AN

INAUGURAL DISSERTATION

ON THE

SMALL-POX:

Submitted to the Examination of

THE REV. JOHN EWING, S. S. T. P. PROVOST;

THE TRUSTEES AND MEDICAL PROFESSORS

OF

THE UNIVERSITY OF PENNSYLVANIA,

IN ORDER TO OBTAIN THE DEGREE OF

DOCTOR OF MEDICINE,

ON THE TENTH DAY OF MAY, A. D. 1792.

BY NINIAN MAGRUDER,

OF MONTGOMERY COUNTY, MARYLAND.

PHILADELPHIA:

PRINTED BY ZACHARIAH POULSON, JUNIOR, No. 30, NORTH FOURTH-STREET, NEAR THE UNIVERSITY.

M DCC XCII.

TO

WILLIAM SHIPPEN, JUN. M. D.

AND

CASPAR WISTAR, M. D.

Professors of Anatomy, Surgery and Midwifery;

BENJAMIN RUSH, M. D.

Professor of the Institutes and Clinical Medicine;

ADAM KUHN, M. D.

Professor of the Theory and Practice of Medicine;

JAMES HUTCHINSON, M. D.

Professor of Chemistry;

AND

SAMUEL POWEL GRIFFITTS, M. D.

Professor of the Materia Medica and Pharmacy in the University of Pennsylvania,

This Dissertation

IS RESPECTFULLY INSCRIBED,

BY THEIR MUCH OBLIGED

AND HUMBLE SERVANT,

N. MAGRUDER.

TO

CHARLES A. BEATTY,

Physician in George Town in the State of Maryland,

This Inaugural Dissertation

IS, ALSO, RESPECTFULLY INSCRIBED,

BY HIS MUCH OBLIGED FRIEND

AND HUMBLE SERVANT,

N. MAGRUDER.

TO

ELISHA C. DICK, M. B.

OF ALEXANDRIA IN THE STATE OF VIRGINIA.

Worthy Sir,

IMPRESSED with a grateful ſenſe of the favors which you have conferred upon me in the courſe of my medical ſtudy under your direction, I embrace, with pleaſure, this opportunity of publicly acknowledging your friendſhip, and that I have derived from you conſiderable improvement in medicine: Be pleaſed, therefore, to accept of this teſtimony of my thanks; and permit me to dedicate to you this Inaugural Diſſertation.

Believe me to be,

S I R,

With the greateſt ſincerity,

Your much obliged Friend and Pupil,

N. MAGRUDER.

AN

INAUGURAL DISSERTATION

ON THE

SMALL-POX.

Shewing the moſt proper ſeaſon of the year for inoculation; the preparations neceſſary for ſecuring a favorable termination of the diſeaſe at each ſeaſon; and the particular diſtinctions in the diſeaſe, for illuſtrating a proper adminiſtration of remedies.

IN treating of this diſeaſe, I ſhall, in the firſt place, conſider the moſt proper ſeaſon of the year for receiving it, by ſhewing the diſpoſitions to diſeaſe, which are produced in the human conſtitution, from the varied influence of the ſeveral ſeaſons; and ſome of the epidemics peculiar to each of them.

The agreeable viciſſitude, by which an intermediate moderate ſeaſon is always placed between the cold of winter, and the heat of ſummer, is a means, which Nature has inſtituted, to guard the human body againſt the diſeaſes, to which it would be expoſed, if it were not thus, gradually, prepared for the ſucceeding extreme.

But

But the admirable arrangement, by which each ſeaſon is blended with the preceding one, and, then, by almoſt imperceptible degrees, aſſumes the nature of that which follows it, although, it certainly prevents, in a great meaſure, the deſtructive effects, which a ſudden change from winter to ſummer, and from ſummer to winter, would have on the human conſtitution, does not entirely hinder the ſeaſons, as they ſucceed each other, from producing changes in our bodies, which diſpoſe them to particular diſeaſes: This is evident from the nature of the epidemics peculiar to the different ſeaſons; which are more regular in many other countries, than in the variable and uncertain climate of this, and its neighbouring ſtates.

Cold is found, by univerſal experience, to give a diſpoſition to inflammatory diſorders, and heat to thoſe which are generally called nervous. During the winter and ſpring, pleuriſies, peripneumonies, inflammatory angina's, rheumatiſms, and inflammatory fevers, prevail. Towards the end of ſummer, and, particularly, in autumn, fevers of a different nature, dyſenteries, and putrid ulcerous ſore-throats make their appearance.

June, in my opinion, is the moſt healthy month in the whole year; which is evident from the circumſtance, that there is no epidemic peculiar to it; and as the weather of it has no power to diſpoſe the ſyſtem to any particular kind of diſeaſes; the conſtitution is, of courſe, exempted, during the period of that month, from the prediſpoſing power of any preceding ſeaſon operating upon it; and, as May and July vary but little from it, I conſider, theſe three months as the moſt healthy

ſeaſon

ſeaſon of the year. And this opinion, drawn from actual obſervation, will, unqueſtionably, derive additional force from the remark, that the weather of theſe three months is, of all other months of the year, the moſt ſteady and unchangeable; and, on that account, ſuitably adapted to the production of good health. And hence I infer that it is the moſt proper time for inoculation.

I conceive that ſome phyſicians have been hitherto deceived in preparing their patients by the uſe of the cold regimen, which, inſtead of extirpating any prediſpoſition in the ſyſtem, to a diſeaſe, has laid a foundation for rendering the attack of the ſmall pox more ſevere; and, by the imaginary efficacy of this regimen, the cold ſeaſons of winter and ſpring have been preferred to the more invariable and temperate weather of the three months before mentioned. In my opinion, the firſt ſummer month is a time when the excitement and excitability of the ſyſtem keep pace with each other, and reſt in an intermediate and healthy ſtate, between inflammatory diſeaſes, and thoſe of debility. But it is univerſally allowed, that in proportion as we approach to the end of Autumn the more the ſyſtem is diſpoſed to diſeaſes of debility; and on the other hand, in proportion as the ſpring approaches ſo is the ſyſtem diſpoſed to diſeaſes of an inflammatory nature.

This prediſpoſition in the ſyſtem, whether produced by ſeaſon, or any other cauſe, I conſider, only as a diſeaſe, in its latent ſtate; the nature of which is determined by the nature of the prediſpoſition acted on by the exciting cauſe: For inſtance, the virus of the ſmall pox, when taken into the ſyſtem, is, by its ſpecific power, an exciting

citing cauſe of the diſeaſe that follows; and in the degree or proportion that this prediſpoſition is allied to diſeaſes of the ſthenic, or aſthenic nature, ſo is the nature of the ſmall pox determined. But when it is taken by inoculation, a violent diſeaſe may almoſt always be obviated, either, by the choice of a healthy ſeaſon, or a preparative courſe ſuitable to the nature of the ſeaſon or prediſpoſition in the ſyſtem; and this I ſhall now proceed to conſider: But as inoculation is generally performed previouſly to the adoption of a preparative regimen, I ſhall firſt make a few remarks upon that operation.

The methods of communicating the ſmall pox have been different in different ages, as well as in the preſent; but I conceive the moſt eligible one is to immerſe the point of a ſharp lancet in the contagious matter; and, introduce it under the ſkin, in the left arm, by making a ſmall oblique puncture, with the ſide, or broad part of the lancet, next to the ſkin, ſo as juſt to cauſe the appearance of blood; then rub the lancet on and in the direction of the puncture, and afterwards preſs on it, with the blade of the lancet, with the intention to cloſe it, which in ſome meaſure prevents the diſcharge of blood, that probably might waſh out the infection. I have preferred the left arm for this purpoſe, becauſe it is generally leaſt uſed, and if it ſhould be attacked with inflammation, would be attended with leſs inconvenience than the right arm, or almoſt any other part of the body. Matter, dried on ſmall pieces of glaſs, or poliſhed ivory, and, defended againſt heat and moiſture, by being incloſed in an ivory box, or a common ſnuff box, is the moſt convenient way of keeping it, and may, in this manner, be preſerv-

ed

ed for a conſiderable length of time fit for uſe. When wanted for the purpoſe of inoculation it may be moiſtened with a little cold water.

Having made theſe remarks I proceed, as I propoſed, to conſider the preparative courſe before mentioned, and the precautions neceſſary to be obſerved from the time of inoculation until the approach of the fever of the ſmall pox.—And with regard to this the patient ſhould avoid all the prediſpoſing cauſes of fever.

Different medical writers have given the public a liſt of the remote cauſes of fever, in which is included almoſt every thing that can diſorder the human body, viz. full diet, thin watery diet, too great exerciſe, drinking cold watery liquors when the body is hot, and ſpirituous liquors whether the body be hot or cold, plethora, hemorrhages, ſtopping of iſſues, and other evacuations, the retention of excrementitious or other offenſive matter in the ſtomach and bowels, cold dry winds, moiſt weather, change of climate, night-watching, intenſe thought, venery, fear, grief, anxiety, the miaſmata or certain particles floating in the air, and which ariſe from marſhy grounds acted upon by heat, and the effluvia that flows from living human bodies pent up or confined from being diffuſed in the atmoſphere.

But, it is evident, that the greateſt number of them may be called prediſpoſing cauſes, from having only a tendency to prediſpoſe the body, to be more powerfully affected by ſome ſucceeding diſeaſe; ſuch, for example, as the ſmall pox. And this diſeaſe may be rendered more violent, by the prediſpoſing cauſes above enumerated. I ſhall conſider only a few of them, but the greateſt part may be, naturally enough, included under the obſervations which I ſhall now make.

In tracing the annals of medicine we find that many doctrines, which were once ſupported by

men of the higheſt medical authority, are now exploded and proved to be erroneous; with ſuch examples before me, whatever may be the determination of the multitude, I think I may, here, without cenſure, expreſs the conviction of my own opinion, that the practice of the cold regimen as it now prevails, and has obtained in this diſeaſe, is grounded upon erroneous doctrine. It may ſerve to elucidate this opinion to obſerve, that when the ſmall pox made its firſt appearance, the hot regimen, was, I believe, univerſally practiſed. Experience, however, and philoſophical inveſtigations of truth, afterwards diſcovered this plan of treatment to be pregnant with the moſt deleterious effects; and, with reaſon, dictated a different remedy. This remedy was then ſought for in a directly oppoſite extreme. The cold regimen was adopted, in all its unlimited extent, not only in the diſeaſe itſelf, but, even during the preparative courſe. Here the common adage, that one extreme begets another, was remarkably exemplified—For my part I am of opinion that either extreme is equally improper in preparing a patient for this diſeaſe; and I ſhall treat of them ſeparately as it will lead to explain the advantage of a particular and healthy ſeaſon, and the preparation neceſſary for each different ſeaſon of the year, and

Firſt, From heat prediſpoſing the ſyſtem to be affected with a fever of debility and the confluent ſmall pox in a direct manner.

Secondly, From cold prediſpoſing the ſyſtem to be affected with a violent inflammatory fever and the confluent ſmall pox in an indirect manner.

The firſt may be explained by the heat of ſummer, when gradually and uniformly applied, having a conſtant tendency to relax and debilitate the human conſtitution; this appears evident when we obſerve, that the inhabitants of warm climates are generally more effeminate and leſs capable of great

great exertions than thoſe of the moderate and colder; and we alſo find that the common diſeaſes of warm climates are the reverſe of inflammatory. But in our own climate when the heat of ſummer acts gradually on the body, there can be no doubt but that it tends to remove from the conſtitution the inflammatory diſpoſition produced by the cold of the preceeding ſeaſon, and diſpoſes to diſeaſes of a contrary nature; and the nearer the end of autumn approaches, the more this diſpoſition is increaſed, in ſome conſtitutions than in others. And if we ſhould unfortunately be forced to inoculate at this ſeaſon, we ſhould not only keep the patient out of the ſun, and moderately cool; but, in debilitated conſtitutions, give tonics, of which the Peruvian bark is the beſt, and a generous nouriſhing diet, to obliterate the predisposing debility and bring the conſtitution to a more healthy ſtate, which undoubtedly will render the diſeaſe milder. The patient ſhould avoid ſtimulating aliment, ſuch as roaſted, fried, and ſalted meats, alternate and ſudden changes from heat to cold, and ſpirituous liquors. Lenient purges ſhould be given to prevent too great an accumulation of excrementitious matter in the inteſtines.

There is no doubt but that autumn diſpoſes the body to diſeaſes attended very often with diſorders in the ſtomach, and bowels, and the appearance of a redundancy or acrimonious ſtate of the bile; from this circumſtance I infer that in preparing a patient at this ſeaſon of the year, gentle emetics may ſometimes, be very uſeful.

The ſecond part of my propoſition may be explained by obſerving, that the inhabitants of cold climates are more robuſt, and capable of greater exertions, than thoſe of warm climates; and alſo thoſe of our own climate, in conſequence of the operation of cold weather, and the gradual approach of ſpring, increaſing the diſpoſition in the ſyſtem to inflammatory

tory diſeaſes. The preparation of a patient, for the ſmall pox at this ſeaſon, muſt, of courſe, be eſſentially different from that ſuited to the autumnal ſeaſon; for, a debilitating plan is, at this time, indiſpenſably neceſſary to abate and eradicate the inflammatory diatheſis. This intention may be fully anſwered by the exhibition of purgative medicines or by blood-letting. The liberal or parſimonious uſe of theſe remedies ought, however, to be dictated by the predominant ſymptoms and practiced according to the ſtrength and conſtitution of the patient. Expoſure to extreme cold, and alternate changes from heat to cold, and cold to heat, ſhould be avoided. The patient ſhould alſo abſtain from invigorating and ſtimulating aliment, and uſe a light vegetable diet.

But, by inoculating in either of the three months before mentioned, the trouble in a great meaſure both to the phyſician and patient, of the uſe of an invigorating courſe of preparation in the fall, or the debilitating one in the ſpring is avoided. And from what has been ſaid, the reaſon of my opinion, that the month of May, June or July, is the moſt proper time for inoculation, is ſufficiently plain; for, I conceive it would be an act of ſupererogation to demonſtrate the abſolute neceſſity of avoiding the prediſpoſing cauſes of fever. If the health of the patient ſhould have been previouſly interrupted by any diſeaſe, he ſhould, in that caſe, be prepared for the ſmall pox by medicines ſuitable for the cure of the previous diſeaſe. And as the temperature of the weather, in May, does not reduce the condition of the body to a healthy point, and as that of July reduces it below it, the conſtitution, in general, requires, that the preparation in the former month ſhould partake in ſome meaſure of that neceſſary for the ſpring; and in the latter, of that ſuited to autumn. Attention ſhould, however, always be paid, to the

the conſtitution of the patient and the epidemic prevailing at the time of inoculation; for, different conſtitutions, and other attendant circumſtances, require a different preparative treatment, for the ſame reaſon that the fevers of the diſtinct and confluent ſmall pox require different remedies; and it is upon this ground of practice that the mildneſs of the diſeaſe very materially depends.

I have often had occaſion to obſerve, that ſome phyſicians have inoculated one part of a family, and poſtponed the inoculating of the other, until juſt before the former had taken the fever. Reaſoning upon this fact from the principles of analogy, which hold good in all other contagious diſeaſes, and which apply with equal force to the contagion of the ſmall pox, I have been hence led to infer this concluſion, that the continual application of the contagion or remote cauſe of the diſeaſe, I now contemplate, ariſing from thoſe of a part of a family firſt inoculated, to thoſe of it who are poſtponed, as before mentioned, until they are attacked, is an injurious practice and muſt, unqueſtionably, in a great degree, with reſpect to that part of the family ſo poſtponed, fruſtrate all reaſonable hopes of the mildneſs of their impending diſeaſe.

Before I leave this part of my ſubject, I muſt obſerve, that the intention which has influenced phyſicians, whilſt preparing a patient, to recommend the uſe of a repeated and almoſt continual application of local bathing, with cold water, to the eyes and the part inoculated, to prevent inflammation, is always defeated. Though cold bathing will cure ophthalmia, and diminiſh inflammation in the place inoculated, yet, when uſed as a preventative, it will render the parts more ſuſceptible of it; and for this reaſon, becauſe the ſyſtem is diſpoſed to local inflammations from an expoſure to, or a partial application of, cold.

I come

I come now to the treatment proper for the diſeaſe itſelf.

There is no doubt, but that the cold of winter, when gradually applied, tends to increaſe the inflammatory diſpoſition in the body, and the heat of ſummer, applied in like manner, tends to remove it; but in what particular manner, theſe effects are produced, is a ſubject too abſtruce for me to determine. I ſhall reſt in the knowledge of the facts, that, in the fall, the body appears to be relaxed and much debilitated; and that the heat of ſummer, when gradually applied, has a power of relaxing and diminiſhing, and cold the power of increaſing, the tone in the ſolids of the ſyſtem. Theſe are incontrovertible facts, and will remain inconteſtible whilſt the excitability of the ſyſtem, to be acted on by ſtimuli at every ſeaſon, continues the ſame; but without making againſt this principle, an exception may be admitted in favor of an increaſe or diminution of the excitability, in a degree proportioned to the quantity of ſtimuli acting upon it. Nor is it leſs indubitable, that the continued and regular operation of a certain quantity of them is neceſſary for life and health. But this principle in the animal œconomy, can only receive the impreſſions of a certain quantity of ſtimuli, which are different accordingly as their application is ſudden or gradual. And we alſo know, that the force of action, produced by ſtimuli, depends on the tone in the ſolids of the ſyſtem; and a certain degree of tone in them is neceſſary for health.

This, and the univerſal fact, that two equal impreſſions of a contrary nature do not act by each producing its ſeparate effects on the ſyſtem at the ſame time, lead me to hazard an opinion, that the cauſes that produce moſt diſeaſes depend on a certain ſtate or tone in the ſolids, connected with a certain portion of ſtimulability in the ſyſtem,

or

or a certain condition of them in the conſtitution of the individual, to favor the action of an exciting cauſe, and render him ſuſceptible of a diſeaſe; without which, how much ſoever he may be expoſed to an exciting cauſe, he will not, at that time, be ſeized with a diſeaſe: If this be true, we may conclude, that all diſeaſes take their origin in the ſolids and not in the fluids; and thus the various changes of the fluids in diſeaſes, are only in conſequence of, or a ſymptom depending upon a certain condition or diſeaſe in the ſolids.

If theſe conjectures be true, the antient doctrine, ſo long reputed orthodox, and ſo long a ſubject of controverſy amongſt phyſicians, "That a fever is an effort of nature to change or concoct ſome noxious or morbid matter that is in the conſtitution, ſo that it ſhall either be rendered quite innocent or thrown out of the body," muſt loſe that diſtinguiſhed claim to conſideration which it was thought to deſerve; and be contemplated only as an ingenious theoretical diſquiſition, contradicted, however, by the reaſon of practical facts. The advocates of this doctrine ſay, that the ſmall pox is the effect of a morbific matter, of a ſpecific kind, received into the body, and where an eruption takes place in conſequence of the fever, which not only deprives the body of the power of ever again receiving it, but clears the conſtitution of the noxious matter introduced; and hence aroſe the opinion and improper practice of giving ſtimulating medicines, according to the common phraſe, to force out the pock, which, in my opinion, where ſuch medicines were given, with that intention, often proved an injury. But later experience has proved, that an eruption is not neceſſary to inſure the patient againſt a future attack; but that the fever obtunds certain ſenſations of impreſſion in the ſyſtem, which renders it ever afterwards inſenſible to the diſeaſe. But, however,

however, an eruption may ſerve as a criterion by which we can judge of the identity of the diſeaſe, and as a conſolation to human nature by furniſhing the pleaſing conviction of being hereafter freed from its inſidious attack, and all its attendant anxieties.

The great Doctor Cullen defines the ſmall pox to be a diſeaſe ariſing from contagion of a ſpecific nature, which firſt produces a fever, and on the third or fourth day thereof, produces an eruption of ſmall red pimples. Theſe are afterwards formed into puſtules, containing a matter, which, in the courſe of eight days from the time of the eruption, is changed into pus. After this the matter dries, and falls off in cruſts.

In naming this illuſtrious author, " * before whom death himſelf appeared frequently to drop his commiſſion in a combat with his ſkill"—I pauſe to contemplate his ſuper eminent merit.—To this luminary of medical ſcience, we are indebted, in a great degree, for the preſent improved ſtate of phyſick! I ſhall adapt his definition, and as my knowledge and obſervation will not permit me to add to the accuracy of the hiſtory of this diſeaſe, given by this celebrated author; and as I take it for granted that all medical gentlemen poſſeſs his works, I muſt refer them to his firſt lines† for an accurate hiſtory of the ſmall pox.

This diſeaſe comes on with a fever as before mentioned, but of a different nature in different patients; that is to ſay, it approaches more or leſs to that of an inflammatory or typhoid appearance. And this fever will accordingly require a different treatment in proportion as it aſſumes an inflammatory or typhoid nature, which, I ſhall go on to treat of ſucceſſively. But in conſequence of inoculation, and proper a management of the patient,

* Vide Doctor Ruſh's Eulogium on Doctor Cullen.

† Vide Doctor Cullen's firſt lines of the practice of phyſic.

patient, it almoſt always appears in a mild inflammatory form, which I ſhall firſt conſider.

The inflammatory ſpecies of this diſeaſe comes on generally with all the ſymptoms of inflammatory fever, in a greater or leſſer degree. And when the diſeaſe is violent, it is frequently accompanied, beſides a full hard pulſe and thirſt, with a ſevere pain in the head and back; a fulneſs in the lungs; frequent inclinations to ſleep, with a ſudden ſtarting when the patient is juſt ready to fall a ſleep, or has actually gone to ſleep, which immediately awakes him; great heat preceded by a ſenſation of coldneſs, and frequent chills. The obvious indications of relief here, are to abate the too violent action of the heart, which gives riſe to all the other ſymptoms; and nothing has been diſcovered ſince the earlieſt medical records, which ſo effectually gives relief in all diſeaſes where the blood is too impetuouſly propelled, as diminiſhing its quantity. In doing this, great attention muſt be paid to the degree of violence of the diſeaſe, the ſex, age, conſtitution and occupation* of the patient. The repetition of bleeding ſhould be determined by the continuance of the ſymptoms and the appearance of the blood.

After diminiſhing the quantity of blood, the remedy which has the moſt immediate tendency to give relief in this ſpecies of the diſeaſe, is to evacuate the inteſtinal canal; and, therefore, it is highly expedient, ſoon after bleeding, to give ſuch a purgative as will effectually empty the whole courſe of them, and remove the irritating power that ariſes from an accumulation of their excrementitious contents, without occaſioning griping; or, otherwiſe, ſtimulating the ſyſtem; and the propereſt for anſwering this intention are

C thoſe

* Vide Doctor Currie's hiſtorical account of the climate and diſeaſes of the United Sttates of America. Page 42.

thoſe of a cooling nature, and of ſuch the materia medica furniſhes an ample variety. They alſo drain the arteries and other veſſels which pour their excretions into the cavity of the inteſtines, and, by this evacuation, diminiſh the too violent contractions of the heart and impetuoſity of the circulation; or, in other words, abate the fever. Coſtiveneſs ſhould be obviated through the whole courſe of the diſeaſe, by medicine ſuitable for that purpoſe.

There is a certain refrigerant, which is ſo obvious in giving relief to thoſe who ſuffer from the heat of fever, that nothing can prevent it from being univerſally adopted. I have before endeavoured to explain the impropriety of the cold regimen while preparing a patient, but here the obvious advantage, that may ariſe from it, can be better experienced than deſcribed. However, the application of cold ſhould always be uniform and conſtant.

The quantum of cold, as well as of bleeding and purging, ſhould be regulated in proportion to the violence of the fever, leaſt a too free uſe of them might ſuddenly change the nature of the diſeaſe, to that of a typhoid.

The moſt important remedies that can check the career of the inflammatory ſpecies of this diſeaſe have been mentioned, yet there is no doubt but that all the good effects, expected from them, may be promoted by ſome of the antimonials, and neutral ſalts, as nitre, &c.—To theſe I may add the mild ſubacid drinks, as lemonade, orange or lemon wheys, barley water, pure water, raſberry or currant jelly diſſolved in water, apple tea, balm tea acidulated with lemon juice, and other combinations ſuited to the patient's taſte, to abate the uneaſy and irritating ſenſation of thriſt.

The

The other, or typhoid ſpecies of this diſeaſe, comes on with laſſitude, an irregular ſenſation of cold approaching to chilneſs, a pain in the back, a confuſed pain in the head with delirium; thirſt, nauſea, and ſometimes vomiting; the pulſe, though hard and quick, yet is not ſo ſtrong, full, and equal, as in the inflammatory ſpecies, neither is the heat of the body ſo great, nor does it come on ſo ſuddenly.

This ſpecies appears to be of a mixed nature, and to reſt in an intermediate ſtate between ſynocha and typhus, and which may be called a connecting link between thoſe two fevers. This I infer to be the caſe, by the ſymptoms before mentioned, forbidding the uſe of ſtimulants. by its perfidious nature, after diſplaying a likeneſs to the former, is apt ſuddenly to aſſume the appearance of the latter, and by a moderate bleeding inſtead of producing the good effects which we might probably expect, not unfrequently occaſions a ſudden and dangerous degree of weakneſs.

If it be difficult to point out a regular plan of treatment in diſeaſes whoſe indications are more uniform, it muſt be ſtill more difficult in this ſpecies of fever, whoſe middle nature announces it to be a diſeaſe both of the arterial and nervous ſyſtem. And as debilitating remedies are beneficial in diſeaſes of the arterial ſyſtem and hurtful in the nervous, one of the moſt important points is to decide on a plan of treatment proper for this ſpecies of the ſmall pox. Here I muſt coincide with what Doctor Ruſh obſerved in his laſt courſe of lectures, on this ſpecies of diſeaſes, in repeating, that the beſt we can do, is to do nothing at all, but watch the change that is apt ſuddenly to take place; to this I will add the alleviation of certain ſymptoms, which would aggravate the diſeaſe.

If we have reaſon to think, that there is an accumulation of acrimonious matter in the alimentary

mentary canal, it follows, of courſe, that ſuch an accumulation muſt aggravate every ſymptom of the diſeaſe; and it cannot be doubted that the throwing of ſuch a load out of the body muſt have a conſiderable effect in relieving the oppreſſed and reſtleſs patient. And when there appears to be a tendency to a new accumulation, which may be known by the patient's becoming coſtive and reſtleſs, he ſhould be relieved by clyſters or the uſe of ſuch a mild cathartic as will perform its office eaſily and without griping. However, the uſe of purgatives may be objected to, from an apprehenſion of their diminiſhing the patient's ſtrength; it muſt be remembered, that nothing is more exhauſting than the heat and reſtleſſneſs occaſioned by an accumulation of acrid fæces and other matter in the bowels. The purgative, therefore, which removes theſe, proves, in effect, to be a ſtrengthening and not a debilitating remedy; beſides, this accumulation is apt to burſt forth in a violent diarrhæa,* which might ſuddenly reduce the patient to a very great degree of weakneſs, but which may be prevented by a well timed and judicious uſe of a mild laxative.

It ſeems obvious, that the alleviation of thirſt will relieve an uneaſy ſymptom of this diſeaſe. This may be effectually done by drinking the quenching liquids before mentioned, and uſing the proper aliment for a feveriſh and capricious ſtomach, ſuch as all ſorts of mild juicy ripe fruits: Theſe ſpread a refreſhing moiſture over the parched tongue and throat of the languid patient, and ſooth the ardor of his thirſt; beſides which they have alſo a tendency to keep the bowels open.

With regard to the propriety of the uſe of the cold regimen in the typhoid ſmall pox, It will, I expect,

* And, in my opinion, the diarhæa that ſometimes attends this diſeaſe, often ariſes in this manner.

expect, by every unprejudiced mind, be thought injurious, except as to the meer application of freſh air, and this is ſelf-evident eſſential to the well doing and recovery of the patient. And with regard to the propriety of a free ventilation, it is beyond all contradiction proved, by obſerving the benefit which ariſes from its manifeſtly ſalutary effects in other contagious diſeaſes of debility.

I come now to conſider the moſt important part of the treatment for a typhoid fever of the ſmall pox, which is, to watch the change that is apt ſuddenly to take place. And if this fever is left to itſelf, it not unfrequently approaches more or leſs before the eruption to a typhus;* which will afterwards continue to increaſe with unrelenting aſſiduity, and ſoon reduce the patient to an irrecoverable ſituation. This typhoid fever never fails to uſher in a confluent eruption, with more or leſs malignity, in proportion as it has, at that time, aſſumed more or leſs of a typhus nature, which may be interrupted in its career by a well timed and judicious uſe of the Peruvian bark.

When this diſeaſe comes on with a typhoid fever, as I have before obſerved, the confluent ſmall

* A typhus is a fever that affects the nervous ſyſtem; though, indeed, every fever affects it in ſome meaſure, becauſe a fever occaſions a general diſturbance of the whole animal œconomy, of which the nervous ſyſtem is a part; but in this particular fever called typhus, the nervous ſyſtem is more particularly and violently affected than in other fevers. And it is diſtinguiſhed by being accompanied with a prostration of ſtrength and debility of the whole ſyſtem; the pulſe varies more than in other fevers, both in point of quickneſs and ſlowneſs, and ſtrength and weakneſs; the ſkin is generally pale, and gives a penetrating heat to thoſe who touch the patient; a heavineſs in the head, and tremor in the hands, accompanied with lanquor and deſpondency. The malignity and danger of this fever is generally in proportion to the degree of debility, which important circumſtance ought conſtantly to be kept in remembrance.

ſmall pox is produced in a direct manner, and in an indirect manner, when the diſeaſe comes on with inflammatory fever, which afterwards degenerates into a typhoid. This opinion is, with me. ſtill more confirmed, when I reflect, that all fevers, after continuing a certain time, without any favorable change, aſſumes nearly the ſame appearance;* this induces me to ſay, that an inflammatory fever firſt paſſes to a typhoid, after which it ſeldom fails to glide on with an augmenting celerity, to the conſequences of an approaching typhus.

When the confluent ſmall pox is produced, whether in a direct or indirect manner, there is no diſtinction neceſſary to be made, as it requires the ſame treatment. The natural ſmall pox, in autumn, ſeldom fails to attack with a typhoid fever, which, in my opinion, ſufficiently aſcertains the general utility and great advantage of the practice of inoculation, for it is conducive to happineſs in leſſoning the miſeries of human nature, not only by affording us the important advantage of a preparation, but the choice of a moſt convenient time or healthy ſeaſon for taking the diſeaſe.

The time for adminiſtering the Peruvian bark muſt be left entirely to the judicious and prudent practitioner; but from the perfidious nature of this diſeaſe to take a ſudden change, the bark had better be given too ſoon than too late; and at any period of the diſeaſe, if the patient unexpectedly becomes giddy, feeble, and languid, we ſhould directly have recourſe to the bark, as a means to obviate the melancholy train of ſymptoms, of which a ſudden proſtration of ſtrength is often the foreboder; but when, in ſpite of all our efforts, they have taken place, the diſeaſe is no longer of a typhoid kind, but has degenerated into a true typhus, putrid or malignant.

When

* Vide Doctor Currie's hiſtorical account of the climate and diſeaſes of the United States of America. Page 122.

When the ſituation of the patient requires the uſe of bark, the quantity adminiſtered muſt depend on the virulence of the diſeaſe; but where the inflammatory diatheſis is entirely obliterated, the diſeaſe accompanied with great debility, and the eruption puts on a very confluent aſpect, the bark may be given from one to two ounces in a day. Wine, by adding to its good effects, is a very good menſtruum for it to be given in. However, the uſe of the bark, in any fever, may, probably, be objected to; but for an explanation of its beneficial effects, I muſt recommend the reading of Doctor Cleghorn's obſervations,* who, by practical facts, has verified the propriety of its adminiſtration in ſuch caſes.

I ſhall conclude the ſubject of this diſſertation, with ſome obſervations on the alleviation of ſome alarming ſymptoms, which ſometimes accompany the ſmall pox.

The convulſions, that ſometimes attend this diſeaſe, have cauſed a great deal of doubt with regard to the remedies proper for their cure; but, from the univerſal fact, that the cure of all ſymptomatic affections depends on a cure of their primary diſeaſe, it manifeſtly appears, that the remedies for thoſe convulſions ſhould be different, when they attend the inflammatory or typhoid fever. If convulſions occur in the imflammatory ſpecies of this diſeaſe, all the remedies that are recommended, for that ſpecies, are proper to remove them, particularly expoſing the patient to cold; but if they attend the typhoid, all the remedies recommended in that caſe are proper; but when the nature of this fever appears to ballance on the ſide of debility, liquid laudanum may be uſed to alleviate the convulſions, and afford an opportunity

* Vide Doctor George Cleghorn's obſervations on the epidemical diſeaſes of Minorca.

opportunity to adminiſter the bark, which is a more certain and durable remedy.

Another ſymptom that ſometimes attends this diſeaſe, is an inflamed arm; here I conſider cold bathing to be the moſt certain remedy, but ignorance and the uſurping opinions of ſome people, have brought it too generally into uſe; of this I am convinced, from facts that occurred to me during the laſt ſummer, when ſome, after their arms became ſore, made too liberal a uſe of local bathing of cold water. The conſequence was, the inflammation began to vaniſh, and, at length, their ulſers put on a gangrenous appearance, for which they were obliged to have recourſe to ſtimulating applications, to produce the neceſſary degree of inflammation for their healing, and for which purpoſe powdered bark, made moiſt with water, was very efficatious. If the eyes ſhould appear inflamed, cold bathing* of them may be uſed, with advantage, and almoſt a certainty of releaving the inflammation, and preventing the appearance of pock. Although what I have now ſaid of the uſe of this powerful remedy, may appear paradoxical, when compared with what I have ſaid before, I ſhall reſt ſatisfied in the hope, that, through the courſe of my diſſertation, I have ſufficiently inveſtigated and reconciled the diſtinctions neceſſary for its uſe.

* The effects of cold water may be increaſed by adding ſome of the ſaturnine preparations to it.

FINIS.