had a good night without henbane draught; bowels freely relieved; touched the tonsils with solid nitrate of silver; tongue cleaning; continue poultice of linseed to the throat; to take broth or beef-tea; add two drachms of acid to the mixture; a dose every three hours.

19th, Ten A.M.—Passed a restless night from rheumatic pain and swelling of the hands; throat better; bowels not relieved; to have an injection; to take beef-tea afterwards; add to the mixture, decoction of bark, one ounce.

Nine, P.M.—Hands red and swollen; bowels relieved; throat healing inside, and glands outside diminishing; continue mixture with bark.

20th, Nine, A.M.—Better; good night; hands red and swollen; bowels not relieved; to have an injection, and continue the mixture and nourishment.

21st, Ten, A.M.—Much better; throat quite free from sloughs; hands better of rheumatism; continue mixture.

22nd.—Better. Discontinue poultice, as the swelling of the glands is quite gone down. She gradually recovered, and I made no further notes of the case.

I have selected this case as offering some

exceptions to most others of the second type of fever; the determined sickness and rejection of castor-oil rendering it necessary to give an aperient mixture, which, it will be seen, contained no saline substance. I have no doubt that this case would have run into the malignant form, had I not persevered in dressing the throat with caustic, increased the quantity of acid, nourishment, and stimulants; especially as there were at the same time five other children suffering from the fever, lying all on one floor, in three rooms communicating with each other; for although I used every precaution in keeping the temperature cool and equal, and freely distributed the chloride of lime, still the atmosphere was not such as to favour recovery from scarlatina anginosa, but, on the contrary, rather to retard it. It will also be observed that rheumatism supervened in this case, which is not very unusual in scarlet fever.

The next case I shall select closely bordered on the malignant form, and occurred in

CASE III.—Miss Isabella F., to whom I was called on September 27th. This young lady sickened about fourteen days subsequently to her youngest sister, who was attacked with scarlatina anginosa. In the evening, the rash was

appearing on her arms, chest, face, and sides. Gave three grains of calomel, and castor-oil four hours afterwards, although her parents said she never could retain it on her stomach; however, this she did retain, and it operated very freely; applied the liniment to the throat externally, on flannel, and gave the following mixture:—

Take of distilled vinegar Four drachms.
 „ syrup of red poppies Four drachms.
 „ distilled water, to Four ounces.
 Mix, and take a fourth part every four hours.

To drink barley-water and toast-and-water. The tonsils and fauces very red; but the patient having the smallest mouth and throat I ever saw, and resisting any attempt to look down it, prevented my observing it so fully as I wished.

Tuesday, 18th.—Going on well; efflorescence freely out over the entire surface of body and extremities; throat externally very sore from the liniment; ordered a linseed poultice from ear to ear round the throat; applied caustic solution to the tonsils and fauces with a sponge.

Wednesday, 19th.—Appeared going on favourably in the morning, but in the evening I was requested to go directly. I found her pulse very quick and fluttering; extremely restless;

slightly delirious; efflorescence almost entirely disappeared; throat, mouth, and lips covered with brown offensive *sordes*—gave her a table-spoonful of brandy in a wine-glass of arrow-root, directly; and when the pulse rallied, which it did in an hour, gave her the sixth of a grain of acetate of morphia, which soon produced a quiet sleep. Considering her exceedingly ill, I determined to stay in the house all night, that I might see her as soon as she awoke. At half-past two o'clock, P.M., she awoke, decidedly better; pulse firmer, but very quick, 140; skin very hot; delirious, not knowing any one; bowels had been relieved in the evening without any aperient; gave another tea-spoonful of brandy, and another dose of morphia, which soon produced sleep, and at seven she awoke so much better, that I left, with instructions that she should have beef-tea and arrow-root alternately, every two hours, and the acid mixture. The rash appeared now again, of a florid character, and appeared as if standing out, or elevated from the skin; at bedtime I repeated the morphia, and dressed the throat with caustic solution.

Thursday.—Passed a good night, but skin very hot and of a bright scarlet; slightly deli-

rious ; pulse weak ; throat swelling externally ; dressed the tonsils and fauces with caustic solution, and applied linseed poultice externally ; ordered beef-tea and sherry-and-water ; in the evening repeated the morphia.

Friday.—Had a tolerably good night. Dressed the throat with solution ; glands much swollen externally, yet she swallows without very great difficulty ; the redness and heat of skin diminishing ; speaks thickly. Continue acid mixture, beef-tea, arrow-root, and wine-and-water ; in the evening repeated morphia.

Saturday.—Passed a tolerably good night. Dressed her throat with solution of caustic, and, as usual, removed a great quantity of viscid phlegm : gums and lips, which are covered with brown fur, bleed easily upon being touched, but not for longer than a minute or two ; tongue moist ; swallows better ; the redness nearly disappeared, but there are patches still about the body ; pulse weak and quick. Continue nourishment.

Six, P.M.—Very restless ; pulse very weak and fluttering ; bowels not relieved ; give an enema composed of a pint and a half of warm water, with an ounce of castor-oil and one spoonful of common salt, previously giving a tea-spoonful of

brandy in a wine-glass of water ; apply a poultice composed of half linseed meal and half bread, smeared over with sweet oil, to the throat.

Eleven, P.M.—Restlessness increased ; pulse too quick to count, and very feeble ; still unconscious ; bowels not relieved ; gave a fourth of a grain of morphia, which soon composed her, and she fell into a quiet sleep.

Sunday, One, P.M.—Sleeping quietly, and pulse better ; on waking to have the brandy and arrow-root.

Nine, A.M.—Has had some good sleep since one o'clock ; pulse firmer, 140 ; bowels not relieved ; ordered a dessert-spoonful of castor-oil ; beef- or chicken-tea ; continue mixture ; dressed the throat with solution of caustic.

Nine, P.M.—Sleeping quietly. Bowels not moved, castor-oil through some mistake not having been given. Ordered one-sixth of a grain of morphia if she became restless.

Monday, 7th, Nine, A.M.—Has taken the morphia and had a good night ; bowels freely relieved twice ; external swelling of the throat decidedly smaller, and countenance less anxious. Continue acid mixture, and beef- and chicken-tea.

Seven, P.M.—Having been restless since one o'clock, ordered sixth of a grain of morphia.

Nine, P.M.—Breathing very quickly from a little cold; but pulse steady, and 108. Ordered a fire in her room.

Tuesday, Nine, A.M.—Passed a good night, and is decidedly better,—indeed, I hope out of danger.

Wednesday, Nine, A.M.—Going on very favourably. Continue medicine and nourishment; to take a dessert-spoonful of castor-oil; the throat externally, on the right side, very much swollen, extending to the cheek; poultice constantly.

Thursday.—The neck very much swollen and red; fluctuation distinctly felt. Therefore (to avoid destruction of skin, by allowing it to suppurate, which always leaves an ugly scar) I determined to lance at the part most clearly indicating the presence of pus, taking special care to make my opening in the direction of the fibres of the platysma myoides; an ounce of pus escaped. After sponging softly with warm water, applied poultice. Continue acid mixture, with addition of some decoction of bark.

Friday.—Free discharge of pus from the opening, and also from the ear. Left side of throat also very much swollen; desquamation commencing.

Saturday.—Continues improving, but left side of throat very painful. Takes the morphia every night.

Sunday.—Left side so much swollen, and fluctuation so distinct, that I lanced as on the other side, and a large quantity of pus escaped. Continue poultice, medicines, and nourishment.

Monday, October 14th.—Passed a good night, but is very weak this morning; both sides of throat discharge freely, and both ears.

Tuesday.—Still continues to improve; free discharge of pus. Continue everything as before.

Wednesday, Thursday, and Friday.—Still going on favourably.

From this time she gradually progressed towards convalescence, and her head, which, I should have before mentioned, was drawn down towards the chest—the chin almost touching the sternum—slowly recovered its position. The acid mixture with bark was continued a fortnight longer; desquamation, assisted by warm baths, went on satisfactorily, and after spending some weeks at Brighton, she returned to town stout and well, with no scar on either side of the throat at all perceptible, except upon very careful examination.

This case offers some points which may be of practical use to mention.

First.—She retained castor-oil, although she never had before been able to do so ; this should induce us always to try castor-oil before having recourse to any other aperient.

Secondly.—The sudden disappearance of the efflorescence, and consequent restlessness and failure of pulse ; the decided effect of the morphia, after giving a little stimulus, in allaying the symptoms, which were of the most alarming character.

Thirdly.—The swelling and subsequent suppuration of the glands on both sides of the throat ; this will more frequently occur, where from any cause the efflorescence is checked and disappears, and it must always be looked upon with apprehension, requiring the greatest care in allaying nervous irritation, and in upholding the patient by nutritious diet.

And, finally, lancing these glands. This is generally strongly objected to by the parents, and is also considered by many professional men to be injudicious ; but if care be had as to the mode of doing it, and recollecting the course of the muscular fibres, I believe there can be no objection ; and it is quite certain that if you do

not puncture, the destruction of the skin produced by suppuration will always leave an ugly and disagreeable scar.

This case, on the whole, was one of great anxiety. The poison of the fever overpowering the circulation; there was, consequently, much sinking of the nervous system, and no other treatment that I have seen or tried has ever been of avail: on the contrary, I have known many die with such symptoms.

CASE IV. *Scarlatina anginosa*.—Tuesday, October 14th.—Mrs. F., mother of the last-named young lady, who had just recovered from a miscarriage preceded and followed by quotidian ague, complained of sore-throat and general lassitude, fifteen days after her second child was attacked. I instantly applied the stick caustic to the tonsils and fauces, even although ulceration had not commenced. Pulse feeble; skin hot; sickness soon came on, and continued almost incessantly. Gave a spoonful of brandy in water and distilled vinegar mixture, and applied linseed poultice to the throat.

Wednesday, 15th, Nine, A.M.—Passed a most restless night; incessant sickness; pain in the loins and left leg, with headache; efflorescence,

of a bright scarlet, freely out over the face, arms, chest, and body, but not over the legs; continue acid mixture; soup or beef-tea.

Nine, P.M.—Rash freely out over the legs as well as body; the skin distressingly irritable; sickness rather better; pulse feeble; countenance anxious; pupils of eyes powerfully contracted. To take two spoonfuls of brandy in arrow-root. Continue mixture and nourishment, and to take a quarter of a grain of morphia.

16th, Nine, P.M.—Passed a better night; rash out freely; sickness returned this morning; shivering, and afterwards free perspirations. To continue brandy, acid mixture and nourishment, and to have a castor-oil injection.

Nine, A.M.—Pulse quick and feeble; sickness not abated; voice almost inaudible; skin very red and irritable; bowels have been freely relieved by the injection. Ordered morphia to be repeated at bedtime; sherry in arrow-root; to sponge the extremities with vinegar and tepid water; and to continue acid mixture.

17th, Nine, A.M.—Slept at short intervals through the night; sickness not abated; pulse 140, and feeble; speech scarcely audible; slightly delirious; great anxiety of countenance. To

take effervescing mixture with soda and lemon-juice, and chicken-broth in cold water; skin very red and irritable; to sponge with vinegar and water; apply poultices constantly to the throat. All threatening of ulcerations on the tonsils and fauces appear to have been arrested by the first application of caustic, and she swallows well.

Four, P.M.—Pulse rather better; has kept down the cold chicken-broth, but not the effervescing mixture.

Nine, P.M.—Pulse 120, and firmer. To take port wine and water, and chicken-broth, and a little plain ice. Discontinue effervescing mixture, and resume the acid one. To take morphia draught.

29th, Nine, A.M.—Has had but little sleep; pulse 120, and firmer; the rash disappearing, but the skin round the mammæ very red from scratching; has not been sick since last night at twelve o'clock. Repeat the morphia draught directly.

Two, P.M.—Has had some quiet sleep; pulse 120; countenance more cheerful; to have (at her own earnest request) some bitter beer. Continue port wine, chicken-broth, and acid mixture; bowels not relieved.

Ten, P.M.—Enjoyed the beer, and slept well after it; pulse 120; no sickness. Continue everything as before, and morphia at bedtime.

19th, Nine, A.M.—Has not passed a good night; is very restless and low; pulse feeble; bowels confined; gave a wine-glass of port wine and water, and added four drachms of acid to the mixture, making an ounce and a half of acid in the six-ounce mixture. A fourth part every three hours. To have injection of castor-oil and warm water.

Three, P.M.—The enema failed to move the bowels; pulse rather better; has taken (at her particular request) some cold roast beef, cut up very fine and soaked in vinegar and mustard, and some iced champagne.

Eleven, P.M.—No evacuation; pulse 120, feeble; the redness of skin disappeared. Gave a tablespoonful of brandy in lemonade; has been once a little sick; gave a third of a grain of morphia in pill, and added one ounce of compound tincture of bark to the mixture.

20th, Nine, A.M.—Passed a good night; pulse 120. Brandy in soda-water, and bread-and-butter, for breakfast.

Eleven, P.M.—The bowels freely relieved this afternoon. Has taken some hock wine and

good turtle-soup. Continue mixture of acid and bark, and repeat the morphia.

21st, Nine, A.M.—Better; pulse 120. Continue the turtle-soup, brandy, and wine. Repeat enema.

Ten, P.M.—Bowels relieved; feels very low and sinking. Continue nourishment and medicines as before, and morphia pill.

From this period she progressed favourably, persevering with both mixture and nourishment as prescribed.

November 10th.—Has continued the acetic acid and bark up to this time. Has had free desquamation, and taken three warm baths.

This was one of those cases which, from the very commencement of the attack, exhibited that excessive depression of all vital energy which is so marked in the worst forms of this disease. I consider the free application of caustic to the tonsils and fauces, in the first stage, was most beneficial in preventing all ulceration. The continued sickness was most alarming, as the effort of retching seemed to increase the depression, which was more excessive for several days than I ever met with. I believe the perseverance with the acetic acid

enabled her to digest the various foods which she took ; for it will be found that no medicine has a more decided influence in promoting digestion than this acid, and hence, with its other properties, its peculiar adaptation to this disease. It will be noticed, I allowed her to have anything she fancied ; for it will be frequently found, and has often been observed by medical men, that harm seldom results from allowing great latitude in diet to patients when suffering severe and dangerous disease.

The following case illustrates well the mode of treatment pursued in malignant fever, and its results :—

CASE V.—I was sent for to see Mrs. W.'s child, aged four years, in consultation with her usual medical attendant. I found that the child had been ill three days with the fever—that the eruption had not been general, but had come out in patches, and then disappeared suddenly—that the throat was seriously affected from the first, and deglutition most difficult. The child had been freely purged, and treated with saline medicines, but had hourly become worse ; and as children in the same street were dying almost daily from this fever, the mother became much alarmed. I found the child with its mouth half

open, the tongue swollen, the breathing stertorous; the pulse quick and feeble; countenance anxious—full of distress; the tonsils externally enlarged to the size of walnuts, and internally almost in contact—covered with a thick, tenacious, and offensive mucus, which also extended over the fauces and teeth, and the inside of the lips. I directed the application of a strong solution of nitrate of silver to the throat internally by means of a piece of sponge, and immediately afterwards placed three grains of calomel on the tongue; two hours subsequently a spoonful of castor-oil was given, and then two drachms of the dilute acetic acid, with some syrup. Linseed poultices, renewed every three hours, were applied to the throat externally; and directions given to keep the extremities warm by means of a hot bottle.

In the evening, there was evidently an improvement: the fauces were again touched with the caustic solution; the acid and everything else was continued as before; and as soon as the child could be induced to take it, some good beef-tea was prescribed. This plan of treatment was rigidly carried out, and in four days it was agreed that the patient was out of danger: this was soon proved by a favourable termination of the disease; the child passed satisfactorily

through the desquamating stage, and had no dropsical symptoms afterwards.

The next case of malignant fever occurred in a house where scarlatina had been raging for a fortnight, and where it carried off the master of the family; but as he had not been under my care, I can give no decided opinion of the nature of his fever: from what I learnt, however, it was evidently of a malignant character.

CASE VI.—January 4th.—I was sent for about five, P.M., to see Mary G., aged twelve years. I found her with much fever; the efflorescence, of a bright scarlet, freely out over the entire surface of the body and extremities; pulse 140, and fluttering; tongue streaked with a white fur; throat, tonsils, and fauces much inflamed, and ulcerated; countenance most anxious, and the patient altogether much frightened, especially as her uncle was then lying dead in the house. I ordered her three grains of calomel directly, and one table-spoonful of castor-oil two hours afterwards, to be followed by the acid mixture:—

Take of diluted acetic acid . . . One ounce.
 „ syrup of red poppies . . . Half an ounce.
 „ distilled water . . . Four ounces.

Mix.—A fourth part every three hours.

The usual liniment to be applied to the outside of the throat on flannel.

Half-past Eight, P.M.—I found that only half the powder had been given, and no oil; in fact, every person in the house was thoroughly terrified, and unfitted to wait upon the patient. In consequence of this neglect, her pulse had become more weak and fluttering; tonsils and fauces covered with thick viscid phlegm. Applied the nitrate of silver in stick freely to the tonsils, &c. Gave the remaining portion of the powder and the castor-oil; ordered all bed-furniture, carpets, &c. out of the room, and used the chloride of lime freely about the floor. To give her a cup of arrow-root with an ounce of port wine in it at ten o'clock, and to repeat it in the night if she becomes restless and faint. At eleven o'clock again applied a solution of caustic, ten grains to the ounce, to the throat.

5th, Nine, A.M.—Passed a good night; countenance more cheerful; pulse 140; efflorescence freely out; bowels well relieved; has taken three doses of the acid during the night; throat, which is looking better than last night, sponged with solution of caustic. To have mutton-broth and barley-water.

Nine, P.M.—Restless; pulse 120, and flutter-

ing; tongue red as a strawberry. To take more port wine and arrow-root; to apply a linseed poultice round the throat, instead of liniment; to continue the mixture; throat sponged with caustic solution; the fourth of a grain of acetate of morphia at bedtime.

6th, Nine, A.M.—Passed a good night; pulse 120, and firmer; brightness of efflorescence decreasing; bowels not relieved. To take half an ounce of castor-oil immediately; mutton-broth twice in the day. Throat sponged: to continue mixture and nourishment as before.

Ten, P.M.—Bowels have been freely relieved. Pulse steadier, and patient inclined to sleep; mutton-broth repeated. To have some port wine in sago, and continue mixture and poultice as before.

7th, Ten, A.M.—Passed a good night; less appearance of the rash; pulse 120, and steady; tongue red. To take beef-tea, and port wine and water; continue everything else as before.

8th, 9th, and 10th.—Each day the symptoms continued to abate. Castor-oil taken when required, and mutton-chop daily.

11th.—Found her sitting up; which being contrary to my express directions, I ordered her to bed instantly, as desquamation was just com-

mencing, and because at this stage the patient is more susceptible of cold and chill, and requires an equal warmth.

15th.—Desquamation going on very well. Ordered a warm bath, and still to keep her bed ; continue acid mixture and generous diet.

29th.—Took the last warm bath yesterday. The skin has thoroughly desquamated. I discontinued the acid this day, and desired that she should keep her room, and avoid any cold or chill, which might induce dropsy.

From this case may be learnt the advantage of early attention to the throat, in removing the viscid secretion and allowing free respiration, and the importance of giving wine, even in the febrile stage ; for I believe, when combined with the acid, that no harm will ever accrue from it. This case would certainly have put on the worst form of the disease, if these measures had not been promptly taken.

CASE VII.—Wednesday, January 21st, 1843.
—Sent for to see Mrs. F.'s little girl, aged two years and three months. Ascertained that she had been poorly since Thursday last, on which day there was some rash over the face and chest, which was considered to be scarlatina. On

Friday, the rash having disappeared, she was allowed to go down stairs. On Saturday she was feverish, and generally heavy and ill, and more rash appeared. The medical attendant now positively pronounced it scarlatina; gave some scammony and calomel, which relieved the bowels; and ordered saline medicine and fever diet. On Sunday she was not so well, and had head symptoms. Throat very sore and ulcerated; was ordered muriatic acid mixture. On Monday she was better, having slept well, but complained of the nose, from which a sanious discharge was flowing. Tuesday, bowels not freely relieved. Was ordered some calomel and jalap. I saw her about half-past five this day: found the pulse quick; skin hot; nose red, and upper lip excoriated by the sanious discharge; tonsils felt enlarged outside, particularly on the left side. On examining the tongue, I found its edges red, with a white chalky centre; the tonsils very much enlarged—nearly closing the throat, and covered with a thick viscid phlegm; the nitrate of silver in stick was applied, and the child afterwards threw up an ounce of the thick secretion from the throat. The body and extremities looked mottled from the suppressed rash, which could be distinctly seen in the skin.

Ordered linseed poultice outside the throat, and the tonsils and fauces to be sponged night and morning with caustic solution (ten grains to the ounce); to have an injection of castor-oil in four hours, if needful, and to take acetic acid mixture, one drachm of acid to a dose; to have some mutton-broth. Bed-furniture removed and carpets taken up, and floor sprinkled with chloride of lime solution.

22nd, Nine, A.M.—Passed a good night; the bowels have been freely relieved by the enema of castor-oil; the sanious discharge from the nose is quite stopped; the tonsils very much swollen, and covered with a thick viscid phlegm; after sponging with caustic solution, the child instantly vomited a large quantity of this secretion. Continue mutton-broth and acetic acid mixture; to apply flannel soaked in warm gin externally to the throat.

23rd, 24th, 25th, 26th, and 27th.—Everything has been continued as before. The tonsils are rather decreased, but the caustic solution always removes a large quantity of viscid secretion; the acid to be increased in quantity, and beef-tea and meat-gravy allowed freely.

February 6th.—Has had two warm baths; desquamation progressing languidly. Ordered

the caustic to be discontinued, but not the acid mixture.

This little patient gradually recovered, although her symptoms were very unfavourable: the very bad throat, the suppressed efflorescence, the sanious discharge from the nose, were all unfavourable, and strongly reminded me of the case of my own child, who fell a victim to this disease.

The languid desquamation noticed in this case is always observable where the rash has been checked in the first stage, and it will frequently be found that dropsical effusions supervene. In such cases, I believe the continued use of acetic acid, generous diet and warm baths, are the best remedies: I may also repeat, I never allow a patient to be removed from bed till desquamation is over, as it is of the utmost importance that no check to the skin should be caused by any change in its temperature; a danger not to be avoided, except by confinement to bed. I am also studiously careful that the room be kept of equal temperature, and yet not too warm—about fifty-eight or sixty degrees of Fahrenheit.

The following cases are of more recent occurrence in my practice:—

CASE VIII.—On June 29th, I visited J. W., aged twenty-two. Found him with the eruption out; skin hot; pulse quick; countenance distressed. Applied caustic to the throat; gave him three grains of calomel, followed by castor-oil, and ordered the acid mixture:—

Dilute acetic acid One ounce and a half.
 Syrup Half an ounce.
 Water, to Eight ounces.
 Two table-spoonfuls every four hours.

30th.—Continue the mixture, adding tincture of henbane, two drachms. Apply warm flannels soaked in gin round the throat; sponge out the tonsils and fauces with caustic solution (containing twenty grains to the ounce) night and morning.

July 1st.—Has been delirious during the night; tongue red; pulse 140, and small. Add to the mixture two ounces of decoction of bark; to take every three hours a glass of port wine.

2nd.—Has been delirious all night, and no sleep; restless, wanting to leave his bed.

Three, P.M.—Much worse; violently delirious; countenance suffused, and rather drowsy; eyes injected; small, feeble pulse of 160, easily compressed; tongue brown, and dry in the centre;

sordes on the teeth, and skin hot. Ordered to be again sponged all over with tepid vinegar and water; applied caustic to the throat, and gave him two ounces of wine. Ordered the addition of one ounce and a half of acid to the mixture; and four grains of calomel, with half a grain of morphia, at once; to drink strong beef-tea and bottled stout, and to go on with the wine and medicine alternately every hour.

Eight, P.M.—Is better; having had some quiet sleep, although still delirious. Continue everything as before. Ordered four grains of calomel at bedtime, and castor-oil in the morning.

3rd.—Much the same as last night; still wandering, although he can be roused to answer questions correctly. Bowels have been freely opened; evacuation black and very offensive; slight discharge of pus from the nostrils. Add one ounce of the compound tincture of bark to the mixture. Continue everything as before, and repeat the calomel and morphia at bedtime.

4th.—Had some sleep, but still delirious; parotid glands on both sides enlarging. Ordered linseed poultices. Bowels have been freely relieved; the dejections black and offensive; slight desquamation commencing; tongue not so brown

and dry. Continue nourishment and medicine ; to have wine and porter frequently. Repeat the calomel and morphia at bedtime ; throat dressed with caustic solution night and morning, and body sponged all over with tepid vinegar and water ; chloride of lime solution freely used in the rooms.

5th.—Much the same as yesterday ; the glands of the throat enlarging rapidly, and ulceration of tonsils rather worse.

6th.—Slowly improving ; ulceration of tonsils, however, still progressing ; tongue cleaning, and becoming more moist ; pulse 130. Continue everything as before ; to take a bottle of port wine every twenty-four hours, besides porter.

7th.—Gradual improvement.

8th.—Desquamation very severe ; the entire skin separating in large pieces, especially over the elbows, shoulders, and sacrum ; the nates and scrotum are severely excoriated. Ordered all the denuded parts to be covered with starch powder. The other symptoms are much the same. Everything as before.

9th.—A slight moisture over the surface of the body, and the urine more copious than it has hitherto been. Continue everything as before.

12th.—Not so well; pulse 140, and feeble. He had taken but little nourishment or wine during the night. Ordered some brandy-and-water, as he had taken a dislike to the wine; allowed some mock-turtle soup, at his own request. Continue acid mixture, &c. In the evening he was rather better in every respect.

13th.—Very low and desponding; ulceration of tonsils improving; parotid glands much more enlarged, with indistinct fluctuation on both sides; pulse 130; tongue cleaner; no delirium.

14th and 15th.—Much the same.

16th.—Not so well; much excited; complains bitterly of his elbows, legs, and hands, which are quite denuded of the cuticle. Add to acid mixture, half a drachm of Battley's solution, and two drachms of the compound spirit of sulphuric ether; continue everything as before, and calomel and morphia at bedtime.

From this date to the 25th he gradually improved.

26th.—The left gland was punctured, and half-a-pint of pus escaped.

27th.—Ordered some quinine and acid.

28th.—Abscess on the right side opened, and four ounces of pus escaped.

31st.—Much better ; ordered out of town.

In this case the desquamation was the most severe I ever saw. The thick cuticle was entirely peeled off from head to foot ; on the hands it came off like a glove, and on the feet like a slipper, and as thick as leather : the nails also subsequently came off.

This case exhibits very forcibly the importance of persevering with nourishment and stimulants, and at the same time insuring sleep by large doses of opiates. Although he took calomel every night for several nights, it never affected his gums. The dose of acid was increased to three and four drachms at a dose every four hours, so that he took about three ounces every twenty-four hours.

CASE IX.—Oct. 18th, 1848.—Mrs. A. B. complained of sore-throat and lassitude, having been nursing her little boy through an attack of scarlatina anginosa. I applied the stick caustic to the tonsils and fauces freely, ordered her three grains of calomel and castor-oil in the morning, and restricted her to bed. After sleeping for two or three hours, she awoke with violent sickness and purging, accompanied by fainting and giddiness. All these symp-

toms continued without intermission till seven o'clock, when she was completely exhausted; pulse 180, feeble, running. Ordered her a mixture of acetic acid, tincture of bark, and tincture of henbane, every three hours, and port wine and beef-tea every intermediate hour; so that she took something every hour. Directed her to be sponged with tepid vinegar and water: caustic solution used to throat, and warm flannels, soaked in gin, applied externally. Is extremely restless; countenance pale, voice husky and almost inaudible. These symptoms continued all day, and she passed a sleepless night: the urine was acid; about three ounces passed each time, and deposited a viscid matter, which I found was due to leucorrhœa.

20th.—Face and neck covered with a deep scarlet rash; skin very hot and dry; complained of pain in the region of the heart. Ordered a mustard poultice. Respiration very quick and short, with constant sighing: throat sponged with caustic, body and extremities with vinegar and water; the acid mixture in increased strength continued; and wine given every hour, alternately with beef-tea and mixture. Ordered her a drachm of tincture of henbane and five grains of sesquicarbonate of ammonia at bed-

time, and that on no account should she be allowed to sleep more than an hour without being awake, to take the wine or other nourishment.

21st.—Six, A.M.—Has passed a very restless night, dozing for a few minutes and suddenly starting; slight delirium; voice inaudible, and prostration complete; pulse small, 150; efflorescence all over the body and extremities.

Seven o'clock—Eight, Nine, and Ten.—Worse each hour; restless, and anxious countenance; quick breathing, and rapid pulse; bowels have been relieved; repeated the henbane, and she slept for one hour; awoke her to take the acid mixture; immediately she fell to sleep again for another hour, and then had some wine. The wine was repeated every hour during the day; tepid sponging continued, and the caustic solution applied to the tonsils and fauces: after each application, a great quantity of viscid phlegm was removed, which always relieved the breathing and revived her.

22nd.—Seven, A.M.—Has passed a better night; the tongue, previously brown in the centre, and red at the tip and edges, is now cleaning. Bowels relieved twice without an aperient. Pulse 130, and firmer.

Three, P.M.—A copious perspiration burst out; the throat soon became better; countenance more cheerful; pulse steadier.

Eleven, P.M.—Repeated the composing mixture twice, which procured her some refreshing sleep; the wine and nourishment were, however, continued every hour.

23rd.—Better in every respect; she has taken in the course of every twenty-fours a bottle of port wine, besides the mixture, and beef-tea and arrow-root.

From this period she gradually improved, the wine being lessened in quantity, but the acid mixture persevered in, as also the tepid sponging with vinegar and water.

November 1st.—Desquamation appearing over the face and hands; complains of rheumatic pain in all her joints, and is very weak and exhausted. On examining her urine by the microscope, no fibrinous casts could be discovered, nor albumen, by heat and nitric acid.

I think this case clearly confirms my theory and practice. I consider the large quantity of stimulus and nourishment, and strict attention to the throat and skin, were the chief causes of her recovery, materially assisted, however, by the acetic acid, which appeared to act freely as a

diuretic, for the urine gradually improved in quantity up to the time of the perspiration appearing.

CASE X.—The preceding cases in illustration of the treatment advocated are so related *in extenso*, that, to prevent adding to the bulk of the book, I will confine myself to citing only one other, which also I will but briefly detail. I mention it because to my mind it conveys the lesson, that when all things seem to be against us, we ought, nevertheless, to persevere in doing our best. The patient was a child, about six years old, to whom I was called in consultation along with Dr. Langley, of Gloucester-place. One child was already dead of the fever, and this one was considered in a moribund state, beyond the reach of medicine. The exhaustion was very great; there was delirium, with dilated pupils, insensible to light, and blood was passed from the bladder. Cupping and blisters had been used over the loins, and cold lotions to the head; whilst, internally, saline febrifuges and aperients had been freely administered. I at once advised the suspension of every exhausting means, and ordered the tincture of sesquichloride of iron in small repeated doses, acetic acid, and a liberal

supply of beef-tea and port wine. In forty-eight hours improvement took place, so speedily that the pupils recovered their contractility, and in fourteen days convalescence ensued.

CHAPTER VI.

Results of Experience, and on certain points in the treatment—Blisters, Opiates, Stimulants—Careful Watching and Nursing.

THE cases just recorded are but a few examples for the purpose of illustration ; but the utility of the plan recommended has been, to my mind, sufficiently established both by my own experience and by that of other medical men. Since the appearance of my previous *brochure* on scarlatina, in 1848, I have seen 675 cases of the disease, in consultation and under my own care. When advocating my views before the Medical Society of London, in 1849, I reverted to my then experience of 253 cases, of which only five were fatal. One of the deaths was that of a lad at Liverpool, aged twelve, who was moribund when I reached him ; the four others were among London patients, one of whom died from collapse half-an-hour after I first saw her ; a second perished from inattention to the throat ; a third, from supervening typhoid fever ; and the fourth, owing to the injunctions respecting nourishment

being neglected. I consequently maintained that no one fatal case ensued where persevering efforts were made before death had actually seized on its victim; but that, on the contrary, several who had been given up as in a hopeless state, rallied and recovered under the treatment adopted. As an instance of the latter statement, I noticed the case of a little girl, four years old, one of a family of which two had just died from the malady. On my arrival, I was told all hope was gone, and that medicines could be of no avail. However, I was not deterred from making an effort, and on examination found she was perishing from positive mechanical causes, the swelling of the throat and the viscid phlegm so blocking up the fauces as to prevent deglutition and sufficiently free respiration. Accordingly, on removing this with caustic solution, the impediment was relieved; the administration of medicine, nourishment, and stimulants became practicable; and in the end the child was restored. Another result attained, and no trifling advantage, is, that of all the cases under my own care, no one has been followed by scarlatinal dropsy. This I will not be vain enough to ascribe solely to the medical treatment, but, in a great measure, to the nursing and attention, which I insist

upon as of equal importance with the administration of therapeutical agents; a circumstance sufficiently exemplified in the histories of cases above given, and which will be presently further alluded to in this chapter.

To add weight to my own opinion, and to the importance of the results I have myself obtained, I might here quote the testimony of many medical practitioners who have tested and pursued the plan described, but shall rest satisfied with noting that of only some two or three, as ample for my purpose.

Mr. Hunter, of Margate, who must be referred to as the originator of the treatment proposed, favoured me with a letter, from which I will extract a few paragraphs. He says—

“I have preserved no notes of my cases of scarlet fever, because my treatment with acetic acid, &c., has been so uniformly successful, that the description of one case would generally be the same as that of ninety-nine out of every hundred. I had happily been more than fifteen years in active practice before I saw a fatal case of scarlet fever; and now, after nearly thirty years of extensive professional employment, the fatal terminations have been so few, that I could not venture to state the number positively,

without great consideration, or reference to my books, for fear that I should overrate them; but I think *four* must be the entire amount.

“I seldom find it necessary to vary my mode of treatment; and I recollect one case only—namely, that of a strong, robust, and previously healthy tradesman, where scarlet fever was complicated with inflammation of the liver—in which I have been forced to have recourse to venesection. As regards blistering, and stimulating the throat and neck when the glands enlarge, or when they threaten to become enlarged, I now very seldom employ such means, having satisfied myself that much comfort and advantage result from the application of warm flannel sprinkled with spirits of wine or Hollands gin.”

Again he says, “I must confess the *modus operandi*, as well as the cause of the marked superiority of the acid over every other treatment with which I am acquainted, is by no means clear, at least to my mind. As acid is antiseptic, it may, perhaps, control the depressing influence which the miasma of scarlet fever exerts over the nervous system; as we find in sea-scurvy that acid coagulates, it may, therefore, give tone also to the blood in scarlatina; and I think it acts as an astringent upon the lym-

phatic system and serous membranes, because I have never seen dropsy supervene in any of my cases of scarlatina treated with acid. During the summer of last year I attended a mother and four children, one of whom was at the breast, who were simultaneously seized with scarlet fever of the most malignant character: they all passed satisfactorily through the first fortnight or three weeks, when two of the children were attacked with phagedenic ulceration of the tonsils, of the mouth, of the alæ of the nose and external ears, which proved fatal to one of them, notwithstanding the utmost care and attention, combined with the liberal use of sesquicarbonate of ammonia, wine, and *mistura spiritus vini gallici* of the Pharmacopœia. Of course this is one of my four cases already spoken of."

Again, Mr. Pincot, late of Ongar in Essex, in large Union practice, wrote me to say that since he adopted the practice he had not lost one out of upwards of fifty cases; and my brother, Mr. George Brown, bears me similar testimony, for during a practice of about fourteen years in Kensal Green, amid a population comprising a large number of the poorest classes, and during which he had many cases of scarlet fever, he lost none when called in during the

earlier stages, and when he could ensure the carrying out of his directions.

Mr. Meek, of Tarporley, Cheshire, also, who was induced to employ the plan after seeing the successful termination of a case to which I had been called in consultation with him, and who had previously lost many patients during a severe epidemic of the disease, acquaints me that his success has been commensurate with mine.

At the hazard of repeating what has already been sufficiently set forth, I will, before concluding, remark briefly on some parts of the plan of treatment advanced. And, first of blisters, to which some practitioners resort to diminish the throat inflammation. It will be observed, in reading the preceding cases, that I never apply them, having frequently seen the most alarming sloughs from their use; indeed, I feel certain, that the death of many a little patient has been accelerated by their application. I have known them tried by being allowed to remain on only two or three hours, and a poultice applied afterwards; yet a deep black slough has supervened, and the destruction of the parts has been very extensive. I cannot, therefore, but consider blisters injurious rather than beneficial in this fever. I have heard many objec-

tions made to the use of acids in the treatment of this disease, because, it is asserted, there is a deficiency of alkalies in the blood affected with the poison of scarlatina; but, although most writers advise the administration of alkalies, yet the hydrochloric, sulphuric, and nitric acids have been recommended by others: and, again, it is well known that heartburn may be readily stopped by taking a small quantity of acetic acid or of raspberry vinegar; which is, in fact, to remedy an acid state of the stomach by an acid.

With respect to opiates, it will be seen, from the cases cited, that I often give large and frequent doses of morphia so as to ensure sleep; for I believe that not a few patients sink from the persistent nervous irritation, which can only be allayed by an anodyne, followed by the outbreak of perspiration.

I believe very much depends on careful watching in this disease, for it will always be found that there is, in one or other of the stages of the fever, a *critical moment*: for instance, in the eruptive stage, even in the simple form, delirium will come on, and the throat will become more clogged with viscid secretion in a few hours; and if attention be not promptly

given, and this phlegm, which impedes free respiration, be not removed, the delirium and laborious breathing will increase, and the disease will soon run into the second, or anginosa form, and then, of course, will offer greater difficulties to cure; whereas, on the contrary, if prompt attention be paid, the throat cleansed, and some gentle nourishment administered, all unpleasant symptoms will pass off, and the following day the patient will be found progressing as if nothing untoward had happened. Again, in the second, or anginosa form, it will not unusually happen that the tonsils and fauces suddenly become worse; or great sickness supervene, or sudden prostration; when, unless the throat is instantly attended to, delirium, laborious breathing, difficult deglutition, and restlessness will make serious ravages upon the patient, and all remedies will quickly become unavailing. So, again, where sudden prostration arises, we must promptly and unsparingly administer stimulants and cordials, till the pulse exhibits more steadiness and power. Many patients are lost because the friends or nurses do not pay sufficient attention to these rapid alterations in the state of the disease. It is not at all an unusual occurrence for the medical attendant to

express a favourable opinion in the morning, and at noon to find his patient sinking rapidly. The next practical point to mention is the great importance of maintaining an equable cool temperature throughout all the stages of the fever. About 68° Fahrenheit is the most suitable temperature; and if by any chance the room becomes colder, we shall find the patient shivering, with cold and clammy extremities, and a sinking and fluttering pulse: on the contrary, if the room become warmer, the pulse will be accelerated, the breathing quicker, the throat more uncomfortable, and the patient will soon look anxious and distressed—unless, indeed, a free perspiration should relieve the oppression. With a view to maintain this equality of temperature as nearly as possible, we strongly urge the importance of confining the patient to one room until the desquamating stage is well over; and during this stage, as well as through all the others, we never allow the patient to be removed from bed, since the slightest chill during the desquamating stage is almost certain to be followed by some dropsical effusion; and, in our experience, we have never had a case of dropsy occurring after scarlet fever, where these precautions have been taken, a proper regimen enforced, and where

the acid has been continued through all the stages—even until after desquamation is fairly over and a week or ten days further have elapsed. This continuance of the acid should be rigidly enforced, as it will be found of vital importance to the perfect recovery of the patient. At the same time that we continue the acid, we must as carefully avoid any drastic purgatives; an active dose of medicine will prostrate the patient, and much care will be required to recover the lost ground.

In reference to this question of purging, a pathological feature of scarlet fever here deserves mention. All writers have mentioned that the tongue has a white centre and red edges; but the whiteness is quite peculiar to scarlatina; it is of a *chalky whiteness*, as if the tongue had been rubbed with chalk down the middle: and, again, the redness of the tongue, which takes the place of the chalky white as soon as efflorescence is freely out, is exactly like a *red strawberry*, and in no fever will be found so strikingly characteristic. I have considered it advisable to mention this peculiar whiteness of the tongue, as it has been considered by most writers to indicate the necessity for free purging.

Another point in treatment, from my desire

to curtail my observations as far as possible, has only been incidentally mentioned, — viz., sponging the skin with tepid vinegar and water during the eruptive stage. It will be seen that in Case IV. I resorted to this expedient. The comfort it affords is most striking: it allays the irritation of the skin, which is often most distressing; it produces a comfortable feeling of general warmth over the surface, and will often produce sleep where no anodyne will have the slightest effect. In doing this, I advise that the patient should be *carefully* sponged: for instance, let the nurse sponge the neck and shoulders as quickly as possible, then the arms, covering these up before commencing the body and lower extremities, to avoid any risk of a chill. So soon as the patient is perfectly convalescent, and has taken several warm baths, a change of air will be found most beneficial, care being taken that a mild temperature be selected, and not a bleak, cold one.

To present in a few lines the leading principle on which the practice recommended is based, and the grand outlines of that practice. The principle is, that scarlet fever is a disease of debility, and, although the accompanying fever is inflammatory, yet it is of a low or asthenic type,

and tends to destroy by exhaustion; and the practical deductions are, that every sort of treatment calculated to lower the nervous system, or the energy of the patient, is mischievous and bad. Wherefore, bleeding, active purging, alkalis, and the antiphlogistic regimen are improper; whilst measures directed to sustain the faltering powers, to allay febrile heat, and to restore deranged function, are proper and necessary.

To strengthen my opinion of the debilitating nature of scarlatina, and of the mischief of blood-letting in its treatment, I may be allowed to quote some pertinent remarks from a chapter "On the Poison of Scarlatina," from Dr. R. Williams's "Elements of Medicine." After alluding to the practice of bleeding as contrasted with the opposite plan of avoiding it, he says,—“If we compare them, the result will stand thus:—

Of 121 treated at the Foundling Hospital	
in 1786 by bleeding	19 died.
„ 60 treated in the London Fever Hos-	
pital in 1829	10 „
181	29

or nearly *one in six*.

While of 200	treated by mineral acids and wine	2	died
„ 160	„ purgatives and emetics	16	„
„ 50	„ ditto	3	„
„ 45	„ ditto	1	„
„ 100	„ mineral acids and wine	3	„
	<hr/>		
555		25	

or nearly *one in twenty-two.*”

It seems, therefore, proved that one in six died after bleeding, while one in twenty-two died after a milder, if not a directly opposite treatment; and the conclusion which inevitably follows is, that the chances of recovery are diminished by the practice of bleeding in the ratio of nearly four to one, as compared with the chances supposing the patient not to have been bled. If we adopt this opinion, all the other parts of the treatment will appear simple and judicious. First, then, we administer a dose of calomel, followed by castor-oil, to clear out the bowels as quickly as possible, and with as little irritation as may be: the calomel acts both as a sedative to the mucous membranes, and as a stimulant to the liver; whilst the castor-oil, from its blandness, passes over the highly sensitive membranes of the bowels more easily than any other known aperient, and removes any bilious, acrid, or morbid matters which the

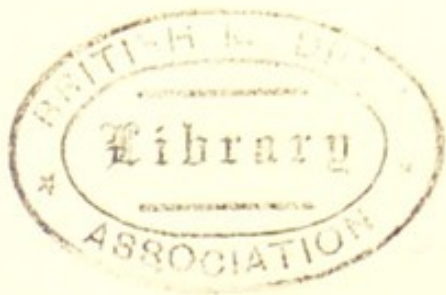
calomel may have caused to be thrown into the intestinal canal. This having been done, we have a plain course before us: all the nourishment we give has a better chance of being digested and assimilated than would otherwise be the case; and if we guard against any accumulation in the bowels at the very outset, we shall generally avoid the delirium, giddiness of the head, and congestion of the liver, which so frequently prove obstacles in the treatment of this troublesome disease. When once the bowels have been freely evacuated, further purging is not required, but merely simple laxative doses of castor-oil, or of some other very mild aperient. I am aware that this doctrine is contrary to that of many writers, amongst them the learned Dr. Armstrong; still, it is part of the system which I have endeavoured to lay down, and must not be departed from if it be the intention of the medical practitioner to carry out, in all its parts, the plan of treatment here imperfectly developed; for if scarlatina be a disease of debility, whatever tends to prostrate the powers of the body must assuredly be wrong.

After the statement of the circumstances under which this small treatise was originally produced, and of the object it is designed to fulfil,

an apology for its imperfections is not needed. To have attempted a complete history of the etiology, of the pathology, and of the treatment of scarlet fever might have been esteemed presumptuous, and an uncalled-for task, when so many able and elaborate memoirs or chapters are to be found in the works of our most distinguished physicians; but to have endeavoured to set forth a plan of treatment based on extended practical experience, and promising to secure a greater amount of success in so severe a disease, where all usual methods are generally admitted to be very unsuccessful, will, I trust, be deemed to furnish a sufficient reason for my again obtruding my little book before the notice of the profession.

THE END.





LONDON:
SAVILL AND EDWARDS, PRINTERS,
CHANDOS STREET.

SCARLET FEVER



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