

An account of a mode of treating the small-pox, which entirely prevents disfigurement / by Henry George, surgeon.

Contributors

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AN
ACCOUNT OF A MODE
OF
TREATING THE SMALL POX,

WHICH
ENTIRELY PREVENTS DISFIGUREMENT, AND
RENDERS THE DISEASE COMPARA-
TIVELY HARMLESS.

TO WHICH IS ATTACHED A CONCISE HISTORY.

BY
HENRY GEORGE, M.R.C.S.L.,

AUTHOR OF AN ESSAY ON "CHOLERA MORBUS."

Fourth Edition.

LONDON:
PUBLISHED FOR THE AUTHOR BY
GRANT AND GRIFFITH,
CORNER OF ST. PAUL'S CHURCHYARD.

1856.

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PREFACE
TO THE
FOURTH EDITION.

CONFIDENT in their truth, and certain of the value of these suggestions on the treatment of Small-pox, I again offer them to the consideration of that profession, of which I feel some pride in being a member. In republishing this Essay, I have explained more fully the benefits to be derived from the local use of camphor. I believe this point to be a very important one; for, in substituting the gum camphor, for the myrtle and olive leaves of the Arabian physician, I conceive I have made no trifling advance in medical practice, and, without any presumption, would earnestly solicit the attention of the profession, to the various uses for the alleviation of human misery, this remedial agent (gum camphor) may be applied; uses of which, in the course of this treatise, I have given a faint and imperfect outline.

I again aver, that on commencing these enquiries some five-and-twenty years ago, I was in perfect ignorance of toiling in the same field which an Arabian physician of the seventh century had so sedulously cultivated; it would not be difficult to prove that his objects were those which reflection, and experience taught me. It may raise "the smile," but I declare I shudder at the thought of the myriads of tortured victims, that for centuries past have fallen a sacrifice to this cruel disease, in consequence of a neglect of his sage counsel; for he who has seen this terrible disorder, in all its sights and sounds of misery, need shudder too, or

"blush,

And hang his head, to call himself a man."

These suggestions on the treatment of Small-pox, need not alarm the most enthusiastic advocates of Vaccination; they in no way depreciate that Providential gift to Jenner; but they almost fill up a dreadful chasm which Vaccination leaves, and nearly give us a perfect mastery of a disease, which for danger, suffering, and loathsomeness, stands unexampled.

CRITICISMS OF MEDICAL JOURNALS, and COPIES OF
LETTERS in my possession, received from eminent Medical
Men, on their receiving a Copy of my first case of CON-
FLUENT SMALL-POX, and on presenting a Copy of the
Treatise on that Disease.

*Critical Remarks of the Editor of the "Medical Gazette,"
in the year 1833, on receiving a Copy of the First Edition
of my "Treatise on Small-Pox."*

To the readers of this journal, the views of Mr. George regarding the propriety of local treatment in confluent small-pox are familiar. In several papers communicated to the "Gazette," and now reprinted in the volume before us, he has described the good effects which follow the application of calamine as a local remedy. This method, he conceives, not only prevents the process of ulceration, but always rescues the sufferer from much misery, and very frequently from a state of the greatest péril. We shall be most happy to find that practitioners give it a fair trial; and that we be made instrumental in conveying the results to the profession. Mr. George, we perceive, ingenuously points out a passage in an old author of the seventh century, which clearly saves him from the charge of starting any very heretical, or daringly novel doctrine. Ahron, the author in question, directs that, "when the pustules are suppurated, the patient is to lie upon flour of rice, and be fumigated with myrtle and olive leaves, which will dry them." Mr. George bars the myrtle and olive leaves, and contents himself with simple calamine. The historical part of the volume is very well written; and, altogether, we can recommend the performance as highly creditable to the author, and we have no doubt it will be found as useful as it is interesting.

*From the Half-yearly Abstract of the Medical Sciences,
July—December, 1852.*

MR. GEORGE complains that his views have not received the attention they are entitled to, and, we think, rightly so, though it does not do to be over-sensitive in these matters. His views, indeed, as to the asthenic character of the constitutional symptoms in the majority of cases, and the consequent unsuitability of depleting and depressing measures, meet with our entire concurrence. Mr. George's views, however, are well deserving of attention; and we gladly afford our aid to give them publicity, referring to his book for all detailed information. The local treatment, according to Mr. George, calms present suffering, averts secondary fever, and prevents ulterior deformity.

From the "Lancet," October 9th, 1852.

WE can confidently recommend the perusal of Mr. George's treatise to our readers, as containing matter of interest and importance, and as being evidently the production of a judicious and thoughtful practitioner.

Letter received from J. ALLEN, Esq., late Master of Dulwich College, and formerly Lecturer on Medicine in the Edinburgh University.

DEAR SIR,

Sir H. Halford, to whom I have had an opportunity of mentioning your successful use of calamine as an application to the ulceration of the skin from small-pox, assured me that he had never heard of the practice before; and if confirmed by another trial, he thought it would be a very valuable discovery, and one that ought to be communicated to the medical world, in a paper which he said he would willingly present to the College of Physicians, etc.

Yours faithfully,

J. ALLEN.

Holland House, Kensington.

Letter received from SIR H. HALFORD, BART (late President of the College of Physicians), on presenting a copy of the case of Small-Pox in 1831.

April 15th, 1831.

MY DEAR GEORGE,

I do not think it worth while giving the patient the trouble of calling upon me, though if he can do so without inconvenience I should be glad to see him. The case is a curious one; and I think that you should make the circumstances of it public. Can you put it into a shape to be read at the College meeting? I shall be happy to promote your views, and to meet your wishes in any way agreeable to you. Believe me to be, with great regard,

Dear Sir, sincerely,

HENRY HALFORD.

Letter received from DR. KIDD, Regius Professor of Medicine at the University of Oxford, on receiving a copy of the case of Small-Pox published in 1831.

Oxford, May 17, 1831.

MY DEAR SIR,

I beg leave to return you many thanks for the interesting communication you have been kind enough to send me. Happily we have not much small-pox in this neighbourhood at present; but I shall have great pleasure in acquainting my medical friends with your statement, in order that they may take advantage of the valuable suggestions contained in it.

I am, my Dear Sir,

Yours much obliged and sincerely,

J. KIDD.

Letter received from SIR ASTLEY COOPER, BART., on presentation of a copy of the Treatise on Small-Pox.

MY DEAR SIR,

I thank you for your work, which will be entertaining for its history and useful for its practical information.

Believing me always yours,
ASTLEY COOPER.

Letter received from DR. J. BURNE, on presentation of a copy of the Treatise on Small-Pox.

DEAR SIR,

I beg to return my acknowledgments and thanks for your valuable little work on the small-pox, which I have looked over with much pleasure and interest. It is full of sound practical views, and comprises a concise and very well written history. I shall not fail to recommend it to my class.

I am, Dear Sir,
Yours much obliged,
JOHN BURNE.

24, Spring Gardens, Nov. 19, 1833.

N.B.—I have several similar letters in my possession.

ON THE CONSTITUTIONAL AND
LOCAL TREATMENT OF CON-
FLUENT SMALL-POX.

WHEN we consider the intimate connection which exists between the surface and the internal parts of the human body, and reflect how the vital functions are often impaired, and even destroyed, by comparatively slight injuries and diseases of the former, we cannot feel surprised, that in cases of confluent small-pox, the constitutional disturbance should very generally assume a most malignant and unmanageable character. The innumerable suppurating processes going on, the exposure of large portions of such a very important texture as the cutis, with the consequent pain and suffering, are circumstances which, on reflection, would rather lead us to feel surprise that any of its objects should escape, than that the mortality of the disease should be so considerable. I am induced from observation to

believe, that in the management of the local features of this complaint, in a great degree, depends the security and comfort of its victims. That the phenomena presented to us in the different stages of confluent small-pox, are such as exhausting processes, and continued bodily suffering, would under any circumstances uniformly produce, and I consequently doubt whether this tumult, or, to use another phrase of Sydenham's, this ebullition in the constitution, is not referable to the nervous, rather than to the vascular system, and whether it bears the genuine stamp and character of fever.

This opinion does not appear to lead to any useless dispute, to any inquiry which is merely to satisfy the desire of information in the *curious*; but to an important practical conclusion, in which the welfare of the victims of this disease is most deeply implicated. He who would regard the aggravation of suffering, in the secondary stage, as fever, would naturally withhold those medicated remedies, and "appliances to boot," which would, without hesitation, be had recourse to by him who considered the phenomena which the different stages of confluent small-pox present, as the result of irritation and distress. The rapid and irregular motions of the heart, etc., would be referred to with equal anxiety by both; but the one would regard them as symptoms requiring control and management, the other would determine, that, like "a bold swimmer in his

agony," they demanded every assistance and support. I must confess I feel some regret in acknowledging, that this opinion possesses no claim to originality; but I feel every confidence in it, from being enabled to adduce the evidence of such an accurate observer of disease as Dr. Fordyce in its support. How anxious he was to separate from the class *Pyrixiæ* those diseases which do not bear its character, is evident from the following observations, and it is reasonable to conclude that he was fully impressed with the importance of doing so.

In the first dissertation on simple fever, Dr. Fordyce remarks, (page 19,) "Many diseases have been called fever, even by practitioners of great knowledge, which the author does not mean to include in the number of fevers. In the first place, he excludes all affections of the system which depend upon any other disease. Thus, in phlegmonous inflammation, in pleurisy, for instance, there is often frequency of the pulse, greater strength of the pulse, and hardness, foulness of the tongue, and loss of appetite, and want of sleep. If the inflammation be carried off, all these appearances subside of themselves; they only depending on the inflammation of the pleura, and therefore are, according to this rule, not to be considered as fever. So in inflammation of the intestines, there is frequency of the pulse, with hardness, contraction, and frequently obstruction, pain in the forehead, dryness, and dusky colour of

the skin; the tongue is covered with a brown fur, with great depression of muscular strength, convulsive contractions of the extremities, nausea, and vomiting, and costiveness, etc. If the inflammation of the intestines is carried off, these appearances all go off, they depending entirely upon the inflammation of the intestines, and therefore, according to this rule, cannot be considered as fever. In erysipelatous inflammation, all the last enumerated symptoms may arise. The inflammation may be cured by the application of alcohol, diluted with water, and all the symptoms affecting the other parts of the system disappearing, they cannot be considered as fever." At page 21, Dr. Fordyce remarks, "So in rheumatism affecting a particular part, or taking place in various parts by metastasis; it happens frequently, that the pulse becomes hard, full, strong, and frequent; the tongue is covered with a white crust, loss of appetite, great increase of all the symptoms in the evening, and relaxation in the morning; but these all depend upon the rheumatism affecting particular parts of the body, and if all the topical affections should be carried off, then these appearances, which have been enumerated, likewise subside, and are not, therefore, according to the rule laid down, a fever." I cannot refrain from borrowing still further from the works of this inestimable author; in the same treatise, page 127, he observes: "In the small-pox, if the infectious

matter be applied to a wound, an inflammation is produced in that wound, in consequence of which a fever arises; if the poison of a bee be infused into a wound made by the sting of the animal, or if the poison of any other animal be injected into a wound by its sting or tooth, an inflammation arises in the part where the wound is made, and that inflammation produces affection of the whole system, some of the symptoms of which may be similar to fever, but are not the disease intended to be described here by that name. It might happen that a great inflammation might be immediately produced in a wound into which variolous matter was infused, that such an inflammation may produce affection of the whole system in a day or two afterwards; yet that affection is by no means to be called fever, which takes place, being only induced after the suppuration of the wound is complete, which is on the seventh or eighth day. It is also to be observed that when, in consequence of a fever produced by infectious matter, some topical inflammation arises, and the fever is carried off by it, that such topical inflammation as in the small-pox produces affection of the system, in which some of the appearances are similar to some of the appearances which take place in fever: such affection of the system has frequently been called fever. In the small-pox, for instance, such affection has been called secondary fever, although it in no way has anything of the essence of the disease."

Though this opinion has been tacitly acknowledged by many, still there is no doubt that a large majority of the profession, comprising many even of the intelligent amongst us, would maintain the contrary. If we refer to all published records of this disease, we shall find the belief universal, that fever is its essential character. Dr. Cullen, to whose opinions on the nature and management of most diseases I should feel inclined with every deference to submit, in 'The First Lines of the Practice of Physic,' observes: "When the secondary fever first appears, whether it is after distinct or a confluent small-pox, it will be useful to exhibit an antimonial emetic in nauseating doses, but in such a manner as to produce vomiting." In this instance the opinion is not only clearly stated, but a mode of practice, as a natural consequence, recommended, which would immediately be pronounced as highly dangerous by those who classed these phenomena among the nervous affections. This remark, I believe, will apply to every medical authority which we have to appeal to as a guide; not only antimonial emetics, but bleeding, purging, etc., are pointed out as our resources to combat a train of symptoms, which I cannot but regard as partly the result of our own mismanagement in the early stage of the disease, and in a great measure the effect of that tremendous call, which at this period is made, not only on the powers of the constitution, but also on the equa-

nimity of the mind. It is true, that the above remedies are reserved by their proposers for the inflammatory forms of the fever, and their application cautiously recommended: but if there be any truth in the foregoing observations, we have not the malady termed fever to contend with; and it is a serious reflection, but it necessarily follows, that the adoption of any active mode of treatment could only tend to shorten existence; and that treatment which the fever, when decided to be of a typhoid character, would demand and meet with from the judicious, could at best only leave the disease and the constitution to contend for the mastery.

I must again repeat my belief, that it is of the highest importance this distinction should be made—have we or have we not fever to contend with? The following remarks on those anomalous affections which follow injuries and operations, etc., (and with which I would associate the general disturbance in confluent small-pox,) in Mr. Travers's work on constitutional irritation, clearly point out his belief in the danger which attends the medical practice, grounded on the opinion that fever is the essence of those diseases. He says,—“I am disposed to consider apart from fever or constitutional inflammation, the nervous affections, to regard them as a distinct order of morbid actions, occasionally ensuing upon injuries, upon inflammation, upon the exhaustion attending loss of blood, and upon the admission of *noxious*

matters into the circulation. I do not mean to say that such actions originate exclusively from these sources; but I select these as presenting prominent examples. Neither would I say that they may not be combined with febrile action; but if this be the case, they so far pervert or suppress the symptoms of fever, as to present a striking exception to Mr. Abernethy's observation,—‘that sympathetic fevers are indistinguishable from those not depending on injury.’ It will not, I think, be denied by experienced surgeons, that there is a large and very important class of cases in which neither the assemblage of symptoms, nor the periodical exacerbations and remissions constituting fever are present, and which, if we treat them in deference to the rules laid down for the treatment of fever, utterly disappoint and mock our efforts.”

Among the reasons which lead me to suppose, that in fatal cases of small-pox, the result is attributable to the incapability of the powers of the system, to complete the various exhausting, and to endure the painful, processes which are going on, are these: first, and chiefly, the experience that in these cases a mode of treatment may be adopted with the greatest advantage, which would be found to be highly injurious in any of the forms of fever; and secondly, the absence of one of the most distinguishing characters of fever, the suppression of the different secretions. Dr. Fordyce (to whom we are immeasurably

indebted for pointing out to us *what does not constitute fever*) observes, (p. 51,)—"Diminution of secretion takes place in fever in every part of the body." Again, (p. 64,)—"The whole secretory vessels throughout the body secrete a smaller quantity of fluids." Again, (p. 65,)—"There is a smaller quantity of feculent matter evacuated from the intestines."

From my own experience I would venture to assert, that in the different stages of small-pox, none of these appearances are to be observed. The kidneys (if we do not treat the disease as febrile) act plentifully; the bowels require very trifling assistance to procure the most satisfactory relief; and the appetite, depending, of course, on the secretion of the gastric fluid, often becomes voracious, if our medicated remedies in the early stages of the disease are selected with the view of tranquillising the system, and at the same time sustaining its powers. I have already expressed a belief that the formidable symptoms in the advanced stages of this disease are partly to be attributed to our own mismanagement at its commencement. One important consequence of strictly treating this malady as fever in its early stages, is to deprive the patient of this very appetite, this effort of nature to support him under the severest of trials; this resource is totally or partially destroyed by our very *remedies*, and the nourishment which is permitted, in no way tends to mitigate the evils;

the stomach is well known to possess a power almost magical over every portion of the body: the state of discontent above mentioned aggravates the constitutional disturbance, and a series of diseased actions in the latter stages of this malady are, by the advocates for the existence of fever, again aggravated by the employment of the very *remedies* which have in some degree contributed to produce them. If we have not fever to contend with, I believe that rule of conduct would be most excellent, which would seriously warn us to beware of offending this organ (the stomach). An author before referred to remarks,—“The effects of its disorder are more rapidly and more sensibly diffused over the system than those produced by the disorder of any other, as is seen in the great debility of the nervous, vascular, and muscular systems, ensuing upon sea qualms, and the introduction into the stomach of nauseating medicines and indigestible food; hence the stomach has been named the centre of sympathies.”

I cannot conceive myself called upon, even though condemning the practice of others, to recommend any specific remedies, as peculiarly adapted to these cases. I feel that everything which is necessary is done, in expressing my belief, that it is neither from that class of medicines, the effects of which are to weaken and subdue the powers of the system, nor from that scale of diet which is necessary when our object is to keep in check the inflammatory diathesis,

that we are to look to for assistance, but to a judicious selection of those remedies, and of that system of diet, which are best calculated to soothe and allay the disturbances, based in debility, which are met with in this disease. The cases which are subjoined faithfully describe the mode of treatment which I adopted; and I feel willing to acknowledge that this is yet "an uncultivated, if not untrodden field for intelligent observers."

I have made no allusion to those inflammatory affections (particularly of the chest and throat) which are sometimes said to be the result of small-pox. I have no doubt that morbid dissections have presented the destructive changes which have been described, but I would (to use the language of Dr. Gooch) say in answer, "that symptoms and dissections cannot settle such a question." It must be that the blood-vessels are employed in working these destructive alterations; but how far their actions are dependent upon nervous causes, appears an inquiry of the deepest interest. I feel disposed to attribute them to the effects of irritation, and are most likely to be prominent features in severe cases of this disease, where our mode of treatment has aided the mischievous tendency of the malady, instead of soothing the general disturbance into quiet. In case V., in which the throat was enormously swollen, and laryngeal and tracheal affections threatened in perfection, how immediately was this formidable con-

dition arrested by the application of the camphor round the throat, I do not exaggerate in saying that, in the space of a few hours, painful—very painful—deglutition was perfectly relieved, and the sense of taste, paralysed at that time, was as quickly restored. It is not from this single case, but from some experience, I would declare, that whatever symptoms may have hitherto presented themselves, as features of this disease in its latter stages, that neither general nor local bleedings, etc., are their remedies. I speak from observation and experience, and from the effects which, under these circumstances, remedies produce. The very physiognomy of this disease also—that source of information to us which Dr. P. M. Latham so ably insists upon in the following passage, gives this opinion no trifling support. He says, “Let me also mention the physiognomy of disease; this can never be adequately described; I urge you always to remark it, and dwell much upon it; for some acute observers have drawn such secrets from the expression of the countenance, that they have been to them in the place of all other symptoms.” In these wretched cases the expression of the countenance may certainly be lost, still the general appearance, every action, every expression of the sufferer, indicates that his strength and fortitude are taxed to the uttermost.

“Making night morning, and the noontide night;”

that so far from attempting to subdue the apparent inordinate and irregular actions of the heart by violence, I believe it to be our duty to sustain, nay, under circumstances, even to *propel*, the rapid and irregular motions of the arterial system, in order to their being equalised.

I have expressed a belief, that from a local treatment of this malady the greatest advantage may be derived. In three papers which were inserted in the "London Medical Gazette," I described the apparent good effects which followed the application of calamine as a local remedy in cases of confluent small-pox; such local treatment, I still believe, will not only prevent the process of ulceration, but will always rescue the sufferer from an infinitude of misery, and very frequently from a state of the greatest peril. The treatment consists in covering the body as completely as possible with any absorbent powder (I have generally used the calamine); the advantages which follow the use of this dressing in the early stage of this disease, are to moderate the violence of the local informations, and to prevent the painful tumefaction of the common integuments. After the calamine has been applied some hours, a very sensible difference is to be observed in the appearance of the parts so covered; the areola of each pustule being much less distinctly marked. It is not unreasonable to suppose, that even at this moment some advantage is gained by the application;

the quantity of pus secreted may by this circumstance be diminished, and a great saving made of the powers of the constitution; I do not stand alone in the pursuit of such intentions. Dr. Jenner, in a letter to Dr. Parry, of Bath, on the Influence of Artificial Eruptions, introduces the following observations:—"Let me here introduce some practical remarks upon the benefits which may be derived from sedative applications, where the pustules are formed so thick upon the cutis as to augment in a high degree the secondary fever. The principle, I must repeat, consists in mitigating the secondary commotion in the constitution, by checking the activity of the pustules which excite it. How often have I seen violent febrile irritation in the constitution, arising from carbuncle and erysipelas, entirely removed by the use of these applications! In London, some years ago, I suggested repeatedly to the late Dr. Woodville, who had such opportunities at the Small-Pox Hospital, and again to his successor, Dr. Joseph Adams, in some of those desperate cases in which fatal results must inevitably follow when the disease was left to pursue its own course, to sop the skin, or even wrap the patients in sheets wetted with Liq. Plumbi, but without exciting any practical attention. Even should this or any other mode suggested by the hints thrown out, prove successful, Nature would probably require that we should leave here and there a cluster of pustules, e.g., on a leg or

arm, or any other convenient part, to go through their course. I am aware of the injurious influence of lead, as no one as seen more of it than myself; but in cases like these we are warranted in running a risk to avoid destruction otherwise inevitable." I feel such deep respect for the character and talent of Dr. Jenner, that I almost hesitate in declaring that if I knew of any power which would arrest the eruption of small-pox in its earliest stages, I would fearlessly use it; but it is in the advanced stages of this disease that the greatest benefit is derived from this method of local treatment, particularly at that period which Sir Henry Hallford, in his *Essays and Orations*, points out as being eminently critical. In the essay entitled, 'On the Necessity of Caution in the Estimation of Symptoms in the Last Stages of some Diseases,' it is observed, that "The physician may fairly acquiesce in the fears of a family, when, on the completion of the eruption, he sees the face and breast one mass of disease, and may most reasonably doubt the capability of the constitution to maturate and perfect so large an eruption. But he must not hold out unfounded hopes to the parents, if the malady proceeds in the next stage, in a most satisfactory manner, beyond his expectations; the pustules ripening fully, and the process being complete; for, alas! at this very moment, it may be, the patient is sinking—is dead. The powers of his constitution being exhausted by the efforts it has made,

are no longer equal to the accomplishment of a protracted cure." At this crisis, too, in addition to the source of danger above mentioned, might well be added another of the greatest magnitude; viz., those large portions of exposed cutis which about this time are torturing the sufferer beyond endurance, rendering his situation so truly horrible that to exclaim—

Dî meliora piis, erroremque hostibus illum,

would be almost justifiable.*

As I said before, it is at this moment we have it in our power, not only greatly to circumscribe the field of suppuration, but to heal, on destroying the cuticle, by the process recommended, every pustule on the

* I cannot refrain from inserting here a most graphic picture of this disease in a shocking form. Sir James Brooke, the Rajah of Sarawak, in a letter dated June 28th, 1853 describing his own sufferings under confluent small-pox, says,—"For fifteen days I lay raging with fever, or shivering with the cold water which they threw over me in my bed; my mind wandering, and without sleep, lingering between life and death. My constitution triumphed over disease; and after a prolonged sleep, brought on by a dose of opium, given me by Crookshank, I awoke, sensible to the loathsome state to which I was reduced. Literally from head to foot I was seamed with this frightful disorder, and feeble as an infant. I strove to reconcile myself to the will of God, who had afflicted me. Since then I have been improving, and am now clear of the disgusting part of the disease, though I fear my friends must learn to know me under a different face to any I have yet worn towards them."

body, almost in the space of a few hours. At such a crisis, what an immeasurable advantage is gained by the exercise of such a power! the drain on the constitution may thus at our discretion be partially or completely closed. To accomplish this is, indeed, as I have experienced, a disgusting and painful task; but what difficulties will not with alacrity be encountered by the hand of duty or of friendship. By the same process, those extensive portions of exposed cutis may be rapidly healed; exclude them, also, from communication with the atmosphere, and they soon cease to be sources of irritation. I have seen patches of exposed cutis, six or eight inches in diameter, at the end of two or three days, by this treatment, no longer occasioning disturbance. If no other benefit followed than the mere relief from pain, great must still, by every feeling mind, be thought the advantage; for it is impossible to imagine the agonising sufferings of the patient from this circumstance. I have often seen every nerve of the body quivering with distress on the slightest exertion, and have as often witnessed the firmest mind sinking into a state of almost childish weakness, from the extremity of the sufferings.

It has frequently happened, particularly in medical science, that the most valuable discoveries and observations have been completely lost to us by time and circumstances. If there be any truth in the remarks which I have made on this disease, this opinion

receives ample confirmation from the fact, that in the most ancient treatise on this malady extant, written at some period in the tenth century, are preserved many of the opinions of an author who flourished three centuries before. Alluding to the local treatment of the disease, this author observes—“When the pustules are suppurated, the patient is to lie upon flour of rice, and be fumigated with myrtle and olive-leaves, which will *dry* them.” Such are the remarks of Aaron, an Egyptian writer of the seventh century. Rhazes, to whom we are indebted for a knowledge of these opinions, may, perhaps, in some degree, have contributed to their neglect; like all the ancient physicians, the local treatment of this malady he considered an important feature in its management. The variety and absurdity of many of the applications which he recommended have, in all probability, in a great measure contributed to their general disuse. The following summary of his mode of local treatment is taken from Mr. Moore’s “History of Small-pox” (p. 133):—“Fomentations and fumigations are likewise directed for the body, and *oils*, with *salt* and *alum*, to be applied. On *some occasions*, the patient is to lie on a bed strewed with flour, or with rose-leaves; on other occasions, iris-leaves are to be placed under him, and the body to be sprinkled with an aromatic powder, composed of aloes, frankincense, and other gums; these and many other applications are to prevent pitting.” Such are

the complicated and absurd applications recommended by a physician, who flourished three centuries after Aaron: from whom we received those clear and explicit directions conveyed in the following words:—“*Et cum sunt digestæ (the pustules) jaceat patiens super farina risis et fumigetur cum foliis myrti olivarumque et desiccabuntur.*”

How little this mode of local treatment has been valued, or its consequences appreciated, is made evident, by a reference to all modern publications on this disease. Mr. Moore, in his “History of Small-pox,” concludes a chapter which relates to the general and local treatment of the disease which the ancients adopted, in the following words:—“How singular! that almost every attempt made by these learned men to do good, must have done mischief. It was ages before it became established practice to leave the pustules to themselves; for to do nothing is frequently the last improvement made by physicians.” Even our systems of physic, which are supposed to contain not only the opinions of their authors, but also the established opinions of the day, observe a perfect silence on this point. Dr. Cullen, in his “First Lines,” makes no other allusion to any plan of local treatment than what the following paragraph contains:—“For avoiding the pits which frequently follow small-pox many different measures have been proposed, but none of them appear to be sufficiently certain.”

When engaged in writing the First Edition of this essay, I was scarcely alive to the full force of the above quotation, from Aaron's treatise on the small-pox; I felt disposed to smile at the sentence, "Et cum sunt, &c.;" but subsequent reflection soon impressed me with a suspicion of its real value; still further thought, and ultimately experience, have produced a conviction on my mind that those words contain a most invaluable piece of practical information. The myrtle and the olive leaf, with the ancients, were in high repute as medicines; they were administered internally by them, in hysteric diseases, conditions which I feel disposed to believe, are closely allied to that constitutional disturbance attendant on the eruptive diseases; they were also classed among the febrifuge medicines, and the former was frequently used as a substitute for the hop. No one will deny the powerful specific effects produced by the fumigations of mercury and tobacco; why should it be questioned, that the fumigations from the myrtle and the olive leaf should exert their accredited effects on the constitution, and assist in allaying the constitutional disturbance of this terrible disorder. For many years past, with the same object in view,¹ I have used the gum camphor as a local application, in a great variety of diseases. In the

¹ This somewhat extraneous matter is introduced in my own defence, for it supplied me with the grounds of my practice in these cases of small-pox.

most aggravated form of scarlet fever, in which the patient has been incapable of swallowing even a drop of liquid, I have seen the sufferer, by its application externally to the throat, soon enabled to swallow without difficulty a wine-glassful of any liquid. In cases of cholera, its application round the abdominal cavity, was always attended with the utmost relief. In that condition termed puerperal fever, its happy effects were as strongly marked. In one case of traumatic trismus, its application round the abdomen relaxed the jaw, and produced considerable abatement of symptoms, enabling the patient to swallow food and medicine with facility, in her progress towards recovery. I was led to its employment in this instance, by the recollection of an opinion held by that acute observer of disease, and most generous and eminent individual, the late Mr. Abernethy. In his Essay on the "Constitutional Origin and Treatment of Local Diseases," at page 115, will be found the following passage,—"It has been, I think, fully shown, that local irritation may disorder the digestive organs, which disorder, continuing and aggravating the affection of the sensorium, may possibly lead to the production of tetanus, at the time when the wound is no longer irritable." Mr. Swan also in his Essay on Tetanus, (page 90,) observes, "I do not mean to assert that tetanus is a specific complaint entirely seated in the ganglia of the grand sympathetic nerves, but that the ganglia are the important parts of the ner-

vous system to which the first irritation tends, and from which it proceeds to the rest of the nervous system." In five cases of phlegmasia dolens, its application gave wonderful relief. My last case was particularly striking. A lady whom I had usually attended in her confinements removed from this neighbourhood; she became pregnant; her labour was very severe, and her life at one time despaired of from excessive hæmorrhage; in a few days both legs were attacked with this severe disorder; the medical attendant pointed out its painful and tedious character, and did all in his power to alleviate her sufferings. At the end of a fortnight she was in extreme suffering, and sent for my assistance. I found her with both legs enormously swollen to the groin, hard, perfectly white, and exquisitely sensible to the least movement; her general state was truly distressing; and she had not had one hour's continued sleep for the week previous. I enveloped both limbs to the groin in a flannel roller soaked in strong spirits of camphor, (I now believe the best mode of applying the camphor to be in a solid form;) she was soon greatly relieved, and slept that night nearly five hours, and in less than five weeks she was enabled to walk without any difficulty, (purgings and the free use of calomel were necessary.) I do confess that its use in this disease was a blind and empirical practice: I feel no humiliation in the confession, and do not hesitate in expressing a belief, that empiricism, to a

certain extent, ever did and ever will assist in forming the basis of all *useful* medical practice; this opinion is capable of being supported by *acknowledged* medical authorities. In his Treatise on the "Diseases of Women and Children," Dr. Gooch says, (page 37,) "The effects of remedies on a disease, if accurately observed, form the most important part of its history; they are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar. How many diseases are there in which the symptoms are inadequate guides in cases apparently syphilitic and apparently similar; some as soon as mercury affects the mouth, begin to mend and rapidly recover; in others, the ulcers begin to spread; and so imperfect are the appearances as guides, that I have known the first surgeons in the profession giving opposite opinions, and a nose lost by taking the opinion of the majority." I venture even to express a perfect acquiescence in the following opinions of Dr. Armstrong, who, in his "Practical Illustrations of Typhus Fever," (page 564,) says, "The effects of the narcotic tribe are so infinitely diversified as to form a subject worthy of the closest inquiry. Our knowledge of the popular state of medicine is exceedingly limited, but if it were extended through different classes and countries I am fully persuaded that many highly valuable remedies would be found which have the sanction of long experience."

In corroboration of this belief that our knowledge of the state of popular medicine is important, I venture to relate an instance of a severe burn—A child, five years old, fell upon a grate containing a good fire, and received the upper bar between the lips; the effect was very severe. I was sent for, and in less than an hour found the child, who absolutely received me *smiling*, amusing herself with playthings on the floor; her mouth was terribly disfigured. The mother requested me to take charge of the child. Astonished at what I saw I asked what had been done. The white of an egg and sweet oil, well mixed in equal parts, had been applied to the abraded surface frequently, until all pain was allayed. I took the position of observer instead of director; and in the course of ten days (the application being used four or five times daily) not one vestige of the accident remained. In three cases of severe scalding, the same remarkable result has followed the application of the white of egg and sweet oil. But to return. To the effects of the camphor, in the case I was relating, I was very watchful, and very soon lost all anxiety and doubt. My first case led me to consult authorities; and I carried out in full force a recommendation of the late Dr. Denman, who advises an embrocation composed of one drachm of camphor to an ounce of olive oil. In these, and in some other deviations from the healthy state, its use was pointed out in letters, which I

addressed to the Editor of the "London Medical Gazette."* In all these cases I was struck with the general feelings of comfort, which its application produced, and its marked tendency to procure sleep; from these circumstances I became at last forcibly impressed with the belief, that I had in my possession a much more powerful and certain agent than the venerable Aaron's myrtle and olive leaves. There exists not on my part the slightest disposition to deny that from him I derived the suggestion that determined me to employ the camphor in the first severe case of confluent small-pox which I met with: I did so in the instances subjoined (Cases V. and VI.) and with the happiest effect. I do not exaggerate in saying that in Case V., for four days (the most critical, too, of any), each twenty-four hours were passed in sixteen hours of comfortable and refreshing sleep; and from past experience of the use of this remedy, I can safely assert that in this instance I had recourse to it with feelings of perfect confidence.

In Case VI. the effects of this application on the face, as observed on July 14th and August 2nd, were to my mind very important; indeed in both these cases where it was applied, it entirely prevented the formation of those warty incrustations which form, notwithstanding the use of the calamine, and which

* I have ventured to reprint some of these cases at the end of this Essay.

occasionally, though not frequently, I have reason to believe, end in the pittings of small-pox.

Thus it appears, that to heal the pustules of small-pox, by the application of any absorbent powder, was the practice of the Egyptian physicians in the seventh century. That in the tenth century the intention was not altogether forgotten, though it was complicated with such absurd and even cruel modes of treatment, as could only tend to throw the practice into disrepute, and that physicians of the few last centuries have never noticed but to object to those valuable directions given to us by Aaron: "Et cum sunt digestæ (the pustules) jaceat patiens super farina risis et fumigetur cum foliis myrti olivarumque et *desiccabuntur*;" and appear totally unacquainted with the command which the use [of such powers gives us over the most distressing and dangerous features of the complaint. Is it worthy of remark, that the external use of camphor also as a sedative application may be traced to a period still more remote than that of Aaron? In a casual reading of Professor Wilson's translations of some Hindoo Dramas, written, I think, in the fifth century, I met with the following passage,—

"The gentle pressure of her heaving bosom
Has spread delightful coolness through my frame,
As if combined upon my skin were strewed
Sandal and *Camphor*—saivala and pearls—
The lotus fibre or the moonstone's dews."

Malati and Madhava.

RECAPITULATION.

THUS, in confluent small-pox, I believe it to be fraught with dangerous consequences, to characterise the constitutional disturbance as fever, as I consider that antiphlogistic remedies are, from the commencement, positively contra-indicated. That the action of the arterial system in this disease requires to be sustained in order to its being equalised, and that any increased excitement in the progress of the malady is to be combated upon this principle, and not encountered by the use, or any modification in the use, either of the lancet or its equivalents. I cannot be understood to say, if called upon to attend a case of small-pox at its commencement, in which I found the pulse strong and contracted, etc., together with other marks of the existence of an inflammatory diathesis, that I would not bleed; such cases I should regard as exceptions to the general rule, and, I believe, seldom, if ever, to be met with; but even in such instances I should still proceed with the utmost caution, and keep a clear remembrance in mind of the general character of the disease; for brief, very brief, in my opinion, are the moments in which we can, with any degree of safety, have recourse to evacuants of *any kind*.

On the comparative merits of different medicines, I have not pretended to have arrived at any positive conclusion ; those which I selected are mentioned in the cases detailed at the end of this work ; and that others might be chosen from the same class which would be found equally, if not more efficacious, I am willing to acknowledge. That to cover the surface of the body, on the commencement of the disease, is to prevent the painful tumefaction of the common integuments, and in no trifling degree to control the violence of the local inflammations ; that when the pustules are fully ripened, you may, by partially destroying the cuticle of each, completely heal them, —the attached cuticle shrivelling, and in a few days falling off, leaving the skin perfectly smooth ; that unless the surface is again covered with the powder, an incrustation forms on the site of each pustule, which, on being removed, exposes a slight depression, that I have strong reason to believe in time wears away. That where from neglect of this practice at the commencement large portions of exposed cutis are to be met with, they also may be healed in the space of a few hours, or at least completely deprived of their *sensibility*, by this application. That the advantages attendant on this mode of local treatment are—

1st. It prevents those deformities occasioned by ulceration of the skin.

2ndly. It rescues the patient from those sources

of danger to which, from the eighth day, he is exposed; the consequences of the powers of the system being in a great degree exhausted, though distressing processes still require completion; and from being subjected to those agonising sufferings which an exposed cutis uniformly produces; that in truth at this moment he is rescued from a condition which I believe has occasioned the destruction of thousands of our fellow-creatures.

3rdly. That in addition to these advantages (pointed out in my first edition of this essay) I now believe that camphor, as a remedial power, will be found eminently useful in the treatment of this disease; whether it be used generally or locally. That from the commencement of the attack its use in the form of powder scattered between the bed-clothes, (as in Case V.), would afford more real comfort than all the "balmy syrups of the East" administered in any form; and it is my firm belief, that by its use in this stage even the number of pustules would be greatly decreased. That its local application to the throat (as in Case V.) subdues those laryngeal and pharyngeal conditions which greatly augment the patient's sufferings, and not unfrequently lead to a fatal termination of the disease. That its local application after the tenth day (to the face in particular) will arrest those warty formations that lead to modified disfigurement, and which the use of an absorbent powder alone, does not seem to possess the power of preventing.

I again conclude these observations on the Small-Pox,—important certainly,—and I again leave them open for consideration on minor points, either to my own opportunities, or to the observations of others, who might modify or extend them. To the question—Why not await their maturity? I would answer, “A length of time must still, from circumstances, elapse before such could be the case. In the interval (if there be any truth in them) lives will be lost, as they have been lost, and unnecessary sufferings endured as they have been endured, which I believe will be spared and alleviated, if these suggestions at last meet with the countenance which I cannot help feeling they deserve; and I am free to acknowledge—

‘I do not love to see misery o’ercharged.’

Intellects, too, more cultivated, and minds more acute and more observant than my own, might perhaps assist in giving to them a “local habitation and a name.” Believing in their truth, and almost fearing the correctness of the following observation, that—

“What in the captain’s but a choleric word,
Is in the soldier downright blasphemy,”

I feel satisfied in having accomplished a task which duty dictates, in having done—

“As you have done, that’s what I can; induced
As you have been, that’s for my country;
He that has but effected his good will
Hath overta’en mine act.”

CASES

ILLUSTRATING OPINIONS CONTAINED IN THIS WORK.

FIRST PUBLISHED IN THE "LONDON MEDICAL GAZETTE."



CASE I.

To the Editor of the London Medical Gazette.

SIR,

Though since the introduction of vaccination, small-pox has ceased to be the general scourge it was formerly, still instances of that loathsome disease occur occasionally; and it must be satisfactory to the profession to be in possession of an expedient which may deprive the disease of half its ill consequences, by preventing its disfiguring effects. It may be a satisfaction, and perhaps an argument in favour of vaccination, to know, that even inoculation itself will occasionally fail, in protecting a person from a recurrence of the disease in its most virulent form. As the subject of the present paper, though he had been inoculated in his infancy, took the disease, I trust that the experience of others will

confirm the following statement. It is not my intention to enter into a detail of the constitutional management of the case, but to explain the manner in which the disease was treated locally, and with what consequences.

About the tenth day, my patient (aged twenty-four) was much exhausted by his disease; the cuticle, from adhering to the bed-clothes, was abraded to the extent of six or seven inches on each hip, and to the same extent in each ham and on the back. I covered the exposed surfaces, and kept them constantly covered with the prepared calamine. In four days at farthest the cuticle was everywhere restored, the pulse became quiet, the appetite returned, and the man recovered more rapidly than usual. There is not a single pit to be observed on those parts where the cuticle was so extensively removed, and even the immediate surrounding pustules, which unavoidably were covered with the powder, have not destroyed the cutis. I will not pretend to say that any very elaborate train of reasoning led to the adoption of this plan, nor will I admit that it was adopted without reflection. I have frequently thought that any successful mode of local treatment would disarm the malady of half its loathsomeness, and, as a consequence, would control the constitutional disturbance. The immense surface of exposed cutis, the discharge, the exquisite sensibility, all reminded me of the appearance and effects

of a scald; and, reasoning by analogy, I tried the same mode of treatment with the good consequences above stated.

H. GEORGE,
Surgeon.

22, Lower Phillimore Place,
Kensington; April, 1831.

CASE II.

To the Editor of the London Medical Gazette.

SIR,

The subject of the present paper is a little girl in Kensington Workhouse, aged seven years. After struggling severely for two or three days, the eruption appeared. On the third day of the eruption I first saw her; it was confluent on the face and many parts of the body; and where the eruption was most distinct, the pustules were very numerous. I punctured many of them with a lancet, and covered them with the calamine. On the following day, April 26th, I found the pustules had filled again; the constitutional disturbance was very great. With a pair of scissors I imperfectly removed the cuticle from many of the pustules, and again applied the calamine.

April 27th.—The child is suffering severely from the disease. Wherever the cutis has been exposed, and covered with the calamine, a scab had formed;

but in each pustule the cuticle that remained had attached itself to the cutis, forming pustules of various size and form filled with lymph; and most of them, where the cuticle, from the shape of the pock, had only been removed in the centre, formed a pustule, with healthy cutis in the middle, and went on to maturation; one large pustule, being entirely abraded of its cuticle, has healed, and left the skin perfectly sound.

28th.—From many of the pustules I again removed the epidermis, and covered them with the calamine, also directing that the powder should be constantly applied to the whole arm, leaving the pustules undisturbed; observing that those in the neighbourhood of the part where I had destroyed the cuticle had lost the efflorescence which surrounded their base.

29th.—Child tolerably well; all the pustules which were destroyed yesterday have put on the same appearance as described on the 27th; the efflorescence surrounding the base of each pustule much less distinct.

30th.—The efflorescence surrounding the base of each pustule on the arm on which the calamine was applied, has entirely disappeared.

May 1st.—The child going on well; many pustules and confluent patches were dressed yesterday by the mother of the child, with this different result—the scab has formed as usual, but the remaining cuticle,

instead of forming irregular-shaped pustules, is shrivelled, but as yet is attached to the cutis.

3rd.—No suppurative process is now going on on any part of the body, excepting on the hands and on the soles of the feet, where the pustules are allowed to proceed undisturbed: the child has slept soundly through the night; her appetite has returned.

4th.—The child convalescent, with craving appetite.

9th.—The child continues well; many pustules still remaining on the soles of the feet and on the hands.

13th.—The child continues well; some pustules are still remaining.

From the above statement it should appear:—

First. If you carefully remove all the cuticle of the pustule in its early stage, and apply the calamine, you completely arrest its progress; and if any portion of the cuticle remains, that it attaches itself to the cutis, forming an irregular-shaped pustule, which goes on to maturation: does this argue the vitality of the epidermis?

Second. The effect which the calamine had in completely effacing the efflorescence from the base of each pustule, would lead me, on any other occasion, to apply it over the whole surface of the body, from the commencement of the disease, in the hope that, from its controlling the violence of the local actions, the disease would not only be mitigated, but that the

expedient would also assist in preventing the destruction of the cutis. I am inclined to believe that nothing but the tediousness of the process would prevent our arresting the malady at the very commencement; for I cannot but consider this disease as strictly local in its character—as a disease, in fact, of the skin; that the constitutional disturbance presents throughout the phenomena of constitutional irritation; and that the aggravated disturbance which occurs about the ninth or tenth day, and which has been hitherto denominated the secondary fever, is merely an increase of constitutional suffering from a continuance of local irritation. What a striking instance of the effects of bodily pain (without any extensive suppurative process going forward) on the various functions of the body, has Mr. Travers given us in his last publication; and I believe I cannot do better than conclude by quoting, from the first section of his third chapter—that “pain, when amounting to a certain degree of intensity and duration, is of itself destructive.”

I am, Sir,

Your obedient servant,

HENRY GEORGE.

Surgeon.

Kensington: May 13th, 1831.

CASE III.

To the Editor of the London Medical Gazette.

SIR,

In communications which I made to you a few months ago, I expressed a belief that the aggravation of disease, which in cases of confluent small-pox occurs from the ninth to the twelfth day, is attributable to the demand made on the powers of the system for the completion of the extensive suppurating processes going on, and the irritation produced by the exposure of large portions of the cutis to atmospheric influence: the following case, which I offer for insertion in your Gazette, though fatal in its termination, appears to me to corroborate the opinion.

John Grimsley, aged 40, on the 16th of February was seized with rigor and sickness, etc.: on the morning of the 18th an eruption appeared on his forehead and limbs; he was removed to Kensington Workhouse: on the 21st I first saw him: the face was much swollen, and covered with the eruption of small-pox, in the confluent form, over the whole surface of the body, excepting the abdomen: the pustules were innumerable; large, livid patches of eruption were to be seen here and there. Such was his general appearance. His bowels were soluble; his urine plentiful; his mind collected; pulse 110;

his throat dreadfully sore, swallowing with the greatest difficulty. With the view of ascertaining whether the swelling about the face would be diminished by the application of the calamine, I covered with it the forehead and one half of the face, and ordered the following medicines; allowing him for diet, milk, tea, broth, etc., and at his earnest request half a pint of porter.

R Liq. Ammon. Acet. ʒjss; S. Æther. Nit. ʒiij; Sp. Amm. comp. ʒjss; Tr. Hyos. ʒij; Mist. Camph. ʒiijss. M. ft. Mist. 4tam part. 6tis horis.

R Hyd. Sub. gr. ij; P. jalap. gr. viij; M. ft. pulv. h. s. s.

22d.—Where the calamine is applied to the face, the swelling is much diminished; the tongue is covered with pustules; pulse 116; expresses himself confidently; the powder operated violently; great flatulence in the abdomen, with distension; urine plentiful; great discharge of viscid saliva; frequent cough. Allowed him in addition a glass of wine.

Rep. Mistur. cum addit. Conf. Arom. Div.

R P. Ipecac. comp. gr. x; ft. pul. h. s. s.

23rd.—Passed a comfortable day yesterday, taking plenty of nourishment; his night was very restless,—was delirious; fell asleep, and is now collected and composed. The face one mask of eruption; but that portion covered with the calamine much less swollen; urine plentiful; pulse 120.

Rep. Mist. sed add. Amm. Carb. ʒss; loco Sp. Amm. c. Pulv. Laxat. h. s. s.

24th.—Passed a tolerable day yesterday, but his night was very restless, delirious, but again fell asleep towards morning, and is now collected and composed. The whole body since yesterday has been kept covered with the calamine; bowels twice relieved; gave him an additional half-pint of porter.

R Amm. Carbon. ℥j; Sp. Æther. Nit. ℥ss; Tr. Hyoscyam. ʒij; Tr. Cinch. comp. ℥ss; Decoct. Cinchon. ʒjvss. Mr. ft. Mist. cujus cap. 4tam. part. 6tis horis.

25th.—Passed a comfortable day yesterday; slept the whole night; appears in every respect better; the confluent patches of eruption noticed in the early stage of the disease not to be observed now; the parts are dry and florid.

Cont. Mistur.

R Liq. Opii. Sed. gtt. xx; Inf. Rosæ, ʒx; Tr. Card. c. ʒj. M. ft. L. h. s. s.

26th.—Going on well; the cuticle of each pustule appears thickened, and little pus to be found in any of them.

Contin. Mistur. et haust. Anod.

27th.—Passed a comfortable night; is tranquil and composed, *complains* of hunger, but is incapable of swallowing anything but liquids; a hurried attempt to drink a wine-glassful of porter nearly produced suffocation; from the effort an incredible quantity of viscid saliva was discharged, which enabled him to

swallow with comparative comfort. Pulse quick and weak; urine plentiful.

Contin. Medic.

28th.—Slept almost the whole night; general appearances as yesterday.

Rep. Mistur.

R Decoct. Aloes. c. ʒx; Tr. Sennæ, ʒjss; Sp. Æther. Nit. ʒj; Aq. Puræ, ʒij. M. ft. L. mane primo s.

March 1st.—Slept well; no swelling of the extremities; bowels relieved; every broken pustule on the body healed; (the calamine has been constantly applied); expresses himself confidently; urine plentiful; appetite good; pulse quick and weak.

R Ext. Cinchon. ʒij; Ammon. Carb. ʒj; Tr. Hyos. ʒij; Decoct. Cinch. ʒv; Tr. Cinch. c. ʒss. M. ft. Mist. Cap. 4tam part. 6tis horis. Rep. Haust. Anod. Lax.

2nd.—Going on well; is collected; pulse quick and weak; no relief from the bowels; given an injection.

Contin. Mistur.

3rd.—Slept almost the whole night; complains of hunger, but is unable to gratify it. Pulse quick and weak; mind steady; every broken pustule is healed. With a pair of dissecting forceps, I was two hours engaged in separating the cuticle from the pustules: this might have been done some days ago, but I

shrunk from the task. Twenty-four hours' such labour would, in all probability, have destroyed every pustule on the body: such a proceeding requires a very friendly or a very mercenary hand.

Contin. Medic.

P.M.—No relief from the bowels since the 1st. Gave an injection, and ordered the usual laxative draught to be given early in the morning, unless the bowels were relieved.

4th.—The aperient draught (which was given) has produced five liquid motions. He is restless; his extremities cold; his pulse very feeble; his mind wandering, but still answers collectedly to any question: when left to himself it is that the functions of the brain fail him. I tried to remove some of the incrustations from the face, and succeeded with such unexpected ease that I exposed (without causing a complaint) the cutis of the whole face, and covered it with the calamine. To prevent any more purging, I gave him twenty drops of laudanum in brandy and water.

10 o'clock, P.M.—Dead. The whole surface has been kept constantly covered with calamine to this hour.

The general appearance of the body is extraordinary. Countless pustules remain; the cuticle of each thickened, tough, and containing little or no pus; four points or dots of matter are to be seen

lying on the cutis. I may say countless pustules are to be seen perfectly healed, and there is not an *ulcerating* spot anywhere. The legs are not, nor ever have been, swollen. Though large confluent patches are to be seen everywhere, it is curious to observe how distinct the eruption keeps in other parts, though the pustules everywhere almost touch each other. This morning the florid colour of the whole surface was very striking; even those livid patches noticed in the early stage are perfectly healed and red. I cannot but refer these healthful (if I may use the expression) appearances to the generous and stimulating diet allowed, and to the medicines employed. I cannot but refer his death to the action of the purgative. I made no post-mortem examination, under a belief that morbid dissections cannot determine such a question.

There are some peculiarities attending this case, which I can neither refrain from again noticing, nor can offer any probable conclusions as deducible from them. First, the absence of pus in the majority of the pustules in the advanced stage of the disease; and, second, the thickened state of the cuticle of each pustule at that period.

The existence of appetite to the last, which was even painful from his inability to gratify it; the due, and even increased secretion from the kidneys; the refreshing natural sleep which he often obtained; the moist and expanded state of tongue—are all circum-

stances opposed to the belief that the constitutional disturbance is fever in this disease, particularly when we consider the kind of diet allowed, and the course of medicine employed from the commencement of the attack, which in cases of fever, even of the typhoid character, would have quickly led to the loss of life, or the immediate embarrassment of any organ failing in its function.

I am induced to believe that this poor fellow's life was considerably lengthened by the remedies employed; and, in all probability, would have been saved had not his mouth and fauces been so thickly covered with the eruption.

HENRY GEORGE.

Phillimore Place, Kensington:

July 7th, 1832.

To the Editor of the London Medical Gazette.

SIR,

The following case is partly related from memory, but the general statement is correct. It paints a horrid scene, but no language could adequately describe the patient's sufferings and struggles. He had certainly more than twelve epileptic paroxysms in the progress of the disease.

I am, Sir,

Yours most obediently,

HENRY GEORGE.

Phillimore Place, Kensington:

August 10th, 1833.

CASE IV.

A gentleman, twenty-one years of age, on the 27th of June, felt severely indisposed; suffering from rigors, intense pain in the head and back. Early in the evening of the 28th, some spots were observed about the face and body. He retired to bed, passed a wretched night, and on the morning of the 29th I first saw him. His mind was wandering; his limbs and voice tremulous; his tongue dry, and covered with a brownish-red crust; his pulse 120; his face was swelled, and covered with small-pox pustules; his bowels had been relieved, and he had voided plenty of urine. The nourishment to consist of beef-tea, arrow-root, &c., and I directed the following medicines:

R Liq. Amm. Acet. ʒiij; Amm. Carb. gr. iij; Sp. Ether. Nit. ʒss; Tinct. Hyos. ʒss; Aq. Puræ, ʒj. M. f. haust. 6tis horis sumend.

June 30th.—Had passed a tolerable night, about four hours' sleep; takes his nourishment; the face is much more swelled, and is one mass of eruption. Bowels open.

Cont. omnia.

July 1st.—Yesterday was passed in great restlessness and agitation. His appearance is now frightful; the whole surface of the body, with the exception of the abdomen, one mass of eruption, and, excepting a

small space on each temple, there is not the least portion of sound cuticle to be seen over the whole face; the ears also are covered with the eruption, and the whole skin of a dark livid colour. Early this morning he had a violent epileptic paroxysm, which lasted some time, requiring five persons to restrain him. On the cessation of the fit, I endeavoured to administer an enema containing two drachms of laudanum, but owing to the violence of his struggles one-half of it was lost. I directed the following medicine to be given, and ordered wine-whey, beef-tea, &c., for his nourishment:—

R Amm. Carb. ʒss; Acid. Cit. ʒss; P. Ipec. comp. gr. xij;
Sp. Ether. Nit. ʒij; Aq. Puræ, ʒiij. M. f. cap. dim.
stat. et post hor. 3 repet.

10 o'clock, P.M.—Has taken plenty of nourishment—taken it even with avidity. Has had another fit. Has slept a little. His appearance now is truly distressing: trembling every limb, conscious of your presence, recognising every one, but rambling and talking in all the wildness of furious insanity. Has passed plenty of nervous urine; pulse very rapid; skin hot and moist. I succeeded in injecting an enema containing two drachms of laudanum, and directed the wine-whey, with beef-tea, to be given frequently during the night.

2nd.—Had four hours' sleep in the night; is more tranquil, but still very much disturbed. Passed

plenty of urine. Administered a soap injection, and continued his nourishment.

10 o'clock, P.M.—The bowels have been relieved twice. No alteration in symptoms. Repeated the injection, with two drachms of laudanum.

3rd.—Has had some sleep in the course of the night. Retention of urine, the bladder reaching to the umbilicus; introduced the catheter. Continued his nourishment, covered the whole body with the calamine, and ordered the following medicine:

R Ammon. Carb., Acid. Citric. āā gr. xv; Sp. Ether. Nit.
3ss; Tr. Cinch. c. ʒj; Tr. Opii, gtt. vj; Aq. Puræ, ʒx.
M. f. haust. 6tis horis.

10 o'clock, P.M.—Introduced the catheter. Another fit has occurred during the day.

I will pass over the following six days. The medicines were continued, and castor-oil or rhubarb occasionally given. I was compelled to use the catheter night and morning, until the morning of the 6th; and on the 7th an attack of diarrhœa was restrained by the use of chalk and opium. In this interval, it was necessary to watch him closely, as he showed every disposition to destroy himself. On the 5th his abdomen had become tympanitic.

9th, 10 o'clock, A.M.—Had a violent epileptic paroxysm in the night; presents at this moment the most horrid spectacle that can be imagined; lies, and while lying, trembles from head to foot; his counte-

nance suspiciously wild, and expressive of the darkest intentions; recognises every one, and answers collectedly to any question, but his mind immediately wanders. Has not closed his eyes for two nights and days; urine plentiful; bowels open; innumerable pustules have been opened by his parents and attendants, and are now healed. There is not the smallest portion of exposed cutis to be seen any where. There is no swelling of the extremities, and the face, which has been completely peeled of its cuticle, (this was accomplished without difficulty, and occasioned scarcely any suffering,) is not at all swelled. The eyes are now open, and the incrustations formed by the powder are now in places falling off, exposing a perfectly smooth skin. A considerable abscess under each great toe, and one heel has been opened, discharging thin putrid matter mixed with blood: the smell was dreadful. I directed ten grains of soap and opium pill to be given immediately, and four grains to be given every two hours until sleep was procured, continuing his nourishment, which, for the last two or three days, had consisted of strong beef-tea, egg and wine, ale, &c.

10th, 9 o'clock, A.M.—Has taken ten of the pills; has passed a more tranquil night; the *trembling* has ceased; gave a desert-spoonful of castor-oil; continued his nourishment, and the draughts with ammonia, &c., nearly as before.

I will now pass on to the 24th. During this

interval, many of the usual difficulties were encountered. At his earnest request, animal food has been allowed him daily. The following circumstances I relate entirely from memory; any inaccuracy can only relate to time (a day or so). On the 14th, the incrustations formed by the powder on the face had been totally removed, leaving the skin perfectly smooth, having a florid appearance, and, but for the expression of the eye, his countenance was healthful. From this time to the present, incrustations have been forming on the site of each pustule, and on removing them slight depressions are to be observed: these, I have no doubt, will gradually disappear. The error, I believe, was in removing the incrustations as they loosened, instead of applying more calamine and still longer excluding the atmosphere. I had forgotten his face, from my anxiety for his life: all this was done by his attendants, and the face rubbed over with oil without my observing it. Yesterday, circumstances induced me to administer some purgative medicine: it operated twice. Immediately after the second operation, which was liquid, he had a most violent fit. A consultation with an eminent physician followed; and the following medicines were ordered:

R Muriat. Morphæ, gr. j; Aoid. Muriat. gtt. j; Aquæ
Distill. ʒj. M. f. solut.

R Solut. Morph. gtt. x; Decoct. Cinch. ʒx; Tr. ejusd. ʒj.
M. f. haust. 6tis horis.

26th.—We again met in consultation. There had

been no return of the fits, but he was restless; little or no sleep; the urine, which hitherto has been so copious, is now very scanty, and depositing largely.

R Ferri Carbon. ʒss; Aq. Puræ, ʒx. M. f. haust. 6tis horis.

27th.—Appears going on well; has passed plenty of urine.

August 5th.—He has gone on with the carbonate of iron, the dose of which has been increased to two scruples. Has had no fit; has been gaining strength, and even flesh; his bowels have acted daily without medicine, and the urine has been plentiful. His appetite very keen, which has been indulged; his mind much stronger, but he is still occasionally rambling, and very irritable.

22nd.—Has had no fit. Has gained flesh and strength; but his mind is very unsettled; it was determined to separate him entirely from his relations, and remove him to a lodging at some distance. The carbonate of iron has been continued to this day.

25th.—The change appears to have increased his irritability; he has taken great antipathy to his attendant. Yesterday he refused all food, had no sleep in the night, and is this morning a most pitiable object; his fingers are rigid, his skin cold and clammy, pulse quick, universal tremor, &c.

R Amm. Carb. gr. x; Sp. Ether. Nit. ʒij; Tr. Opii, gtt. 40; Tr. Auran. ʒij; Aq. Puræ, ʒijss. M. f. Mist. cap. dim. stat. et post hor. ij, repet.

26th.—Took plenty of nourishment yesterday; slept well; is more tranquil this morning. The following draughts were ordered yesterday afternoon, and have been continued.

R Amm. Carb. gr. vj; Sp. Ether. Nit. ʒj; Tinct. Hyos. ʒss;
Aq. Puræ, ʒx. M. f. haust. 6tis horis.

27th.—Much improved.

28th.—A consultation again took place; the following alteration was made in his plan of management: his wine was discontinued, (usually four or five glasses,) and the following medicines to be given:

R Ext. Hyos. gr. iij; Gum Camp. gr. j; Ext. Colci. gr. j.
M. f. pil. h. s. s.

R Sp. Ether. Nit. ʒj; Tr. Hyos. gtt. xx; Mist. Camp. ʒv;
Inf. Senna. ʒvj. M. f. haust. ter die.

30th.—Has been very restless through the night. This morning there has been violent flushing of the face; he is now pale, cold, a degree of stupor hanging over him; very dilated pupil; cannot tell the hour, and seems unconscious of your presence; pulse very quick; he does not now walk erect; in moving, his motions are very hurried, and his body considerably bent. He has had three motions daily the last two days, and passed plenty of urine. I immediately directed the following medicine, and ordered his wine to be given him.

R Amm. Carb. gr. vj; Sp. Ether. Nit. ʒj; Tr. Hyos. ʒss;
Auran. ʒj; Aq. Puræ, ʒx. M. f. haust. 6tis horis.

R Ext. Hyos. gr. iij; Pil, Rhœi c. gr. vj; Ol. Carui, gtt. j.
M. f. Pil. ij, h. s. s.

Sept. 2nd.—Is considerably better; his nights have been passed quietly; is tranquil; his bowels regular. He yesterday read some passages in the newspaper correctly; is tractable with, and even thankful to, his attendant.

Contin. Omnia,

Aug., 1852.—This gentleman has been for many years in perfect health, not at all disfigured by the disease.

CASE V.

To the Editor of the Medical Times and Gazette.

July, 3, 1852

SIR,

Some years ago, the Editor of the 'London Medical Gazette' kindly inserted in that publication three cases of confluent small-pox, in which I pointed out the great benefits which followed a peculiar mode of local treatment. If the value of the discovery (for certainly it was one) is to be estimated by the amount of human suffering saved, and by the consequent decrease of danger in this terrible malady, my subsequent experience does not in any way depreciate its claim. There is a peculiar feature in the following case, which leads me to beg its insertion in your valuable publication. Aaron, an Alexandrian Jew,

and an accomplished physician, the very earliest author on this disease, in his "Treatise on the Small-pox," has the following passage: "Et cum sunt digestæ (the pustules) jaceat patiens super farina risis et fumigetur cum foliis myrti olivarumque et desiccabuntur." In the use of the camphor I believe I have substituted one soothing atmosphere for another, and do assure you that I found its benefit far exceeding any expectation that I could have formed.

I am, &c.

HENRY GEORGE.

4, *Hornton Villas, Kensington.*

After two or three days of severe indisposition, the eruption of small-pox appeared, (May 4th.) The subject of the disease was a young lady, whose age was about twenty-four years; the constitutional symptoms ran high, and the appearance of the surface of the body indicated a very formidable seizure. The whole surface of the body was directed to be frequently covered with hair powder, (some being at hand,) and medicines calculated to soothe the general disturbance were ordered; the diet permitted was broth, &c., with slight cordials. I left her under the care of my son, occasionally paying a visit. On the 11th of May, at 5, A.M., he requested me to accompany him to her residence, for her parents had sent to him a message that she was dying. I found her indeed in a most precarious state, her appearance

very distressing, not a feature to be recognised, the eyelids perfectly closed and the throat enormously swollen, even as low as to the clavicles, so as nearly to be on a level with the lower edge of the inferior maxillary bone; the body also, and the arms and legs, were one mass of eruption; she was now collected when spoken to, but had been perfectly sleepless, agitated, and delirious through the night; her pulse was scarcely to be counted, felt herself sinking; the deglutition was extremely painful and difficult; the three preceding nights had been passed with little or no sleep. I ordered directly a small injection, containing one drachm of laudanum. I covered the throat with jewellers' cotton, well sprinkled with finely powdered camphor; and half an ounce of the same material was scattered over the bed, between the sheets; her diet to consist of beef-tea; gruel with brandy, &c., to be given in moderate quantities and at short intervals; the medicine ordered was ammonia, with extract and decoction of bark, and a little Battley's sedative every six hours. 11 A.M. Fast asleep, breathing quietly. 4 P.M. Awoke once, composed and much refreshed; took some caudle; is again asleep. 9 P.M. Has taken nourishment twice; is very cheerful; and declares to feelings of perfect comfort.

Cont. Omnia.

12th.—Slept nearly the whole night; has taken

plenty of nourishment; the throat scarcely swollen; deglutition not at all painful; sense of taste restored which was perfectly lost. When I look back to her condition yesterday, I am almost surprised at the change. I renewed the camphor in the bed; continued the medicine; her diet still to be generous.

9 P.M.—Has slept a great deal; is desirous of food, and is perfectly free from any kind of pain.

Cont. Omnia.

13th.—Has passed another comfortable night; makes no complaint; the medicine and diet to be continued; the camphor was renewed.

18th.—Has been recovering rapidly; the hair-powder has all along been assiduously applied; all the pustules are healed; the eyes have been open some time, and the features perfectly natural; innumerable as the pustules are, they are all distinct; I have cleared the face of all incrustation; the bark medicine has been continued; the bowels regulated with colocynth and rhubarb pill, and the diet is now partly solid.

24th.—Is convalescent; no change has been made in the plan of treatment.

June 20th.—Is quite well; the bark medicine was discontinued on the 26th of May.

[N.B.—About the end of June the throat of this young person presented the following appearance:

all around as low as to the clavicles the skin was its natural colour, a ruler would have defined the margin of the handkerchief which encircled the throat with the powdered camphor; her back immediately below the margin was covered with vivid marks of numberless pustules. This circumstance led me to use this application to the face in the following instance.

H. G.]

CASE VI.

Anne Minter, *æt.* 19. The eruption of small-pox appeared on the morning of July 7th, 1852, after four days of severe illness; I ordered some ammoniated saline medicine with henbane, and opened the bowels.

July 8th.—Is very tolerable this morning; the eruption rather plentiful, is perfectly distinct on the body, but confluent on the face, which is much swollen; I covered one half the face with wadding well sprinkled with powdered camphor, over which I placed some oil-silk. I made an addition to the medicine of decoction of bark, broth, &c., for diet.

10th.—Had a very restless night; complains much of headach; is very hot; is excessively weak; a dark erysipelatous blush occupies the forehead and the eyelids, which are much swollen; she slept close to an open window; the whole face and body have been covered with the calamine, and I still continue the

camphor to one half the face; I ordered the extract and decoction of bark with ammonia every six hours. Wine to be allowed and plenty of beef-tea.

11th.—Passed a tolerable night; is certainly much better; the erysipelatous inflammation stopped, and the colour of the skin much less livid.

Cont. Omnia.

12th.—Slept the whole night; is very comfortable this morning; the camphor and calamine have been constantly applied.

Cont. Omnia.

14th.—Slept well, appetite good, in every respect comfortable. At this moment she presents a curious appearance; that side of the face covered with the camphor is perfectly clear, excepting one little spot; the opposite side is covered with warty incrustations, which are dropping off. I smiled at her remarking, "that she wished I had applied the camphor over the whole face."

22nd.—This girl is perfectly well, her strength apparently but little diminished.

August 2nd.—Continues well; on the side over which the camphor was applied, the remains of the pustules are scarcely visible, and no pitting whatever exists. On the opposite side the areolæ of the pustules are still broad and visible, and here and there some slight indentation exists on the skin; some of these areolæ are covered with a slight exudation.

I could detail many cases of greater and less severity, which have occurred in my practice during the last twenty years, but their repetition would be tedious; I have selected those which appear to me to present some point of interest; and I can safely aver that in no one instance was the constitution seriously shaken by the disease, and in many, where dyspeptic and hepatic errors had existed, their general health was much improved by the plan of treatment adopted.

PAPERS INSERTED IN THE LONDON
MEDICAL GAZETTE.

ON

THE USE OF CAMPHOR AS A LOCAL APPLICATION.

CASE I.

To the Editor of the London Medical Gazette.

SIR,

I have been accustomed for some few years back, in cases of croup, to apply externally to the throat, on flannel, a strong solution of camphor in spirits of wine.

Sp. Vin. Rec. \bar{z} j ; Gum. Camph. \bar{z} ss.

The effect of the application has been to allay almost instantaneously the spasmodic action, and to afford convenient time for the exhibition of constitutional remedies. I saw the application give immediate relief in the case of a child, between four and five years of age, where the attacks of spasm were very frequent, and so violent as to force the little sufferer, in his struggle for existence, to leap with almost supernatural strength from his bed to the ground. I have used the same application in irrita-

tion of the trachea, with decided benefit; and in one instance, by its immediate application, have rescued a patient from attacks, which had often previously threatened her with consumption in their progress. I have lately applied it over the whole abdomen with decided benefit in two cases, in which, from the continued and improper use of mercurial and purgative medicines, the gastric nerves had acquired such exquisite morbid sensibility as produced, in certain stages of the digestive process, a degree of constitutional irritation that temporarily deranged every function of the body, and led in one instance to a slight apoplectic seizure. The marked and immediate benefit its application produced in a case of puerperal fever, leads me to offer you its history somewhat in detail.

A woman, about thirty years of age, in the eighth month of her pregnancy, received a severe kick from a horse in the abdomen. A great deal of indisposition followed, but labour did not commence until the natural period: the patient was under the care of the parish midwife from the commencement of her labour until the fourth day. The pains had been constant and severe, but ineffectual; the waters were discharged, whether by accident or design I never could discover.

On my first visit, I found the os uteri dilated, so as to admit two fingers, the child's head presenting, resting on the brim of the pelvis. I advised her to

remain quiet, to discontinue stimulants and exertion, both of which had been used without mercy. In twenty-four hours the child's head had made some little progress through the pelvis. As her powers did not appear to be greatly diminished, I still declined interfering. From the time I left her, her sufferings became tremendous; dreadful cramps seized her limbs on the accession of each uterine pain, checking its power and duration. Such had been the state of things for some hours. On my next visit, I found the head of the child was advanced to about the centre of the pelvis; the woman was much exhausted; pulse 120. The ergot of rye was now administered with very good effect, as, on my next visit, (the interval about three hours,) I found the head of the child had so far advanced as to leave a space that would easily admit my finger between it and the perinæum. In a short time the pains again decreased in strength and frequency. The exhausted and suffering state of my patient led me to determine on the immediate application of the forceps, and I extracted a child, which I had every reason to suppose had been dead about a fortnight. Nothing unusual occurred until the night of the second day subsequent to her delivery, when she had frequent vomitings, with intense pain in the abdomen, which gradually became tumid and exquisitely tender. I was not made acquainted with this change until the morning. I found her with the abdomen as distended as before

delivery; great prostration of the vital and voluntary powers; pallid countenance, marked by inexpressible anxiety and suffering; pulse ranging between 130 and 140, not easily compressible; apparently choked with flatulence, which appeared occasionally to induce vomiting, that aggravated her sufferings dreadfully; no rigor had ushered in the attack. The following medicines were ordered her, and a piece of flannel, which covered the whole abdomen, loins, and part of the back, was soaked with the embrocation.

R Pulv. Rhei. ℥j; Aquæ Puræ, q. s. ft. Pilul. ij; stat. sumend.—4ta quaque hor. rep.

R Potass. Carbon. ʒss; Sp. Ether. Nit. ʒj; Tr. Hyos. ʒss; Tr. Amm. c. gtt. xxv; Mist. Camph. ʒj. M. ft. haust. 4ta quaque hora sumend. c. suc. limon.

R Camph. Gum. ʒij; Sp. Vin. Rect. ʒiv; Tr. Opii, ʒij. M. ft. Embroc.

In about two hours from the application of the remedies, she fell into that frightful state of nervous disorder, of which Dr. Armstrong has given us such a vivid picture in his "Treatise on the Puerperal Fever;" he says, "the light wanderings of the mind were succeeded by a low muttering delirium, speedily followed by a stupor, in which the patients lay with their eyes half closed, and could not be roused from it but by loud speaking, upon which they started as from a disturbed sleep, uttered some vague and hasty expressions, and then sank into the same condition as before." The attendants, alarmed at this alteration, sent for me. A gentleman residing with me

visited her in my absence, and abstracted about twelve ounces of blood, which was strongly buffed and cupped. She gradually recovered from this state of stupor, and he left her with the abdomen dreadfully tender, and as prominent as before delivery; the pulse ranging at 130.

I again visited her in about three hours: during this interval the embrocation had been reapplied. I found the swelling of the abdomen perfectly subsided, though it still remained exceedingly sensible to pressure; the pulse 120. She had again sunk into a state of stupor; her appearance was that of a corpse; and, in addition to a variety of symptoms which Dr. Armstrong has so accurately described, her respiration was scarcely observable: no evacuation had been procured from the bowels. I directed the medicine to be continued, and ordered a purgative enema to be injected. In the course of the night the bowels were copiously relieved, the state of stupor passed away, and she slept quietly at intervals. In the morning there was no tension of the abdomen; pulse 100. The countenance had lost its anxious expression. I directed five drops of the *Liq. Opii Sed.* with ʒj of *Sp. Ether. Nit.* to be given every six hours, and continued the usual nourishment (gruel, with spice and brandy). From this time until the present moment (a period of six days) she has continued slowly to recover.

It is not my intention to lengthen this history by

detailing the progress of convalescence; it is sufficient to say, that difficulties were encountered and overcome by a mode of treatment, the object of which was to allay irritation, and to support the powers of the system; my only wish is to convey to you a faithful picture of the severity of the disease, and to point out the rapid subsidence of the abdominal swelling on the application of the camphor, and the consequent mitigation of every symptom which appeared to threaten her existence.

I am, Sir,

Your obedient servant,

HENRY GEORGE.

Phillimore Place, Kensington;

August 16, 1831.

To the Editor of the London Medical Gazette.

SIR,

In my last communication to you, I concluded by stating the convalescence of my patient, who had been suffering from what is generally denominated puerperal fever. When I wrote to you, she had occasionally complained of uneasiness in the left leg, and in the region of the uterus. Engrossed perhaps by what had been previously passing, I entertained no suspicions of any consequent mischief; but on the morning of the 16th, she was suddenly seized with excruciating pain in the calf of the left

leg, which quickly extended itself over the whole limb, affecting even the contents of the pelvis. There was great tenderness on pressure over the os pubis; the bowels had not been relieved for some hours. I ordered a dose of castor oil to be administered. In the evening when I called, I found the limb exquisitely tender, swelled, and œdematous around the ankle and the instep, on the calf, and on the inside of the thigh and groin, and the whole leg perfectly blanched; nor was this appearance confined to the limb; it was to be observed more or less over the whole surface of the body; great anxiety of countenance; pulse 120, and very weak; she had fainted four times in the course of the day from the agony which slight exertions produced; the oil had operated three times. I ordered five grains of the Pil. Sap. c. Opio to be given immediately, with two grains of the Sulphate of Quinine; the Quinine to be continued every four hours, and the limb to be enveloped in a flannel roller, steeped in the camphorated solution that was applied to the abdomen in the previous attack.¹ When I saw her on the morning of the 17th, she described the relief as almost immediate on the application of the roller; she fell asleep before the opiate reached her; however, it was taken afterwards, and the medicine administered through the

¹ Dr. Denman, in his chapter on the Swelled Leg, in his "Treatise on Midwifery," recommends an embrocation composed of camphor one drachm, olive oil one ounce.

night. Five hours' sleep was procured. The embrocation was reapplied; the quinine continued; gruel and brandy, with beef-tea, comprised her nourishment. In the evening it was necessary to relieve the bladder, that was distended with urine, and pills, composed of four grains of Pil. Sap. c. Opio with eight of Colocynth, were administered.

18th.—Passed an excellent night; pulse 90; no increase of tumefaction about the limb, but complains of the calf of the opposite leg, which is excessively tender on pressure. I continued my constitutional remedies, and applied the embrocation to both limbs. In the evening I found the bowels had been very irritable; eight or nine motions; in fact, the bowels acting every time that nourishment was taken. It was necessary to use the catheter. The following draught was ordered. At this time she could move the limbs with perfect freedom; they were still sensible to pressure, and the left leg still œdematous about the ankle. The catheter again used.

R Confect. Cardiac. ℥j; Confect. Opiat. ℥j; Tr. Card. Comp. ʒj; Aq. Cinnam. ʒx. M. ft. haust. statim sumend.

19th.—Slept the greater part of the night; complains very little of pain; has perfect command of the muscles of the limbs; pressure still gives uneasiness, and the left ankle is still œdematous. The catheter again employed night and morning.

R Liq. Potass. ʒj ; Conf. Cardiac. ʒiv ; Sp. Ether. Nit. ʒij ;
 Decoct. Cinchon. ʒvss. M. ft. mist. capt. 4tam part.
 6tis horis. Pil. Sap. c. Opio, gr. v, h. s. s.

She has continued daily to improve. On the 25th she was removed to the workhouse in a chair; and on the 27th, dissatisfied with her situation, she walked to her residence (distant about a quarter of a mile) without much difficulty, nor has the exertion injured her in the least.

I am, Sir,

Your obedient servant,

HENRY GEORGE.

22, *Lower Phillimore Place,*
Kensington.

To the Editor of the London Medical Gazette.

SIR,

In my late communications to you, I have ventured to assert that the disease which is denominated puerperal fever may occasionally be arrested in its course by a mode of treatment the very opposite to that which has been pointed out by Drs. Armstrong and Gordon, etc., as the only one affording the least prospect of relief; and consequently that extreme tenderness of the abdomen, with great distension, that very hurried circulation, with distressed nervous system, may exist after parturition, and not be depending on that species of inflammatory action which demands for its relief very copious bleedings,

with as copious evacuations from the bowels, and that that disease which has been characterised phlegmasia dolens may also be arrested in its commencement by the local application of a very strong solution of camphor. The experience which I have had of the very great benefit which follows the local application of this remedy in some diseases, has deeply impressed my mind with the belief that it is capable of a very extended application. Among many other maladies, I would venture to suggest its use in cases of cholera, in the full expectation that it would be found a very valuable auxiliary remedy; and, indeed, I believe that, in many of the diseases of some vital organs, which have spasmodic action and nervous irritation as striking features, the remedy would afford immediate relief; its almost instantaneous effect being one of its greatest advantages. In the following case which I trouble you with, I feel the utmost confidence that it was the means by which the subject of it was rescued from the grave.

I am, Sir,

Your obedient servant,

H. GEORGE.

*22, Lower Phillimore Place,
Kensington, September, 1831.*

CASE II.

A child, three weeks old, nourished by its mother, was, on the 24th, violently attacked with diarrhœa.

The motions were very frequent, and each napkin that was removed appeared as though it had been soaked in saffron and water ; no solid feculent matter was discharged, and each dejection took place with a suddenness and violence that to me was unexampled. The mother has assured me that, on one occasion, when the nurse was removing a napkin, the bowels again suddenly acted, and their contents were ejected at least to the distance of a yard. Notwithstanding the best directed efforts which I could employ, the nervous system became implicated in about twenty-four hours from the first seizure ; the child became convulsed, the fits continued to increase for some hours in violence and frequency, until at last there was scarcely any intermission from convulsive action, and the child was reduced to such a dreadful state that even the parents were anxious for its dissolution.

In this state I applied the camphorated lotion (Gum. Camph. $\bar{3}$ ss. ; Sp. Vin. Rect. $\bar{3}$ j.) to the abdomen and loins, and in the evening of this day (the 26th) I found she had had very few fits, and had slept at intervals very quietly. I renewed the lotion ; the child, being unable to swallow, I left to its fate.

On the morning of the 27th, I found the child had slept almost the whole night, waking at intervals, and evidently sensible to light and sound ; it was still incapable of swallowing, was very languid, but there had been scarcely any appearance of convulsive action. I ordered injections of milk and Sp. Am-

mon. c. to be administered every two hours. In the evening I found she had passed a very quiet day. Urine in great plenty had been voided, but no relief had taken place from the bowels for sixteen hours. She appeared much revived. I ventured and succeeded in giving a tea-spoonful of castor oil, with two drops of laudanum, and directed a table-spoonful of milk to be given every two hours through the night. In the morning of the 28th, I found the child materially better: the nourishment had been taken; the oil had operated once copiously (a green motion); she had slept quietly through the night, without the slightest disposition to convulsive action. I repeated the castor oil and laudanum, continued the nourishment, and directed that the child should be occasionally tried at the breast. In the evening I found her much improved, and capable of swallowing; no relief had been obtained from the bowels. I directed the oil to be repeated in the morning, if necessary, and the nourishment to be continued, with a drop of sal volatile each time it was given, as the child had not been able to take the breast.

29th.—The bowels had acted four times in the course of the night,—the last motion a very natural one; the child had taken the breast with eagerness, and slept well through the night.

30th.—The bowels open; the kidneys secreting plentifully; tongue clean and moist; appetite natural; but there has been a good deal of subsultus, and the

fingers of each hand are rigid; the abdomen distended and very hard. I renewed the camphor, and ordered the following mixture, the oil to be given if necessary :

R Liq. Potass. $\mathfrak{m}\text{xv}\mathfrak{j}$; Tr. Hyos. $\mathfrak{m}\text{xv}\mathfrak{j}$; Syr. Aurant. $\mathfrak{3}\mathfrak{i}\mathfrak{j}$;
Aq. Puræ, $\mathfrak{3}\mathfrak{v}\mathfrak{j}$, M. ft. mist. capt. min. $\mathfrak{6}\mathfrak{t}\mathfrak{i}\mathfrak{s}$. horis.

Sept. 1st.—The abdomen perfectly soft; the nervous system quiet; and the fingers have lost their rigidity; the appearance of the child is that of health.

3rd.—No relief has taken place from the bowels for some hours; the child has gradually sunk into a state of stupor; is very pallid, and lies with its eyes half open; is evidently sensible to sound, but when roused quickly relapses into a state of insensibility; the abdomen immensely swollen and hard: urine had been voided; I ordered the following medicine, etc. :

R Conf. Card. gr. $\mathfrak{x}\mathfrak{x}$; Pulv. Jalap. gr. \mathfrak{x} ; Inf. Sennæ, $\mathfrak{3}\mathfrak{j}\mathfrak{s}\mathfrak{s}$;
Tr. Hyos. $\mathfrak{m}\mathfrak{v}\mathfrak{j}$; Sp. Ether. Nitr. $\mathfrak{m}\mathfrak{x}$. M. ft. sumat.
Coch. $\mathfrak{i}\mathfrak{j}$. min., $\mathfrak{2}\mathfrak{d}\mathfrak{i}\mathfrak{s}$ horis ;

and the camphor to be reapplied. In the evening the child was much relieved; the state of stupor had passed away; the bowels had been freely relieved, and the swelling of the abdomen had quite subsided. The child being incapable of taking the breast, I directed nourishment to be given every two hours through the night.

4th.—The child is perfectly sensible, and slept a good deal; the bowels have been much disturbed; the motions have been trifling, and quite liquid, is very languid.

R Pulv. Contrayervæ comp. gr. xxiv; Gum. Acac. gr. xvj;
Aq. Puræ, ℥jss. M. ft. mist. capt. cj. min., 6tis horis.

5th.—The motions have become consistent, and much less frequent; the child is materially better; she has again taken the breast; slept the best part of the night; the nervous system quiet.

Continued the medicines.

8th.—The child has been going on very well.

The Contrayerva has been continued every six hours.

In this case, I am persuaded that the child owed its existence to that cessation of convulsive action which immediately followed the application of the camphor. The most vivid picture of that diseased state would be no exaggerated description of the little creature's sufferings and condition at that time. I was particularly struck with her situation on the 3rd of September. Her tumid belly, and, if I may use the expression, paralysed nervous system, strongly reminded me of the state of my puerperal patient in that period of her illness when the abdomen was as distended as before delivery,¹ the subsidence of the swelling in both instances being followed by the same

¹ I allude to the case previously mentioned.

relief. Her subsequent sufferings I cannot but regard as simply the effects of indigestion. This may appear a trifling source to refer to, as producing such complicated, and what is often, too, such fatal mischief; but when we consider the character of the first attack, and the violent convulsive actions which existed for hours, it may be easily imagined that the digestive organs were left incapable of performing their functions, and that the nervous system remained prone to assume the most fatal kind of disturbance on the slightest irritation being offered.

To the Editor of the London Medical Gazette.

SIR,

My latter communications to you have contained some striking instances of the powerful effects which the local application of camphor produces. I have reason to suppose that even the action of the heart is under the influence of its power, and adduce the following case in support of this opinion.

CASE III.

A child, suffering from some peculiar affection of the brain, sank into that state of stupor which is generally the result of effusion into the cavities. The following was the state of the child when I determined to try the effects of camphor on the

heart. It was lying perfectly senseless, with a slight flush in the countenance, was squinting, the pupils dilated, the pulse beating about 64 in the minute, intermitting every fourth stroke. I enveloped the whole chest, anteriorly and posteriorly, with a piece of flannel, soaked in the following camphorated solution :

R Gum. Camphor. ζ jss ; Sp. Vin. Rect. ζ ijj. M. f. solut.

In less than five minutes, the child, who had lain perfectly senseless and quiet for some hours, became pale, moaned, and appeared restless and distressed, the pulse beating so rapidly that it was almost impossible to count it. These appearances increasing, I removed the flannel from the chest, and the child in a few hours had returned to the state in which it was previous to the application of the camphor, and died in about twenty-four hours. It was not with any expectation of benefiting my little patient that the experiment was made, but his hopeless state, in my mind, justified the trial. It is not my intention to suggest any peculiar conditions of the system, or of the heart itself, in which this application might be useful, but I can imagine many, and trust that my hopes may not be deceived, when the opinion is again put to the test of experiment.

I have lately used the same local application to the perinæum in a case of gonorrhœa dormientium. Previous disease had induced excessive debility, which

every paroxysm of this attack aggravated considerably. Nearly three weeks have elapsed since the application was had recourse to, and no paroxysm has actually occurred since.

From ascertaining, by repeated experiments, the great value of this application, and from having successfully applied it in cases that might be said to be somewhat analogous to cholera, I would venture, with some degree of confidence, to suggest its use in that disease. If a case occurred in my own practice, I should, without hesitation, envelope the whole abdomen, from the ensiform cartilage to the pubis, and the corresponding portion of the back in flannel, soaked in the solution, and I should do it in great expectation of some advantage following; for it appears to me that it is only in cases where the nervous power is absolutely deficient, (not in those in which it is in a state of diseased action), that the application could in any way be prejudicial.

I am, Sir,

Your obedient servant

HENRY GEORGE.

Kensington, Dec. 14th, 1831.

ON THE TREATMENT OF TRAUMATIC
TRISMUS.

To the Editor of the London Medical Gazette.

SIR,

In such a very formidable disease as the traumatic trismus, any remedy, whether local or constitutional, producing marked and decided benefit, appears to me to be well worthy of record. The temporary alleviation to spasmodic suffering which followed the local application of camphor, was, in the following instance of that disorder, very remarkable—too decided and remarkable, indeed, not to have left on my mind a firm conviction that it was a powerful auxiliary to the constitutional remedies which were had recourse to. A recollection of the following opinions of Mr. Abernethy, which certainly express his belief that the ganglionic nerves take their share in producing the diseased phenomena, led to its application; for ample experience has taught me the power which this remedy possesses in controlling deep-seated disorders of irritation. In his essay on the “Constitutional Origin of Local Disease,” Mr. Abernethy observes, “I wish, finally, to excite the attention of surgeons to the state of the bowels in tetanus: the occurrence of this disorder occasionally, when the wound which produced it is healing, seems to indicate that the effects which have been produced by its irritation continue. It

has been, I think, fully shown that local irritation may disorder the digestive organs; which disorder continuing and aggravating the affection of the sensorium, may possibly lead to the production of tetanus at a time when the wound is no longer irritable."

Your insertion of the following case in the "Medical Gazette" would greatly oblige

Your obedient servant,

HENRY GEORGE.

4, *Hornton Villas, Kensington;*
February, 20, 1846.

CASE IV.

Mrs. —, aged 55, in the evening of December 31st, fell down a flight of steps upon a hard pavement. The height was about ten feet. She remained perfectly insensible for some minutes, and received a contused wound on the temple and forehead, which bled profusely. She was carried to bed, passed a confused and restless night, with severe general pains and repeated rigors. The next day was passed in very great discomfort. Took aperient medicine, which operated.

January 2d.—She felt a little better. On the 3d she again took aperient medicine, which operated, but she felt very restless and uncomfortable.

5th.—Had passed a very restless night; awoke with intense pain in the right side of the face, and

felt as if the lower jaw had been wrenched out of its socket, but she could open her mouth. On the 7th she became in every way worse, and on the 8th she applied to me for assistance. Her jaws were perfectly closed; her pulse was 130; she complained of acute pains in the chest, at the back of the neck, and through the whole length of the spinal cord and shoulders. The act of swallowing was most singularly distressing. Her intellects were clear; her wounds healthy. She has lost two teeth in the lower jaw, which fortunately will enable her to take both food and medicine; of the latter I ordered the following:

R Calom. gr. iv; Argent. Oxyd. gr. j; Ext. Col. c. gr. xii.
M. et divide in Pil. iv; Sum. ij, statim et post hor. vj;
Repet. cum haust. sequent.; haust. sal. cum. pulv.
Doveri, gr. vj.

9th.—Passed a very restless night; symptoms nearly as yesterday; the jaw, if possible, more rigid and painful. Nourishment to consist of good broth, wine, brandy, &c.

R Calomel. gr. ij; P. Ipec. c. gr. v; Argent. Oxyd. gr. j.
M. ft. pulv. 3tis horis. A saline purgative to be given
an hour after the third dose.

9 o'clock, P.M.—Bowels have operated very copiously; the motions almost black; expresses herself relieved by them, but appears much the same. The jaw is immoveable, and the agony from the violence

of the spasm very great; the pain extending to the clavicle. Pulse not so rapid, about 120. I directed a piece of flannel, large enough to envelope the whole abdomen and loins, to be soaked in the following embrocation:—Camphor ʒj; Sp. Vin. R. ʒij; and ordered the following medicines, the diet to consist of wine, beef-tea, &c.:

R Liq. Potass. ℥xx; Decoct. Cinch. ʒij; Sp. Ether. N. ʒj;
Acid. Hyd. ℥ij; Liq. Opii Sed. ℥iv; Liq. Arsen. ℥j;
Aq. Cinn. ʒj. M. ft. haust. 6tis horis cap. c. pil.
sequent.

R Calomel. gr. ss; Argent. Oxyd gr. j; Ext. Col. gr. iij.
M. ft. pil.

R Mag. Sulph. ʒij; Tinct. Senn. et Tinct. Rhei c. āā ʒij;
Infus. Rhei, ʒj. Ft. haust. mane.

10th.—Has had some sleep; is perfectly free from pains in the chest and back; considerable relaxation of spasm in the jaw. I can easily introduce my forefinger between the teeth; can swallow with much less suffering; pulse about 110; one copious dark bilious motion.

Contin. haust. ton. et pil. 6tis horis.

R Calomel. gr. ij; Ext. Col. c. gr. vj. Ft. Pil. h. s. s. The saline purgative in the morning.

11th.—Passed a sleepless night; jaw firmly closed; still she has less general pain than yesterday. I again applied the camphor, continued the same medicines and diet, increasing the quantity of wine.

14th.—I can again introduce with ease my fore-

finger into the mouth; is free from general suffering, but perspires most profusely, and the heat of the skin is excessive. Complains much of debility; mercurial fœtor very evident. No alteration in medicine or diet has been made since the 11th. Pulse very quick and weak.

R Acid. Sulph. D. ℥xxv; Tr. Lyttæ, ℥xx; Liq. Opii Sed. ℥xxv; Dec. Cinch. ℥iij; Tr. Card. c. ʒvj; Aq. Cinn. ℥ij. M. ft. mist. 4 part. 6tis horis c. pil.

R Argent Oxyd. gr. jss; Pulv. Rhei, q. s. ft. pil.

R Pil. Sap. c. Opio. gr. iv; Quin. Dis. gr. ij. Ft. pil. h. s. s.

16th.—The sweating continues, but upon the whole she is much better. Debility excessive; the jaw more relaxed; pulse about 90. To continue the medicine prescribed on the 14th. The purgative has been continued daily. I have increased her allowance of wine.

17th.—Is free from sweating: the heat of skin natural; jaw much more open; pulse about 88; the camphor has been applied daily.

R Ext. Cinch. gr. viij; Dec. Cinch. ℥j; Tr. Lytt. ℥v; Liq. Arsen. ℥ij; Liq. Opii Sed. ℥iv; Tr. Card. c. ʒj; Aq. Cinn. ℥ij. Ft. haust. 6tis horis, haust purg. mane.

19th, 9 o'clock, A.M.—Has passed a very comfortable night, and is in every respect much improved.

9 o'clock, P.M.—The medicine has operated six times, producing great distress. Fell into a troublesome sleep, and awoke with sense of stiffness and great pain through the whole length of the spinal

column, particularly the lumbar vertebræ. Jaw again closed; great sense of weight in both arms, with a pricking sensation in them. Pulse very rapid. I continued the bark again, applied the camphor, discontinued the laxative, and ordered the following pills :

R Quin. Dis. gr. ij ; Pil. Sap. c. Opio, gr. vj ; ft. Pil. ij, stat. sum. ; and applied a strip of the Belladonna plaster the whole length of the spinal column.

20th.—Has had five hours' sleep; is free from pain; pulse about 90. To continue the medicine and diet as yesterday, but omitting the night pills.

31st.—In every respect very comfortable; pulse about 70.

Feb. 9th.—The same medicine has been continued to this day, and my patient is convalescent. On the 5th and 6th of February a most violent headache followed relief from the bowels, and was quickly relieved by the application of camphor to the abdomen.

REMARKS.—In this case, the relief obtained by the local application of camphor has been in no way exaggerated; each successive application (and there were many) produced the same comfort. It is scarcely necessary to point out the vantage ground obtained by the perfect lull produced in the complicated symptoms and sufferings which were threatening the establishment of tetanus, and by so doing affording an opportunity for remedies (certainly not inert) to

exert their influence on the constitution. Those violent headaches, too, which twice followed the action of the purgative, I feel myself justified in believing were relieved by the application of camphor to the abdomen and loins: a circumstance which does not militate against Mr. Abernethy's suspicions, certainly. These headaches were very serious, and on the last occasion the headache was accompanied with great and sudden decrease of the heart's action; the pulse fell to about 50. The oxide of silver, a power which, I presume, could not be used indifferently, was selected more from the convenience of its form than from a belief that it possesses any remedial powers in greater force than the nitrate of the same metal. Whether the specific effects of the calomel assisted in producing any alleviation of disease, I am not prepared to decide; but this is certain, that they produced no aggravation of symptoms. Dr. Parry, of Bath, placed some reliance on the constitutional effects of this remedy, but his cases were almost uniformly fatal.

CASE V.

Case of Congenital Closure of the Rectum, in which the Infant lived Five Weeks.

ABRIDGED FROM THE "MEDICAL GAZETTE."

A male infant, born May 10th, 1849, was very restless the third day after; had repeatedly vomited, and had not evacuated the meconium, though castor-oil, and rhubarb and jalap had been administered. On examination, the rectum was found to be closed about half an inch above the anus, but as no hardness or protrusion could be felt within the gut, it was not thought right to interfere. The nature of the case was explained to the parents, and the following embrocation—

Sp. Vini Rect. ℥j ; Campohræ, ℥ss.

was applied on flannel round the abdomen, and milk and water given as nourishment.

14th.—Has remained extremely quiet since the application of the camphor, which was to be renewed once every day. This state of things continued for ten days, when the long continuance of life, as well as the perfect ease in which the child was, for it literally took its food with relish and slept in comfort, led its friends to express a wish for further advice. Sir Benjamin Brodie gave it as his opinion that there was nothing to be done or hoped for.

On the 11th of June I took the child to Sir B.

Brodie's residence, who again declared the case a hopeless one.

On the 12th it became restless, and on the 14th died of retention of urine.

The *post-mortem* examination showed a perfect absence of meconium, the presence of healthy feculent matter in the bowels, and extraordinary dilatation of the upper portion of the ureters. The rectum from the external orifice was pervious to nearly half an inch, and wanting to the termination of the colon, which ended in a blind sac.

THE
HISTORY OF THE SMALL-POX,

ETC. ETC.

THE period when this formidable disease first made its appearance in the world, remains, even at the present moment, a controverted point among the learned. No medical records are remaining, which give any distinct or regular account of this pestilence, bearing an earlier date than the time of Rhazes, otherwise called Alubecar Mohammed, an Arabian physician, who in the ninth century of the Christian era, flourished in Bagdad, and by his observations on many diseases, has established among Europeans the reputation of having been the Galen of the East. In his treatise on the small-pox, he quotes from an author of much earlier date,—from the works of Aaron, an Alexandrian Jew,* and an eminent physi-

* Aaron is more frequently described as a Christian priest; but we have reason to believe, that in Alexandria, the Jewish population in the time of our Saviour was greater than that of Jerusalem, and that then, and even in after-times, the chief posts of honour in that and in other kingdoms, were

cian, who practised in that city early in the seventh century; and whose publications are supposed to have perished in some of those destructive revolutions, of which Eastern history affords us so many, and such melancholy examples. In the course of this Essay, I think it will appear (as though increasing the debt of gratitude we owe to that chastised and wonderful people) that from an Israelite the world first received the most invaluable suggestions as to the management of this terrific disorder. Aaron's Treatise on Small-pox contains the following passage: "Et cum sunt digestæ (the pustules) jaceat patiens super farina risis et fumigetur cum foliis myrti olivarumque et desiccabuntur." A sentence replete, I firmly believe, with the most useful practical information embodying therapeutical principles capable of rendering this disorder comparatively innocuous, whether we refer to its danger, or whether we look to its power of producing even disgusting disfigurement; and though I will not say that a "malignant," yet certainly a "turban'd Turk" (Rhazes) stands foremost among the number who contributed to

often filled by individuals of Jewish extract, compelled to disguise their faith by the almost incredible, and I had nearly said, satanic conduct and persecutions of the Christians. Honain also (a physician), who flourished in Constantinople in the 9th century, the incidents of whose life are truly "Eastern," is described to us as a Christian priest; but Aaron and Honain are names certainly belonging to the "children of the covenant."

deface them, his errors leading, in the course of time, to their utter neglect in practice.

I trust I shall be believed in asserting, that I was unacquainted with this advice of Aaron's, until the advantages which I immediately perceived were derivable from such a mode of treatment, led me to consult the best authorities on the disease.

Notwithstanding the absence of any medical records clearly descriptive of this pestilence previous to the seventh century, the opinion, that this disease existed in Europe and Asia even before the birth of our Saviour, does not want its powerful and distinguished advocates. This belief is founded on those imperfect descriptions of epidemic diseases, which are to be met with in ancient medical authors, and in the works of the historians and poets of antiquity; and it is impossible to peruse these authorities without in some degree becoming a convert to the opinion.

Rhazes is the only authority we have to rely on for establishing its earliest appearance in Africa. He expresses a belief that the small-pox existed in Arabia in the second century; and to confirm its earlier appearance in that portion of the world, every source of investigation seems unfortunately denied us.

It was in the early part of the last century that De Haen announced his belief in the great antiquity of this disease: he not only appealed to medical authorities in support of his opinions, but to passages in the works of Horace, Quintilian, and many other

ancient authors, which seem to prove that the disease had established itself in Europe anterior to the Christian era, and that it first made its appearance among the ancient Greeks and Romans.

Werlhoff undertook the refutation of these assertions; and, it must be acknowledged, has succeeded in controverting many of his positions. From this controversy has sprung the following contradictory opinions, each supported by individuals of talent and research.

1st. That in the sixth century the disease first appeared in the world in Africa.

2nd. That it existed in Europe anterior to the Christian era.

3rd. That it was introduced into Europe about the twelfth century.

4th. That it was known in Hindostan from the remotest antiquity, and originated there.

5th. That it first made its appearance among the ancient Greeks and Romans.

The testimony of Rhazes has clearly established the existence of this disease in Africa, in the middle of the seventh century. Among the evidence to prove its earlier appearance in that portion of the world, two Arabian manuscripts may be mentioned; the one discovered by Dr. Reiske in the public library of Leyden, and the other in Africa, by the celebrated traveller Bruce, both establishing the existence, and giving a frightful picture

of the destructive effects of the disease in the Abyssinian army, during the siege of Mecca, in the year 569. Admitting this fact, and it certainly appears established by sufficient evidence, it can lead to no other conclusion than that the disease actually existed in Africa at that period, and that Arabian authors have left us a very clear and perspicuous account of the epidemic. But, however satisfactory this point may be established, it can never be admitted as proof that the disease was unknown in other parts of the world, more especially as records, in which even the term *variola* is employed as descriptive of the prevailing disease, are not wanting to render it probable that three years subsequent to the siege of Mecca, and even at that very time, the southern provinces of France, and part of Ireland, had been ravaged by this pestilence.

The earliest account of the appearance of the small-pox in Europe is to be found in a manuscript still existing in the British Museum, partly Saxon and partly Latin, in which it is said, that "St. Nicaise, Bishop of Rheims, and a martyr, A.D. 452, had been afflicted with a species of *variola*," thus tracing its appearance in Europe to a period long anterior to its alleged origin in Arabia. In the chronicles of Marius, also, it is stated, "This year, 569, a violent fever with flux of the bowels and *variola* afflicted both Italy and France." But an authority perhaps less questionable, and certainly

more clear and decisive, is afforded us in a narrative communicated by Gregory, Bishop of Tours, who says, "Last year," (rather later than the year 573,) "the state of Tours was desolated by a severe pestilential disease: such was the nature of the infirmity, that a person, after being seized with violent fever, was covered over with vesicles and small pustules—the vesicles were white, hard, unyielding, and very painful; if the patient survived to their maturation, they broke, and began to discharge, when the pain was greatly increased by the adhesion of the clothes to the body." I cannot help observing, that Gregory of Tours has been referred to as an authority, with equal confidence, in support of their respective opinions, by those who maintain and by those who deny, the great antiquity of this disease in Europe. Mr. Moore, who has adopted the opinion that the small-pox had prevailed in China and Hindostan from remote antiquity, yet had not extended to the more western nations until the middle of the sixth century, in his "History of the Small-pox," observes, "But should the slightest doubt remain on this subject, the evidence of Gregory, Bishop of Tours, must remove it; this saint was an eye-witness of the disease, and with the exception of a simile, he has described it with considerable precision in these words—"When the calamity arose, it occasioned such a depopulation of the whole country that the numbers could not be calculated, for when

tombs and coffins failed, ten or more bodies were buried in the same grave; and on one Sunday three hundred corpses were numbered in the church of St. Peter's alone; their death was sudden, for a sore appeared in the groin or arm-pit, by which the sufferers, as by the bite of a serpent, were so infected with venom, that they died on the second or third day." Mr. Moore observes,—“This malady was evidently not the small-pox, but the plague in its most virulent form.” I do not profess to have seen the original documents from which these extracts are taken; but on the authority of Dr Willan, the former quotation from the records of Gregory is given, who, with every appearance of justice, and almost in the words of Mr. Moore, observes, “This malady was evidently not the plague, but the small-pox in its most malignant form.” The justness of both conclusions seems evident, and appears to establish the opinion, that the bishop was not only an eye-witness and faithful chronicler of the plague, as it existed in the year 571, but was also an observer of an eruptive disease which prevailed sometime later than the year 573: the description of which appears a tolerably correct picture of the small-pox of the nineteenth century.

Abdomnan, a learned Scotchman, gives the following account of the appearance of a disease in Ireland, somewhat resembling small-pox. He says,—“St. Columba, sitting on Dunmoor, a small hill in Iona,

saw to the northward a thick cloud ascend from the sea. This cloud (he said) will prove highly noxious to men and cattle; in passing with velocity over a considerable part of Scotia, it will discharge at evening a morbiferous rain, which will cause severe purulent ulcerations to arise on human bodies, and on the udders of cattle, so that men and beasts, equally oppressed by the virulent malady, shall narrowly escape with life."

We are thus led to the belief, either that the disease, in the space of a few months, had extended itself from the central parts of Africa to nearly the northern extremity of Europe, or that, in the sixth century, the pestilence was raging simultaneously in every division of the known world.

Hindustan does not want its advocates for having been the cradle of the disease; but the early records of India are so deeply enveloped in fable, that no other positive conclusion can be drawn, than that the origin of the disease in that portion of the world is not of recent date. The Chinese, too, though we may smile at the precision with which they attempt to establish its appearance amongst them, yet, remembering that in their eyes "a thousand years are but as a day," the period 1122 years before Christ, which they have fixed upon with specious accuracy for its origin, can only allow them some claim to the belief that they were visited by this pestilence, at least as early as any other portion of the globe; nor

is this opinion invalidated by the apparent indications of great experience in the treatment of the disease, which, more than a century ago, was to be found amongst them.

Thus, it appears more than probable, that, in the sixth century, the world had been generally and fatally visited by this horrid pestilence. Clearly to establish the fact of its earlier existence, is a task of much greater difficulty, though the opinion may be supported by imposing evidence. Rhazes has expressed his belief that it existed in the second century. The reputation which he has established, of having toiled laboriously in the pursuit of knowledge, entitles his opinion to every confidence and respect. It is highly probable, too, that his belief was derived from sources which the variety of accidents attendant on the lapse of so many centuries have deprived us of, and might have received ample confirmation had the whole of his works descended to us. He expressly states his opinion, that Galen was acquainted with the disease; and though the descriptions of the Greek author have been pronounced, by good authorities, vague and unsatisfactory, yet this, perhaps, may in some degree be accounted for by the fact, that among the ancients the local effects of pestilential diseases were regarded more as varieties, produced by accidental circumstances, than as marking any specific differences in the maladies themselves. It is this circumstance which renders the testimony

of the Greek authors sufficiently conclusive as to the existence of small-pox in their time, provided we can trace in their works some general outline of the striking features of the disease. From those which remain to us of the authors of the first, second, and third centuries, many such descriptions may be adduced. Ruffus, a celebrated physician of Ephesus, tells us, in the latter part of the first century, that in the pestilence everything the most dreadful may occur, and nothing is withheld, as in many of the diseases, singly. The appearances are various: there are different kinds of delirium, vomitings of bile, tension of the hypochondria, a sense of anxiety, frequent sweats, coldness of the extremities, bilious diarrhœa, with their flatulent discharges. The urine, in some, thin and watery, in others bilious, in others black, with bad sediment and enœoremata of the worst kind: hæmorrhage from the nostrils, heats in the chest, a parched tongue, watchfulness, strong convulsions, and, besides other evil ulcers, the all-dreadful anthrakodia may take place in the loimos, or plague, as well on the rest of the body as on the face and tonsils. Galen also tells us, this great loimos, or pestilence, was similar in its appearance to the plague of Athens, as it appeared in the time of Thucydides. The skin was of a moderate temperature, and of a dark hue, red or livid, broken out with small phlyctinæ, or ulcerations. In another part of his works he says,—“Putrid diathesis some-

times occasions the skin to separate extensively, so that the naked veins may be clearly seen; this took place in every part of the body, in Asia, during the time of the epidemic anthraxes, which induced those who beheld the sufferers to think them more like apes than men." Nothing can more clearly describe the shocking spectacle which the advanced stages of confluent small-pox presents to us than this passage from Galen; but, independent of the testimony of medical authors, we have also that of Philo, a Jewish philosopher, who has left us records of a pestilence existing in the first century. He says,—“The cloud of dust falling suddenly on men, produced over the whole skin a severe and untractable ulceration. The body immediately became tumid, with efflorescences or purulent phlyctinæ, which appeared like blisters, excited by a secret fire beneath. Men necessarily undergoing much pain and universal soreness, from ulceration and inflammation, suffered not less in body than in mind by the severe infliction, for a continuous ulcer was observable from head to foot; these eruptions, which were at first sprinkled over the limbs and other parts, finally uniting, so as to form one uniform appearance over the whole.”

These statements respecting the eruptions accompanying the epidemics of the first century, render it impossible to suppose that it was the plague which at that period was depopulating the world; not the slightest mention is ever made of bubo or carbuncle,

though these local affections are necessary symptoms of that malady. That they were eruptive diseases, it is impossible to deny; and that the descriptions of them are more characteristic of small-pox than any other genus of the Order Exanthemata, there will be found a great many to admit.

Very scanty materials are afforded us to establish the probability of the existence of this disease anterior to the Christian era; those who maintain its existence in Europe and Asia in these early ages, ground their belief on the testimony which the works of Livy, Lucretius, Sophocles, Orosius, etc., afford them: Lucretius, in describing the pestilential disease which depopulated Athens, says,—“The whole body reddened with vesications and fiery pustules.” Herodotus also says,—“At the commencement of this great pestilence, the whole body of a young man broke out with ulcerations.” Seneca, while enlarging on the account which Sophocles has given us of the pestilence at Thebes, beautifully exclaims,—“O new and direful face of death! worse than death! an irresistible languor chains the sluggish limbs, a flamy vapour burns the body’s citadel, and flushes the cheeks with blood; then small spots besprinkle the skin, the eyes are stiffened, and the dark blood bursting the veins, distils from the contracted nostrils, while sighs and heaving breath shake the vitals.”

This testimony of Seneca appears to deserve some

little consideration; his expressions,—“the small spots besprinkle the skin, the eyes are stiffened, and the sacred fire preys on the limbs,”—can in no way be construed as descriptive of plague or erysipelas. The term, “sacred fire,” too, is to be found in many ancient chronicles of the eleventh and twelfth centuries, as descriptive of small-pox. “The people died miserably, from their limbs being burnt black by a sacred fire.”

Such is a portion of the evidence which has been adduced in support of the opinion, “that the small-pox is a disease of very great antiquity in Europe and Asia.” That part of it which has been collected from the works of the historians and poets of antiquity, may, perhaps, be objected to by those who would willingly allow them to be competent authorities for establishing the manners and customs of the different ages in which their authors flourished. But we have the highest authority in support of the belief, that their testimony, even on the nature of diseases, deserves our closest attention. Sir H. Hallford concludes an *Essay on Insanity* with the following passage: “Thus have some of the descriptions of the poets, held to be imaginary, been realised in life: and it is possible, that if the physician were to collect and apply the brief notices of various diseases which have been thrown out by the great poets of antiquity, he might not only illustrate the truth of the descriptions drawn by those accurate observers

of nature, but derive from them some useful hints to assist him in his own observations of disease.”

It must appear extraordinary, that the origin of such a horrid pestilence should be enveloped in so much obscurity, and that the researches of so many talented individuals should have led to no other positive conclusion, than the great antiquity of the disease; when and where it first appeared, still remain points of doubt and investigation—circumstances which appear destined to elude our closest inquiries.

ON THE SOURCE AND FATALITY OF SMALL-POX, WITH
SOME ACCOUNT OF ITS DIFFERENT MODES OF
PROPAGATION, AND A BRIEF NOTICE OF THOSE
MEANS WHICH HAVE BEEN RECOMMENDED TO
MITIGATE ITS SEVERITY, AND TO PREVENT ITS
OCCURRENCE.

It was Dr. Jenner, I believe, with whom the opinion originated, that the source of this disease can be traced to our domesticated animals. The opinion seems rendered probable, rather by striking than by positive evidence. In his inquiry into the causes and effects of the variola vaccina, he says—"May it not then be reasonably conjectured, that the source of the small-pox is morbid matter of a peculiar kind, generated by a disease in the horse; and that accidental circumstances may have again and again arisen, still working new changes upon it, until it has acquired the contagious and malignant form under which we now commonly see it making its devastations amongst us. And from a consideration of the change which the infectious matter undergoes from producing a disease in the cow, may we not conceive, that many contagious diseases, now prevalent amongst us, may owe their present appearance,

not to a simple, but a compound origin? For example: is it difficult to imagine that the measles, the scarlet fever, the ulcerous sore throat, with a spotted skin, have all sprung from the same source, assuming some variety in their forms, according to the nature of their new combinations? The same question will apply respecting the origin of many other contagious diseases which bear a strong analogy to each other." The following passage from Virgil appears singularly striking after these observations of Dr. Jenner:

"Nam neque erat coriis usus: nec viscera quisquam
 Aut undis abolere protest, aut vincere flammâ,
 Nec tondere quidem morbo illuvieque peresa
 Vellera, nec telas possunt attingere putres.
 Verum etiam invisos si quis tentarat amictus
 Ardentes papulæ, atque immundus olentia sudor
 Membra sequebatur, nec longo deinde moranti
 Tempore, contactos artus sacer ignis edebat."

There is such an appearance of careful observation in these conjectures of Dr. Jenner,—they seem to breathe so strongly the true spirit of philosophical inquiry, that, in our present state of knowledge, nothing but regret could follow their clear and decided contradiction. We must acknowledge the deficiency of any positive evidence of their truth; but it seems natural to cling to them in preference to any other conjectures which have been offered us; and few, I believe, will feel inclined either to adopt the sentiments of a

late distinguished writer (who appears almost disgusted with the inquiry), that "is evident the small-pox was either coeval with the creation, or had a subsequent beginning; and it is an inference, deducible from the first principles of reasoning, that the same causes which originally produced, may reproduce it without contagion," or to rest satisfied with the opinion, that the disease is "one arising from a specific contagion, which is again generated in the pustules of the disease itself."

It is a melancholy office to record the fatal effects which have occasionally followed the appearance of this epidemic; its introduction into South America furnishes us with a picture, unparalleled as a scene of devastation and misery. Three millions of the inhabitants of that devoted country, subsequent to its discovery by Columbus, in the space of a few years, fell a sacrifice to the pestilence; and even, as recently as the year 1780, ten thousand persons perished by the disease in the towns of Mexico and Puebla alone. Nor can this favoured country, even since the discovery of vaccination, boast of having been entirely exempted from this "visitation of calamity." The disease appeared in Norwich in 1807; the contagion was quickly communicated to 1,200 individuals, and about one in every six perished.

We have reason to regret that small-pox cannot be classed among those diseases, the virulence of which time appears to mitigate; it seems occasion-

ally to pass over us, scarcely inflicting punishment, and at uncertain intervals returns as the most dreadful scourge with which mankind can be afflicted. Dr. Jenner gives an account of an epidemic small-pox which prevailed in Gloucestershire in the year 1791. He says, "It was of so mild a nature that a fatal instance was scarcely ever heard of, and, consequently, so little dreaded by the lower orders of the community, that they scrupled not to hold the same intercourse with each other, as if no infectious disease had been present among them. I never saw nor heard of an instance of its being confluent; the most accurate manner, perhaps, in which I can convey an idea of it is, that had fifty individuals been taken promiscuously, and infected by exposure to this contagion, they would have had as mild and light a disease as if they had been inoculated with variolous matter in the usual way;" and yet, two years subsequently, the disease was raging so violently in the Isle of France, that 5,400 persons were destroyed by the malady in the short space of six weeks. Such recitals are truly shocking, but it is our duty to record them; and, to complete the awful picture, it is only necessary to be familiar with the loathsome sufferings of a person in the advanced stages of the most confluent form of the disease. Those whose pursuits and inquiries are not directed to these points, either by motives of curiosity or duty, will feel surprised at the mortality which this disease still occasions. In

London alone more than one thousand persons annually perish.

No climate appears exempt from this destructive pestilence: the extremes of heat and cold do not appear to modify its character; the parching soils of Arabia and Hindostan, and the frozen regions of the north, have equally, by the hand of Providence, been subjected to its ravages. In the year 1707, sixteen thousand persons, one-fourth part of the whole population of Iceland, were destroyed by this malignant epidemic; and we are informed, that, in the year 1773, the disease broke out in Greenland, and nearly depopulated the country. But though the climates of different portions of the world appear to possess no powers of modification, still it seems admitted by all, that the seasons of each climate exert considerable influence on its malignity. Dr. Sydenham, among others, has remarked the comparative mildness of the disease in temperate states of atmosphere, and the practice which has prevailed in Hindostan, of inoculating the disease in the cooler months of the year, appears a striking confirmation of the opinion.

It seems generally admitted, that the small-pox is governed by the same laws which usually regulate epidemic diseases; that a peculiar state of atmosphere is one source of its production. This variolous constitution of the air, and its consequences, are most ably described by Dr. Thomson, of Edinburgh,

in his Historical Sketch of the Small-Pox. He says,—“The general character of the fever, and the appearances of the eruption in natural small-pox, have been observed to vary exceedingly, not only in particular individuals, but also in different places, and even in the same places, at different times. This fact, which is also acknowledged by every observer of small-pox, has been supposed to depend on a peculiar state of the atmosphere. It has been often remarked, that in some seasons and places the small-pox has been all of a mild kind, producing few deaths, while in other seasons, and in the same or in different places, they have been chiefly of a confluent or malignant sort, occasioning the death of a greater number of those affected with them than is produced even by the plague. In some years the small-pox appears, and is propagated sporadically, attacking only a few individuals; in other years, and in the same countries and places in which the disease had formerly appeared sporadically, it prevails epidemically; and attacks not only almost all those who have not had small-pox, but also some of those who had previously undergone this disease. In our ignorance of the physical causes which give rise to the local and partial existence, or to the general epidemic prevalence of small-pox, in various seasons and places, we are under the necessity of attributing these differences to some unknown state of the air by which we are surrounded, a state which, so long

as it is unknown, we may continue, I conceive, without any great impropriety, to denominate the variolous constitution of the atmosphere:" it seems also admitted, that the disease may be communicated by contact, by near approach to its object, and by inoculation with the poison which is generated in its progress. One striking consequence appears to follow this latter mode of communication—a decided mitigation of the disease; the examination of medical records establishes the fact, that there is a most remarkable difference in its fatality, when the malady is produced by a variolous state of atmosphere, and when it is the consequence of inoculation. The average number of deaths in the casual small-pox is about one in every six, while not more than one in sixty perish when the disease is produced artificially. A most inexplicable fact, which can neither be refuted nor explained. What character of disease inoculation would produce during the prevalence of destructive epidemics, it would be a curious point correctly to ascertain; if malignant, should we be justified in the inference, that the inoculated may be regarded as the sporadic disease, the essential character of which is mildness?

It was in the year 1717, that the practice of inoculation first received the countenance and support of the medical profession: like every other brilliant and useful discovery, it met with decided opposition; but like everything which is founded in

“just and right well balanced,” it had slowly advanced, and was very generally adopted at the period of the discovery of vaccination. That the practice had existed many years previously among the lower orders of the communities in France, Italy, and Sweden, etc., seems generally admitted; nor is the opinion altogether discountenanced, that as early as the sixth century of the Christian era, the practice was general in Hindostan.

It must be acknowledged, that inoculation, though it conferred great individual benefit, yet considerably increased the general mortality of the disease; the ignorance and prejudices of many, and the supineness on the part of our rulers, in not enacting and enforcing laws for its general adoption, and regulations for the management of the sick, rendered every inoculated subject a centre of pestilence and contagion; but notwithstanding this circumstance, there is reason to believe, had vaccination never been discovered, the practice of inoculation would, in process of time, have become universal.

This disease appears to be communicable to the fœtus in the womb; many instances are to be found on record, and it has been observed that the child may be severely affected, though the mother may suffer slightly, from the disease; but it was left for the mind of Jenner to originate the following delicate (at least in one sense of the word) and beautiful conjecture, that the disease may pass through the

human constitution in every shade of mildness or malignancy. In a paper which he communicated to the Medical and Chirurgical Society, he relates the case of a lady, who "a few days previous to her confinement, met a very disgusting object, whose face was covered with the small-pox. The smell and appearance of the poor creature affected her much at the time, and though she mentioned the circumstance on her return home, she had no idea that her infant could suffer from it, having had the small-pox herself when a child. During a few days after its birth the little one seemed quite well, but on the fifth day it became indisposed, and on the seventh the small-pox appeared; the pustules, which were few in number, matured completely. Dr. Croft, who attended her, being curious to know the effect of inoculation from one of the pustules, put some of the matter taken from one of them into the hands of a gentleman eminently versed in that practice, which produced the disease correctly. The lady was not sensible of any indisposition herself from this exposure, nor had she any appearance of the small-pox." Dr. Jenner remarks,—“This case, then, decisively proves that the small-pox virus may affect the human frame even to its inmost recesses, although apparently secured from its effects, and yet give no evidence of its presence, by exciting any perceptible disorder. May not this fact be adduced as explanatory of those instances (which we occa-

sionally meet with) of persons resisting the small-pox contagion through a long life? Is it extravagant to suppose that many of them may have regularly passed through the disease previous to their birth? It would be a curious point to ascertain whether some other of the eruptive diseases may not be communicated to the infant in the womb.

To those who were instrumental in introducing inoculation as a mode of preventing the virulence and danger of small-pox, we owe the deepest gratitude, notwithstanding the more brilliant discovery of vaccination by Dr. Jenner has altogether superseded the practice. It remained for him to propose the infliction of a mild and innocuous disease, as a preventive of one, the striking features of which are loathsomeness and danger. The attention of Dr. Jenner was in early life arrested by a received opinion, (which had existed for many years among the lower orders of the community), that a peculiar disease on the teat of the cow, communicated to man, became a source of security from future attacks of small-pox. We can easily imagine the ardour with which his benevolent mind would prosecute such an inquiry, and almost stand excused in envying him the feelings which awaited its consummation. Difficulties he had to encounter, but obstacles to him could only prove incentives to more careful investigation. It may appear inexplicable, that John Hunter, whose life had been devoted to the improvement of

medical science, should have been cool and indifferent to the suggestion, and that a paper on the subject of vaccination, which Dr. Jenner communicated to the Royal Society in the year 1698, (twenty-one years subsequent to the commencement of his inquiries), should have been returned to him by a member of that institution with the admonition, "that its publication would diminish his established credit." We can easily appreciate the annoyance which Dr. Jenner at this moment must have experienced; but confident in the truth and value of his communications, he immediately published his "Inquiry into the Causes and Effects of the Variolæ Vaccinæ." "All uncharitableness" was enlisted to oppose his opinions; but he lived to enjoy the satisfaction of seeing the practice which he recommended almost universally adopted; and his memory will be revered by those who either place any value on the lives and comfort of their fellow-creatures, or feel any interest, that, in points of science, their country should stand high in the scale of nations.

On perusing the works of Dr. Jenner on the subject of vaccination, we are struck with the maturity of his observations; scarcely a single fact which he has stated has been contradicted, and it may with justice be said, that not one of any moment has been added to his catalogue. He has, perhaps, too confidently insisted on the positive security which vaccination affords from future attacks of small-pox; but the

conclusion which he drew, his observations justified; for it is only the experience of the last thirty years that has proved the incorrectness of his position. That this delusion continued long after Dr. Jenner announced his belief, is proved by the following passage from Dr. Willan's *Treatise on "Vaccine Inoculation,"* published in the year 1806. He says,—
“But can it be denied that a vaccine vesicle of the most perfect form, after proceeding through the usual stages, has in some persons failed to remove the susceptibility of small-pox contagion?” He answers,—“If such failures do occur, they must occur in a very small proportion; and I am convinced that the subjects of them will not be found liable to take the small-pox in the same manner and form as before the vaccination.”

No judicious supporter of this practice would now venture such a positive assertion, nor do I believe that in the public mind any conviction would follow, even though the opinion emanated from the first authorities. There appears no reason for disguise on this point. To acknowledge that severe and fatal cases of small-pox sometimes occur after vaccination, and that a mild disease, which has been denominated modified small-pox, is of frequent occurrence, scarcely depreciates the valuable discovery of Dr. Jenner. Inoculation is in some degree exposed to the same objections: the disease has recurred after this process, (though not so frequently,) in every form and degree of violence.

Various opinions have been offered, (chiefly by those who assert the infallibility of vaccination,) in explanation of those instances of failure which are upon record; such as,—

The imperfection of the vaccine vesicle.

The existence of cutaneous diseases at the time of vaccination.

The deterioration of the vaccine lymph.

The protection afforded by vaccination being only temporary.

On the subject of imperfect vesicles the following observations are to be found in Dr. Willan's publication on "Vaccine Inoculation:"—"I have observed three sorts of these irregular vesicles. The first is a single pearl-coloured vesicle, set on a hard dark red base, slightly elevated. It is larger and more globate than the pustule above represented, but much less than the genuine vesicle; its top is flattened, or sometimes a little depressed, but the margin is not rounded or prominent. The second appears to be cellular, like the genuine vesicle, but it is somewhat smaller and more sessile, and has a sharp angular edge. In the first, the areola is usually diffuse and of a dark rose colour; in the second it is sometimes of a dilute scarlet colour, radiated and very extensive, as from the sting of a wasp; the areola appears round these vesicles on the seventh or eighth day after vaccination, and continues more or less vivid for three days, during which time the scab is completely formed, &c. The

third irregular appearance is a vesicle without an areola." If such nice discrimination is really necessary—if the exact tint and complexion of the vesicle, the correct form of its circumference, and the precise extent of the areola, are to be the tests of its sufficiency, better had such a practice never have been introduced; so much tact, taste, and discrimination, is rarely the lot of individuals as would be necessary to enable them to form a correct opinion on the perfections and imperfections of the vaccine vesicle. Under these circumstances, would it not, in every point of view, be preferable either generally to adopt as a mode of practice the criterion of perfect vaccination proposed by Mr. Brice, or to re-vaccinate in the course of a short time?

With the power that cutaneous eruptions possess of modifying the effects of cow-pox, Dr. Jenner was well-acquainted: he communicated to Dr. Willan the following interesting case—"A child of a gentleman at Blakeney, in Gloucestershire, was, at two years of age, inoculated for the small-pox, with others of the same family. In this child there was a deviation from the usual appearances. The arm inflamed and suppurated, but not extensively. Some slight indisposition took place, and a few pimples were scattered over the skin, which did not suppurate. The parents not being quite satisfied, the child was inoculated a second time with small-pox matter, about two years afterwards, when the appearance on

the arm, and the disorder of constitution, recurred as at first. Soon after this time, the child was put to bed with a person who had a full burden of small-pox, but was not infected. When two years more had elapsed, the child was vaccinated by Mr. Lauder, an experienced and respectable surgeon at Newnham; the puncture produced only an incomplete pustule, surrounded by considerable inflammation. Mr. Lauder then consulted me; and on my making inquiry respecting the state of the skin, he told me that the child from its early infancy had been affected with eruptions on its head and other parts of the body. Feeling satisfied that he had thus accounted for the preceding circumstances, I endeavoured first to subdue the eruption. As soon as this was accomplished the child was again vaccinated, when a pustule appeared, which went through all its stages with the most perfect regularity."

That the protection afforded to the constitution by vaccination, both against the effects of its own poison and the future occurrence of the small-pox, exists only for a time, has been a favourite opinion with many, and even to this day does not want its supporters. How such a belief can be reconciled with the clear and lucid cases which are recorded by Dr. Jenner in his publications, I cannot possibly conceive. To prove that as a general law the protecting influence of this disease against small-pox is not affected by time, Dr. Jenner, in his "Inquiry into the Effects

and Causes of the "*Variolæ Vaccinæ*," relates the following cases:—John Morrett was inoculated with the small-pox twenty-five years after suffering from the cow-pox without effect. Sarah Portlock was inoculated twenty-seven years after, under the same circumstances, without effect. John Phillips was inoculated fifty-three years after passing through the cow-pox, and Mary Barge thirty-one years; both of them resisting the disease.

That the cow-pox does not invariably protect individuals from the future effects of its own poison was also his belief; the following statement is to be found in the publication last mentioned:—"Although the cow-pox shields the constitution from the small-pox, and the small-pox proves a protection against its own future poison, yet it appears that the human body is again and again susceptible of the infectious matter of the cow-pox, as the following history will demonstrate:—William Smith, of Pyrton in this parish, contracted this disease (the cow-pox) when he lived with a neighbouring farmer, in the year 1780. One of the horses belonging to the farm had sore heels, and it fell to his lot to attend him. By these means the infection was carried to the cows, and from the cows it was communicated to Smith. On one of his hands were several ulcerated sores, and he was affected with such symptoms as have been before described. In the year 1791, the cow-pox broke out at another farm, where he then lived as servant, and

he became affected with it a second time ; and in the year 1794, he was so unfortunate as to catch it again. The disease was equally severe the second and third time as it was the first." Dr. Jenner also relates the following case:—"Elizabeth Wynne, who had the cow-pox in the year 1759, was inoculated with variolous matter, without effect, in the year 1797, and again caught the cow-pox in the year 1798. When I saw her, which was on the eighth day after she received the infection, I found her affected with general lassitude, shiverings, alternating with heat, coldness of the extremities, and a quick, irregular pulse. These symptoms were preceded by a pain in the axilla. On her hand was one large pustulous sore, &c."

The probability that the vaccine virus may lose its properties in passing through so many individual constitutions, is a point of the deepest interest. Dr. Jenner describes the effects of vaccination with virus taken from the animal in the following words:—"Absorption takes place and tumours appear in each axilla. The system becomes affected—the pulse is quickened—and shiverings, with general lassitude and pains in the loins and limbs, with vomiting come on. The head is painful, and the patient is now and then affected with delirium." It is impossible to recognise in this description any resemblance to the effects of vaccination at the present time. The indisposition which now follows the

practice is so slight as scarcely to be noticeable. A trifling degree of restlessness appears to be its greatest inconvenience. Even this point Dr. Jenner had in view: he vaccinated individuals from each other, (remarking at the same time the comparative mildness of the constitutional disturbance), and found them afterwards incapable of being affected by variolous inoculation. But though the vaccine virus may retain all its original power, in passing through the constitutions of many scores of individuals, it does not necessarily follow, that its properties will remain the same after having passed through as many millions. Dr. Gooch has the following passage in his "Essay on the Contagious Nature of the Plague." "The vaccine matter fresh from the cow, produces a more painful disorder, than after it has passed for some time through the human subject by inoculation; and if vaccination be now less effectual than formerly, as a preventive of small-pox, it may be because we have neglected too long to vaccinate with matter taken immediately from the animal."

As I observed before, this is a point of the deepest interest; in the conjecture too, there is nothing repugnant to common sense; no vain or fanciful delusion; the mind rests satisfied with its probability, and laments the difficulties that prevent our establishing the point on the basis of experience.

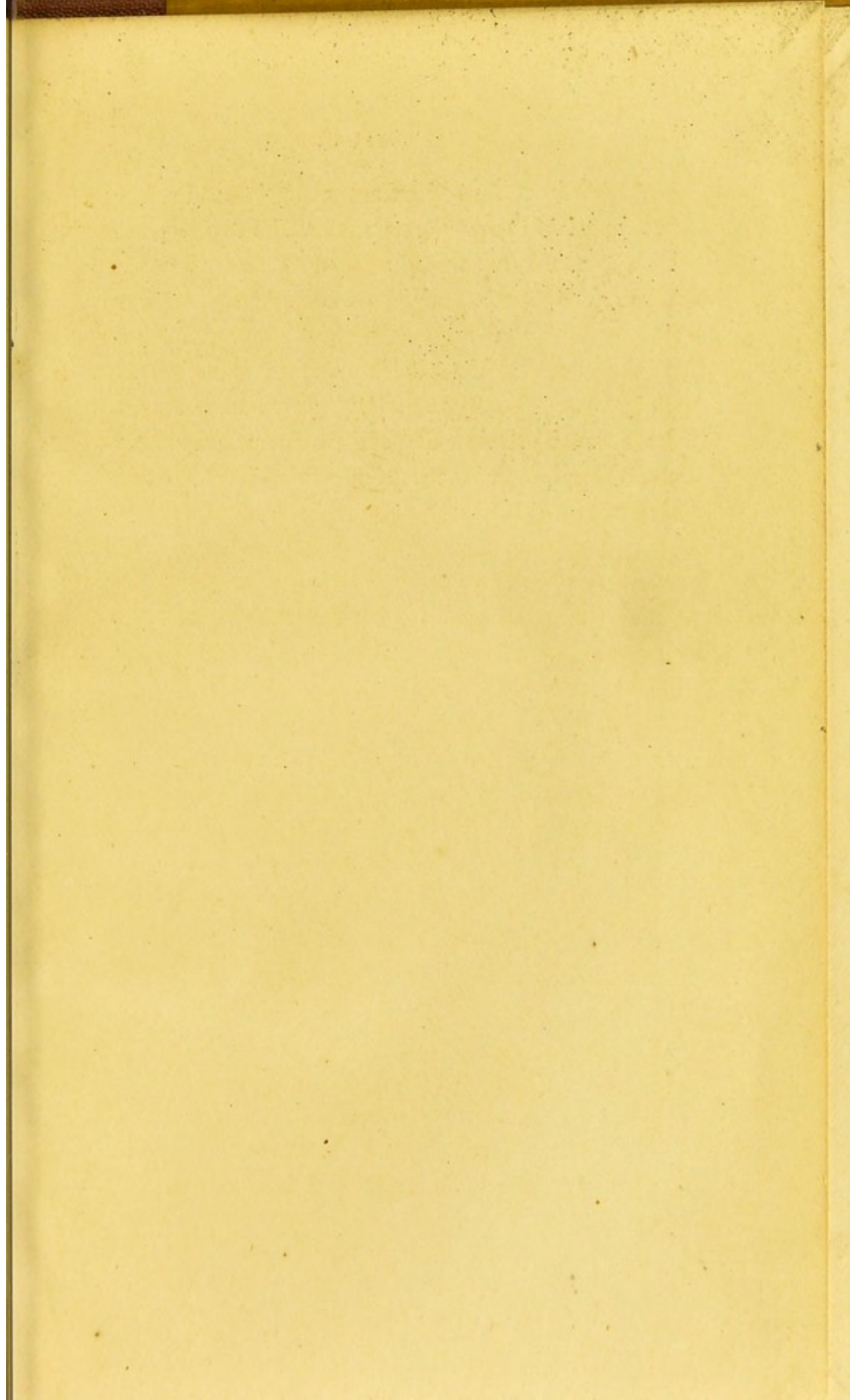
I feel anxious to be clearly understood, and therefore repeat, that I consider the discovery of vaccina-

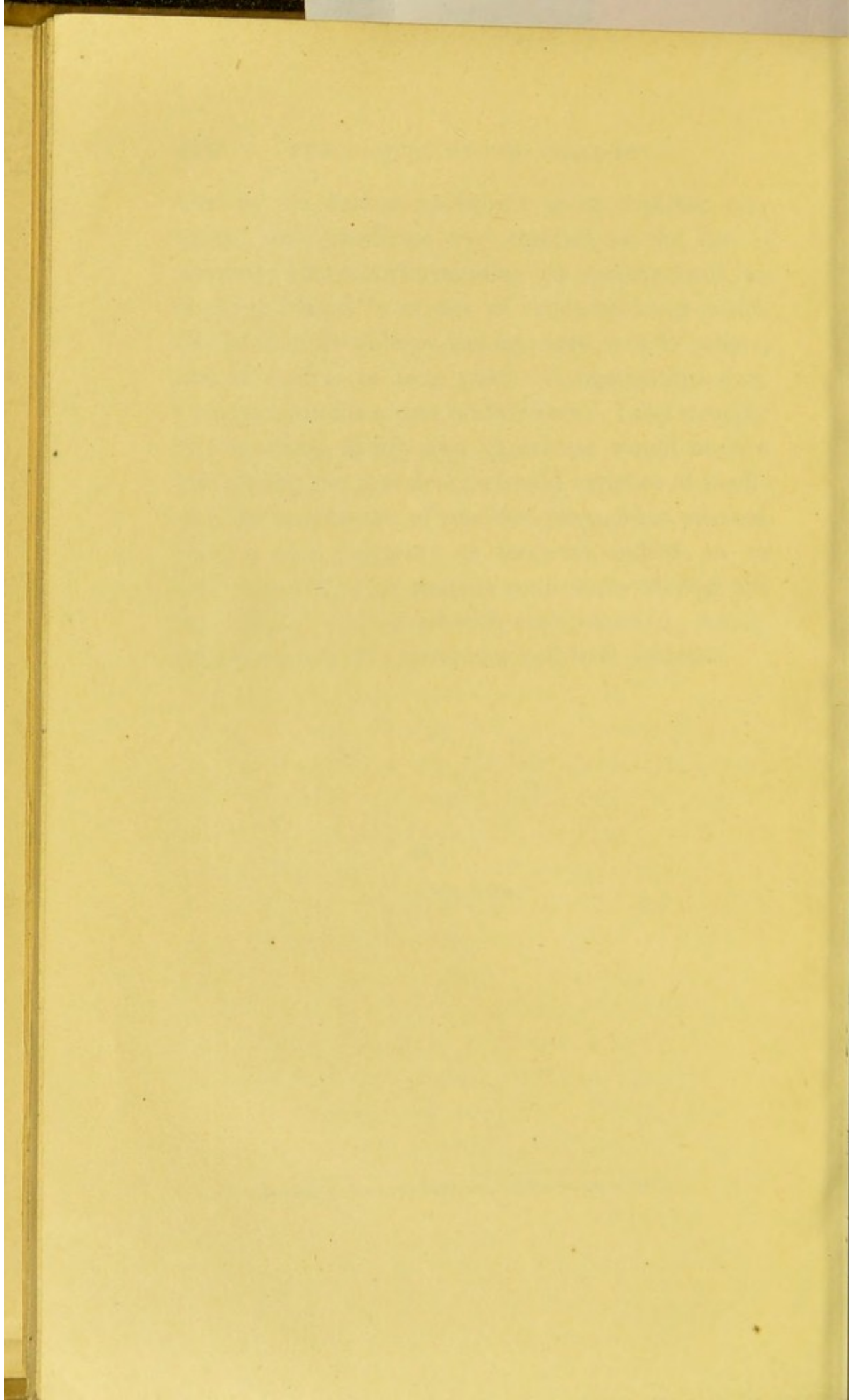
tion by Dr. Jenner to be the most brilliant ever made, since medicine was enrolled in the list of sciences; that notwithstanding its imperfections, we ought to regard it as one of those blessings which the hand of Providence has bestowed, and to believe, that it remains to us a point of conscientious duty to investigate the source of its failure. I feel strongly this necessity, as my own experience would declare that during the prevalence of mild varieties of small-pox, the occurrence of modified cases, after vaccination, is very frequent; so frequent, indeed, as to make it a subject of anxious conjecture, whether the vaccinated would escape with such impunity, during the prevalence of a malignant and fatal epidemic.

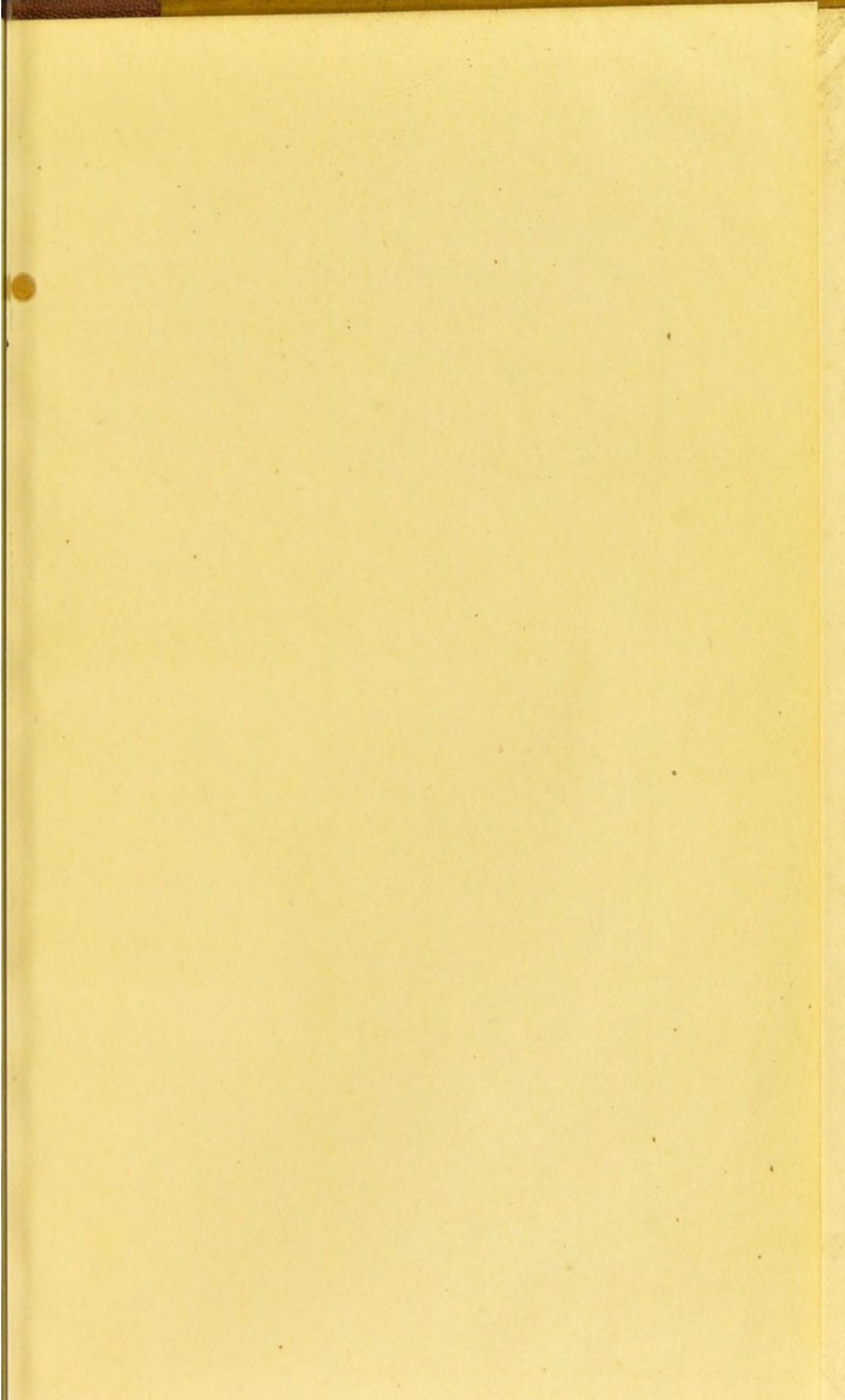
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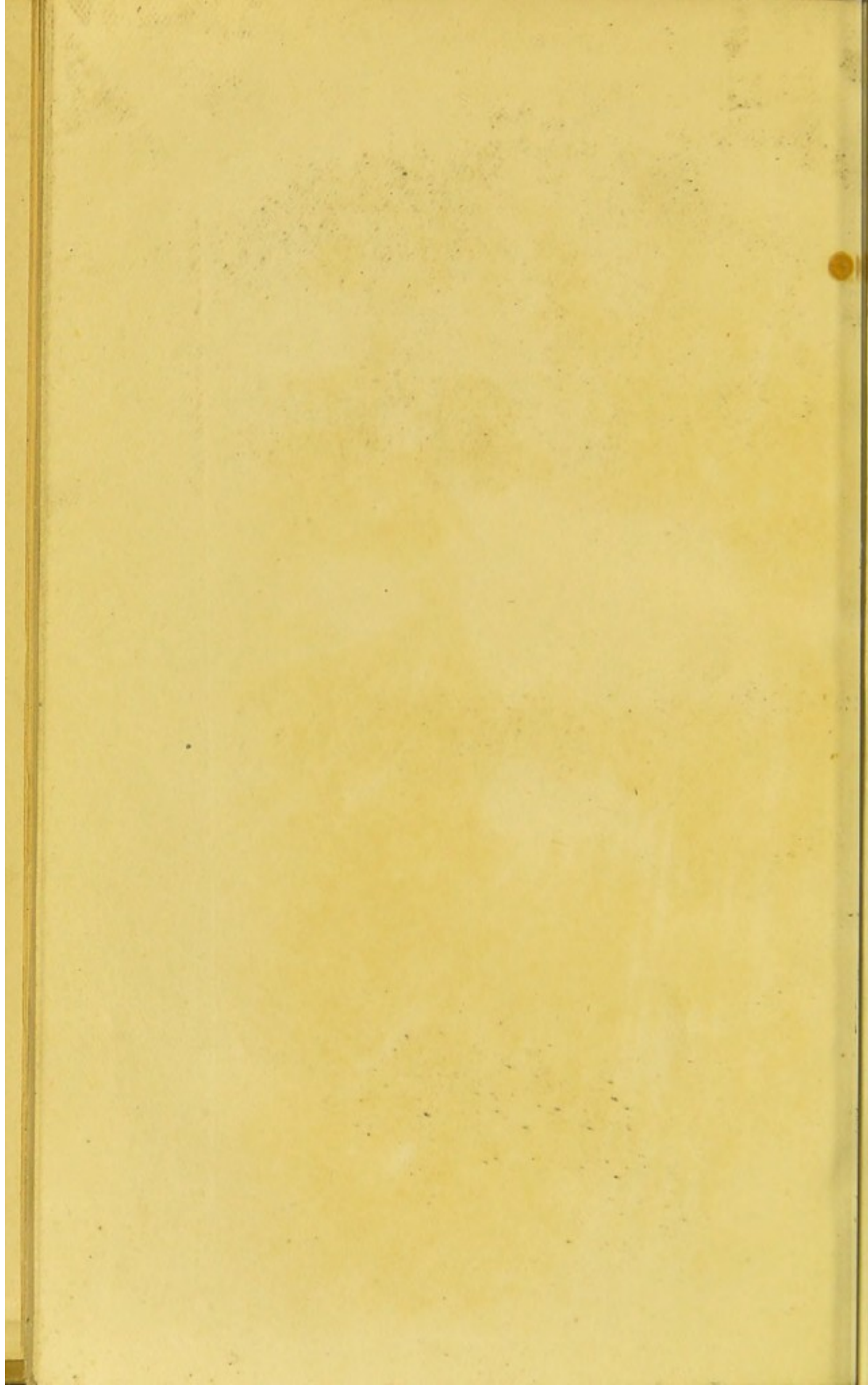
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