

Observations on gout, critical and pathological; or, an analytical survey of the views at present entertained of the nature of that disorder; with practical remarks on the injurious effects of colchicum, and on certain modes of diet / by A. Rennie.

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OBSERVATIONS

ON

GOUT,

CRITICAL AND PATHOLOGICAL;

OR, AN

ANALYTICAL SURVEY

OF THE VIEWS AT PRESENT ENTERTAINED OF

THE NATURE OF THAT DISORDER;

WITH

PRACTICAL REMARKS

ON THE

INJURIOUS EFFECTS OF COLCHICUM,

AND ON

CERTAIN MODES OF DIET.

By A. RENNIE, SURGEON, &c.

“ Neque enim credunt (qui rationalem medicinam profitentur,) posse eum scire, quomodo morbos curare conveniat, qui unde hi sint ignoret.”—*CELSUS, Præfatio, lib. i.*

LONDON:

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MED. EDIN.

OBSERVATIONS

GOUT.

CRITICAL AND PATHOLOGICAL

ANALYTICAL SURVEY

OF THE NATURE AND PRESENT EXTENT OF

THE NATURE OF THAT DISORDER.

PRACTICAL REMARKS

LONDON:

PRINTED BY J. MOYES, BOUVERIE STREET.

FALCIFORM EFFECTS OF COLICUM.

CERTAIN MODES OF DIET

By A. KENNIE, Surgeon, &c.

LONDON

PRINTED FOR THOMAS AND GEORGE LINDWOOD,

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PREFACE.

IF the author of these pages did not believe he could throw some light on the subject of inquiry, the task of exposing the imperfect, or erroneous views advanced and maintained by other writers, might be out of place; but having had the good, or, as some would have it, the bad fortune, to experience the gout in his own person — an advantage, he believes, not possessed by every inquirer who has preceded him — he has thereby enjoyed the opportunity of correcting professional experience by personal; and of applying acknowledged pathological principles, to the various phenomena of this disorder, in a manner much more direct and satisfactory, than could possibly be done by mere observation, however frequently and variously exercised.

In his own case, he has possessed the means of daily studying the various symptoms, their constantly diversified characters, and

their relations mutually to each other, to the system, and to the causes producing them; of verifying, by experimental exposures, the influence of particular agencies, in aggravating or alleviating individual sensations; of minutely observing the frequent recurrences of the disorder, in different degrees and forms, according to diversity of circumstances; and of putting to the test, the various medical or dietetic measures suggested by practical experience, by knowledge of their therapeutical properties, or by reference to the laws of the animal economy.

Continual opportunities were, at the same time, daily afforded in practice, of comparing the history, causes, symptoms, and constitutional peculiarities of other gouty invalids, with his own personal experience. The ultimate result has been, that the writer, for himself, has ascertained means by which he has obtained entire immunity from the disorder, of which he had become morbidly susceptible from the slightest causes; and not a few others, who have been led to adopt measures adapted to their individual circumstances, have also obtained similar relief.

On the basis of these results, sufficiently numerous and diversified to be satisfactory, the author considers it a duty he owes to the public, to endeavour to establish those views of the nature of this disease, which appear to him accordant with the history, causes, and symptoms of individual cases, and confirmed by the only true test of all theoretical principles—*experience*. He lays claim to no specific, the idea of which, by every ingenuous and intelligent mind, must be admitted absurd; although more surprising and instantaneous, if not miraculous, cures of gout are on record, than, perhaps, of any other disease whatever. If every instance of this kind be a correct relation of fact, it is no less unfortunate than unaccountable, that the knowledge of the means should have invariably died with their respective discoverers. The maxim is not the less apposite for being trite, that there are in medicine more false facts than false theories. At the same time it is apparent, that if ever an equivalent for a specific is to be found, it will consist in legitimate and sound therapeutical principles, deduced from correct and

scientific views of the pathological nature and characters of the disease. The author is far from expecting any quarter to be shewn to the views or conclusions he may suggest, —on any other ground than the legitimate and independent evidence on which they rest—and therefore, intends to abstain from any inferences suggested by allusions to his own case, in any argument hereafter advanced, grounding every induction on more extended and general observations, presenting themselves in the course of his professional duties; yet he may be allowed to state, that the utility of his personal experience, in concentrating his attention, and rectifying his conceptions, respecting this obscure and complicated disease, has been such, that he has no hesitation in asserting, that he would rather undergo one paroxysm of gout himself—a morbid process, he could re-induce at any time upon his system — than treat almost any number of cases of the disorder, groping blindly for indications, amid the present vague, confused, and contradictory notions that are prevalent on the subject.

Under such circumstances, it is not pre-

suming too much on his opportunities, to claim the liberty of thinking for himself; and if, in doing so, he looks at facts in a different point of view, and perceives premises in different relations, so as to arrive in a separate and independent road, at different conclusions on certain points from preceding inquirers, he may also be permitted to emancipate himself from the trammels of their authority, for the purpose of representing truth in its just light.

In prosecuting the inquiry, it has been found necessary to question the correctness, and to demonstrate the inadequacies and inconsistencies of certain pathological opinions, supported by writers of considerable celebrity, to whom medical science is unquestionably under strong obligations, for the value and importance of their contributions to the general stock of knowledge; and to whom the author is as disposed as any one, to pay that deference to which their talents and acquirements really entitle them. Justly as that deference and respect may be due, this is no reason for the perpetuation of error,

by implicit adoption of their opinions, or from an undue deference to their names.

To disavow the influence of a name, however, is one thing; to despise and undervalue legitimate authority, is manifestly another. There is an affectation of professional *politesse*,—a passive, and pusillanimous tenderness, amounting to flattery of others in their favourite views, which, with a rigid hand, should be eradicated from all scientific investigations. Equally distant from philosophical decorum, is the indulgence of malevolent or illiberal feelings, leading to personal animosity, contention, and acrimonious controversy. No man, be his talents what they may, is fit for the office of successfully clearing truth out of the midst of conflicting opinions, who does not divest himself of partial feelings, or of personal motives; and who does not, with the heart reined, and the head unbiassed, pursue her for her own sake, and for the benefits she confers on general society. Nor is any man, however high in name, entitled to have his feelings respected, who retains undue partiality for his own opinions, merely

because they are his, who is not prepared to resign every position he may have advanced, so soon as it has been demonstrated untenable.

Under these impressions, the author in the following pages has, without ceremony or restraint, examined each of the various hypotheses on the subject of gout, not regarding by whose authority it may have been sanctioned, but simply, how far it appears to be founded on an adequate basis of observation, consistent in itself, and accordant with experience.

In doing so, it might have appeared proper to dispense with names; but great, or fancied great names, sanction great errors: and erroneous opinions, once sealed with the stamp of authority, the credit of their authors is generally pledged for their propagation. For this reason, many of the arguments in the following essay, have assumed a more coercive style than might appear, perhaps, consistent with courtesy or etiquette towards living authors. But in exact proportion as the subject is important, and prevalent misconceptions respecting it supported by any extraneous in-

fluence, so is it the more indispensable for the advancement of truth that they be overthrown. It is much less prejudicial to real merit, to be met by open and unqualified objections, such as are urged in these pages, than to be disingenuously defrauded of that notice to which a work of labour and talent is justly entitled, from those who cultivate the same field.

It was the author's first intention, to make this treatise entirely one of original and independent observation and induction; and he accordingly refrained from reading almost any work on the subject, founding his practice exclusively on general pathological principles. But after having observed and thought for himself, and having completed the leading pathological positions, both in outline and detail, it appeared expedient to ascertain what other observers had done before him. Finding numerous coincidences in matters of observation, though at the same time wide differences, both in the processes and results of induction, it was judged proper to depart from his original intentions, and to prefix the present analytical survey.

In thus collecting together the views of

original writers on any obscure and complicated inquiry, several important objects are gained. The subject itself is presented in separate, and perhaps opposite aspects; its different relations are traced in a clear, striking, and impartial manner; an accurate and expanded view is afforded of the more leading and essential phenomena, which constitute the basis of separate and independent processes of induction, converging, as it were, into one focus; and although much that is hypothetical may have been advanced, and no nearer approach may have been made towards satisfactory theory than bare conjecture, yet the aggregated mass thus brought together by various accurate and original observers, when divested of what is assumed on doubtful or imperfect data, affords the most comprehensive and satisfactory grounds for just inductions; and ultimately for sound theoretical conclusions.

While, therefore, it has been found necessary to urge, with due force, the objections which apply to the hypothetical propositions of the various pathological inquirers on gout,

it is by no means implied that these views are altogether destitute of foundation. Much has been doubtless observed accurately, and recorded faithfully, talent and ingenuity displayed in reasoning, as well as sagacity in conjecture; insomuch, indeed, that almost every writer noticed has adopted certain views which, in particular relations, very nearly approximate to the truth; although, taken as a whole, and in other of their aspects, unable to bear a rigid examination. The line, therefore, has been carefully drawn between what is founded on observation, accordant with pathological principles, and confirmed by experience and what not. And whereas every respect is due to the authors — the same cannot be extended to such of their opinions as are incompatible with reason or opposed to facts.

There is one practical point the author judges it right to anticipate, from its extreme importance — the prevailing predilection for the use of *colchicum*, and preparations under various names, containing this deleterious

drug in disguise. It is hardly necessary to inform the non-medical reader,* that this much boasted specific, when incautiously *used*, is nothing else than a virulent poison. Nevertheless treatises and imposing advertisements are daily issuing from the press, for the sole purpose of recommending this medicine to the notice of gouty invalids; as if the list of debilitating and enervating influences to which this class of sufferers is peculiarly exposed, were not already sufficiently complete, without such expedients for its treatment. That the colchicum, under medical judgment, has been productive of speedy and effectual relief, in the acute suffering of the paroxysm, it would be vain to deny; but it is a fact equally indisputable, and admitted by all medical observers of experience, that this relief is invariably obtained at heavy expense to the constitution; and a train of evils has been the usual consequence of habitual recourse to this fancied specific, especially when administered by rash and unskilful hands, greatly more serious than

* To such the present remarks are chiefly applicable.

that which has been removed. Yet such is the influence of fashion, such the sweet force of metallic attraction, that authors who ought to know better, are content to hobby the prevalent prejudice, and to bolster up their own pretensions on the credit which is due to the noxious potency of this substance; thus holding out delusive encouragement to the inexperienced invalid, to resort to energetic preparations of it at his own discretion. On such procedure, whether it appears in the form of quackery direct, or in the still more gross prostitution of a legitimate title to respect and confidence, to the unworthy purpose of imposing on credulity, and flattering popular predilections, every man of discernment and independence must bestow the contempt it merits.

The use of colchicum, it is true, is not confined to cases of gout. Such is the increasing favour for this successor to the fame of digitalis, and other nearly exploded nostrums, that a patient now no sooner contracts a rheumatic pain or trivial catarrh, which a few days' confinement, a mild and salutary alvine evacuation, and a gentle diaphoretic, would

certainly remove, after the approved method, with safety and ultimate benefit, than he is dosed with colchicum, to the manifest and certain injury of the constitution.

No man of an enlarged benevolence and cultivated understanding, would voluntarily restrain any attempts at improvements in practice; but it is the concurrent voice of enlightened humanity, of common sense, and of sound science, that there is no improvement in the use of such powerful means in any form where simpler and not less effectual methods are in our power. If this instrument of present relief be certainly productive of ultimate and serious injury, it is assuredly of no less importance to ascertain where its use can be safely dispensed with, than how often and how variously it may be administered.

With respect to gout in particular, I may be allowed to deprecate, in the strongest manner, the indiscriminate and frequent adoption of colchicum. I have frequently had occasion to observe its effects on the gouty constitution, and have inquired pretty extensively into the subsequent history of persons who

have employed it; and the result, founded both upon what I consider just views of the nature of the disease, and upon an adequate basis of experience, is a decided and unbiassed conviction—1. That the use of *colchicum* for the cure of gout, whatever be the immediate relief derived, is pregnant with future mischiefs to the constitution which present advantages seldom can compensate. 2. That whatever be the violence or character of individual paroxysms of gout, the use of *colchicum* is *seldom, if ever*, necessary to cut short the sufferings of the patient; and is not only entirely inadequate to remove, but frequently aggravates the constitutional tendency to the disorder. 3. That both these objects may be more safely, and often as effectually accomplished by other measures, adapted to the existing indications presented in different constitutions or circumstances, and accordant with correct views of the true origin and nature of the disease.

One fact is worth a hundred arguments; and, therefore, in illustration of these positions, I subjoin the following detail, which is not a solitary case, but a specimen of many similar

that have occurred, and which shall be fully adverted to in the subsequent parts of this Treatise.

R., a gentleman aged about sixty, liable to gout for nearly twenty years, has, for two or three years back, been in the habit of using the tinct. colchici on every attack, *entirely at his own discretion*. His usual dose was a tea-spoonful, which he repeated every six or eight hours, till the paroxysm subsided. This relief was generally obtained within a day or two from the seizure, and he consequently became habitually attached to the remedy. He had not long continued its use, however, when he found his attacks of gout gradually recurring at shorter intervals, insomuch that he never could calculate on protracting the periods of freedom longer than a month to six weeks during the whole winter. He became liable to great languor and debility, frequent fits of unconquerable drowsiness, with restless sleep, night-mare, and horrid dreams, &c. The gout now visited him occasionally in summer, and it was at this season I first saw him. The disorder had evidently acquired much of the chronic and erratic characters, with some distortion of the fingers and thickening of the

capsular membranes. The present attack under which he laboured, was extremely severe; having passed from the foot to the knee, shoulder, elbow, and hand successively, with most commanding pain, preventing loco-motion, and precluding rest or sleep.

This gentleman was prevailed upon to relinquish the colchicum, and by adopting a system adapted to his constitutional condition, he passed the whole ensuing winter without a single attack. He was far from strict in his adherence to the regimen prescribed, which was by no means rigid, being recommended half-a-pound of animal food daily, a few glasses of port wine, and other good things for the gouty constitution. Getting careless and over-secure at the latter end of spring, and considering all risk of recurrence over, he began to indulge in liberties, and to neglect attention to his habit. The consequence was a paroxysm. It was, however, very slight comparatively, and of short duration to those he had experienced while using the colchicum, and, by a little watchful anticipation, it might have been certainly and completely prevented.

Another gentleman, aged about fifty-eight, long liable to gout, had also got into the habit

of seeking present relief from the colchicum. His liability to the disorder was so far from eradicated, that the paroxysms gradually recurred with greater frequency and in more protracted forms, so long as he continued this medicine; insomuch, indeed, that at the time I first saw him, which was in the spring season, he had been confined to his room the whole winter, I think for four months, the greater part of which time he had been confined to bed. His susceptibility to the disorder was such, that the slightest breath of air affected him; his appetite was extremely deficient—a symptom some pathologists would consider as a happy circumstance constraining salutary abstemiousness, but which, in real truth, is a great evil; such a monkish mortification necessarily preventing all enjoyment, precluding the very means of constitutional restoration, being therefore repugnant alike to common sense, sound pathology, and therapeutical* experience. His complexion was

* These cases shall be hereafter adduced in detail, as illustrating the principles of treatment suggested by the pathological views of gout advanced in this work. Vol. II.

blanched a sallow white, and his lips pale as paper; an effect I have frequently had occasion to remark as following the liberal use of colchicum, and which also occurred in Case I. This gentleman left off the colchicum entirely, and has escaped gout for the whole ensuing summer and winter.

If such results can be attained without colchicum, (and, so far as my experience goes, they may almost invariably be so,) where is the utility, or, rather, how great is the folly, of continuing the administration of a temporary means of relief, which undermines the constitution as a slow and certain poison.

HERTFORD STREET, MAYFAIR,

June 7, 1825.

OBSERVATIONS,

ETC. ETC.

ON THE PATHOLOGY OF GOUT.

M. BAYLE,* in a recent communication on the subject of gout, concludes with this position: "That the nature of gout is as yet unknown." An opinion to this effect from such respectable authority, confirmed as it is by general assent, supplies at once the incitement to farther investigation, and just grounds for caution in conducting it to any conclusion. A disease proverbially so obscure as to have baffled every attempt at satisfactory elucidation hitherto, presents the strongest claims to pathological inquiry, while it furnishes also some excuse for eventual failure. Were it not, indeed, for the hope of indulgence on this ground, the encouragement to such an undertaking would be liable to fail under its difficulties.

* Vide Johnson's Med. Journal, Feb. 1825.

And yet, in conducting inquiry for the single purpose of discovering and establishing truth, an author may disburthen himself of much unnecessary anxiety, under exposure to collision of candid and enlightened judgment, by cautious observance of just rules for conducting scientific investigation, and a strict adherence to the dictates of common sense. Let no position be received on authority without rigid examination. Let no conclusion be admitted which is not founded on legitimate induction from accurate and extended observation of facts. Let observation be practised unbiassed by preconceived opinion; let reason be exercised unembarrassed by sophistry, unfettered by prejudice: undue deference to opinion is slavery to a shadow; general and positive conclusions from limited and inaccurate observations, are the sure road to confusion and error. Guided by these principles, an author ought to court rather than deprecate the examination of his views; if caution and precision characterise his procedure, he is not likely to overstep legitimate ground. In every obscure subject of investigation, it is the collision of opinions, conclusions, and facts, mutu-

ally with each other, by which alone the truth is elucidated and established.

In applying these principles to the present investigation, it appears a preliminary step of considerable importance, in order to clear the path of future inquiry, to disembarass the subject of the more prevalent opinions entertained and supported by recent authors on the nature of gout, in so far as these opinions are imperfect, hypothetical, or erroneous. The necessity for pursuing this method is strongly inculcated by the practical consequences which naturally proceed from misconception or dubiety on this important subject.

In noticing the views of the nature of gout adopted by various authors, it is not my intention, nor will it be expected of me, to present a complete view of the numerous hypothetical opinions that have been at different periods suggested: * the principal object being to narrow the field of

* Mr. Ring has presented a very brief survey of the individual views of various authors on gout, from Hippocrates till the commencement of the present century. — Vide *A Treatise on Gout*, by John Ring. 1811.

inquiry, to discover amid the tortuous windings of imaginary conceptions the correct line of investigation, and to counteract the diffusion of existing misapprehensions, so far as these can be shewn such by reference to fact, the following critical observations shall be confined to those doctrines which have gained the most extensive currency in general opinion, and which may be regarded as the nearest approximating to plausibility, and consistency with the acknowledged phenomena of this disorder.

OPINIONS OF ANCIENT PHYSICIANS.

A morbid Matter in the Blood.

ONE of the most ancient* and generally received opinions of the proximate cause of gout, is the supposed existence of a peculiar morbid matter

* Hippocrates considered the gout to proceed from a corrupted state of the blood, by bile and phlegm. A similar notion was entertained by Galen, Trallian, &c.

in the blood. Sydenham,* whose long personal experience of this disease afforded him the most satisfactory opportunities of observing the phenomena, and who is even now regarded as a practical authority, concludes from the whole history of the causes and symptoms, that the gout arises from imperfect "concoction both in the parts and in all the juices of the body." "When at one and the same time the vigour of the spirits that are the instruments of concoction are lessened, and also a great heap of humours oppresses the blood, it is impossible that all the concoctions should be duly performed." From these views, however indeterminate and hypothetical, and by this venerable author's farther observations, the leading impression suggested is, that the gout in some unknown manner depends on a general debility of the "fine and volatile spirits concerned in the business of concoction of the humours, conjoined with indigestion and a vitiated state of the blood.

"The patient has been troubled with indiges-

* Vide Sydenham, by Pechey, 1734.

tion and crudities of the stomach some weeks before; moreover, the body has been oppressed and puffed up with wind, which daily increases till the fit thunders upon him."

About and since Sydenham's time, the humoral pathology has been demonstrated to be hypothetical and unintelligible, and consequently exploded; yet recent attempts at its revival have been made by various authors on gout, though in a different form. Saline acrimony, the various animal acids, alkaline, seminal, or biliary secretion, pituitous humour, a peculiar peccant matter, and certain rich exuberant or morbid qualities of the blood imbibed through the medium of the digestive organs, have each had their respective advocates; and even the aid of chemistry, which should have dissipated these delusions, has been summoned in, at great expense of time, labour, and the patience of bewildered readers, to give a body, colour, and form to the speculations of their no less bewildered instructors.—*Vide infra*.

The hypothesis of a morbid matter in the blood as the cause of gout, has been long ago refuted by Cullen. To every other conceivable

condition of that fluid, as directly concerned in the production of gout, the objections are still the same, and are equally direct and explicit.

1. That there is no proof of the existence of such a condition.
2. If there were, its existence is irreconcilable with the phenomena of gout.
3. That such a supposition is both inadequate and unnecessary to a rational and consistent explanation of the disease. Instead, therefore, of noticing at length the various writers who have held these untenable doctrines, let us at once consult that distinguished author himself on the subject.

DR. CULLEN'S Pathology.

DR. CULLEN* is not deficient in his usual sagacity on the pathology of gout. After demonstrating the untenable nature of the position that gout depends on any morbid condition of the blood, he forms the general inference that the

* First Lines of the Practice of Physic, 1791.

“gout is manifestly an affection of the nervous system,” and then offers the following theory:—

“DXXXIII. That in some persons there is a certain vigorous and plethoric state of the system, which at a certain period of life is liable to a loss of tone in the extremities. This is in some measure communicated to the whole system, but appears more especially in the functions of the stomach. When this loss of tone occurs while the energy of the brain still retains its vigour, the *vis medicatrix naturæ* is excited to restore the tone of the parts, and accomplishes it by exciting an inflammatory affection in some part of the extremities. When this has subsisted for some days, the tone of the extremities and of the whole system are restored, and the patient returns to his ordinary state of health.”

In this position a plethoric habit is regarded as essential to gout; and as the pathology is somewhat limited in its scope, it was found requisite afterwards, to annex various qualifying postulates to meet the diversified character of the disorder.

“DXXXIV. This is the course of things, in

the ordinary form of the disease, which we name the *regular gout*; but there are circumstances of the body, in which this course is interrupted or varied. Thus, when the atony has taken place, if the reaction do not succeed, the atony continues in the stomach, or perhaps in other internal parts, and produces that state which we have, for reasons now obvious, named the *atonic gout*.

“ DXXXV. A second case of variation in the course of gout, is when to the atony the reaction and inflammation have to a certain degree succeeded, but, from causes either internal or external, the tone of the extremities and perhaps of the whole system is weakened; so that the inflammatory state, before it had either proceeded to the degree, or continued for the time requisite for restoring the tone of the system, suddenly and entirely ceases. Hence the stomach and other internal parts relapse into the state of atony, and perhaps have this increased by the atony communicated from the extremities; all which appears in what we have termed the *retrocedent gout*.

“ DXXXVI. A third case of variation from the ordinary course of gout is, when to the atony

usually preceding, an inflammatory reaction fully succeeds, but has its determination to the joints by some circumstances prevented, and is therefore directed to an internal part, where it produces an inflammatory affection, and that state of things which we have named the *misplaced gout*."

These views are certainly comprehensive, and on the whole consistent with accurate observation of the phenomena of gout; insomuch, indeed, that they have been very generally received as the basis of almost every theoretical or practical principle since their first enunciation. Notwithstanding the almost universal deference they have obtained in general opinion, the opinions of this eminent pathologist are obviously far from constituting a clear and satisfactory theory of this disorder.

It is worthy of remark, that the objections urged against them by the original and independent genius of Brown, are in some respects the very best that could be offered even at the present period; and although the authority of Cullen, perhaps too implicitly regarded as sacred, has caused the opposing opinions of his contem-

porary to be treated with contempt, certain of Brown's positions are more consistent with sound observation than the disciples of Cullen or other dogmatists are disposed to admit. On comparing the views of these eminent men, the one remarkable for calm sagacity and strength of judgment, the other distinguished by originality and clearness of conception, a striking coincidence with just observation on prominent points will be found to exist on both sides, conjoined with much of hypothesis and premature generalisation.

Cullen assumes "a certain vigorous and plethoric state of the system" as essential to gout. How this vigour of system is compatible with this author's second division of the causes of gout, as consisting of "those which in plethoric habits induce a state of debility," it is not easy to reconcile. Brown accordingly, partly perhaps instigated by the discovery of this inconsistency, and partly guided by personal experience and original observation, boldly advances the position that "gout is an asthenic disorder," *i. e.* a disease depending on debility. In carrying this view to an extreme, however, Brown himself became

involved in such practical consequences as were irreconcilable with general experience, and therefore rejected.*

As the opinions of Cullen have still considerable weight, and may be regarded directly or indirectly as the foundation of the views at present entertained, it may be proper to offer one or two further remarks.

“A plethoric state of the system” is considered essential to gout. This position, as shall be more fully shewn hereafter, is not consistent with general observation.

“A loss of tone in the extremities.” The mode in which loss of tone in the extremities takes place, while the brain and system retain their full vigour, is not easily to be apprehended. How is loss of tone in the extremities communicated to the stomach and the rest of the system? What is the *vis medicatrix naturæ*? Is not this query synonymous with what is the proximate cause of gout? Is local gout simply an inflammatory affection in some part of the extremities?

* Vide *infra*.

Whence comes it that by the "continuance of this inflammatory affection for some days, the tone of the extremities and of the whole system are restored, and that the patient returns to his ordinary state of health?"

These are postulata which are rather suggested than met by Dr. Cullen's theory.

The practical deductions furnished are at least equally defective and unsatisfactory. We are necessarily prohibited from interference in mitigating, abbreviating, or preventing the sufferings of the patient in the tortures of the paroxysm. The paroxysm itself is a healing and invigorating process under the hand of nature.*

The only practical principles offered are preventive, and consist, 1. In obviating or reducing plethora, the propriety of which shall be hereafter noticed; 2. In restoring tone to the extremities, allowing the vigour of the brain and of the system

* This retention of the doctrines of Stahl and the other advocates of this chimerical conception, is a striking proof how much this author was at a loss for more intelligible and strictly pathological notions of gout.

to remain *in statu quo*. This latter condition, if it could be established, is unquestionably a happy circumstance for the patient; but there are too strong grounds supplied by the phenomena of gout, for doubting the existence of cerebral energy in that disorder. That the brain, during the paroxysm, is generally in a state of considerable excitement, is admitted; but that this state may be regarded as indicating full vigour, cannot be conceded.

On the whole, however, the pathological propositions of Dr. Cullen, so far as they extend, are correspondent with the phenomena of the disease; and indeed, for the period when they were conceived, betray much of that comprehensive discernment for which their author was so distinguished. This is particularly true of the classification of gout into varieties, which certainly has not been improved upon since, notwithstanding the progressive advancement of practical observation.

The principal points in the pathology, however, are nothing more than description and enunciation of opinion; and the rationale offered in the hypo-

thetical assumption of the agency of nature as a *vis medicatrix* is very objectionable.

The pathology is more sound and scientific, so far as reaction of the circulation is regarded as the agent in exciting this local inflammatory affection, by being associated with atony or debility of the parts, and in certain cases of the whole system; but the views presented of such pathological agencies are so general and obscure, as to afford no satisfactory rationale of the symptoms.

DR. JOHN BROWN'S Pathology.

DR. BROWN'S* views on the subject of gout, whatever contempt may have been customarily poured on his name and doctrines—a contempt dictated by a narrow and party-spirited illiberality, unworthy alike of philosophy and of common generosity—manifest a manly independence of conception, and on certain points a

* Vide Elements of Physic, by Dr. J. Brown. Lond. 1804.

clearness and soundness of reasoning which render them peculiarly interesting.*

Gout, by Dr. Brown, as already noticed, is considered to be an "asthenic disorder," and is divided into two kinds, according to the state of the constitution in which it appears.

"1. *The Gout of stronger Persons.*—601. The gout of stronger persons is a form of asthenia, in which, after a long habit of luxury and indolence, and especially when to those hurtful powers directly debilitating ones have been recently superadded, indigestion, or diarrhœa, or rather both conjoined, with manifest signs of a diminished perspiration, precede; then the lower extremities are affected with languor."

* This work, which I had often heard abused in no very measured terms, did not fall into my hands till after having completed the following treatise, both in outline and detail. I conceived the propriety of premising the present examination of the various authors on the subject of gout before committing it to the press. This is mentioned, merely to guard against imputations of undue partiality for an author whose opinion is, in some respects, coincident with and confirmatory of the theory I shall advance.

“ Of the lesser joints, almost always the one or other foot is seized with an inflammation, which, if not resisted, will prove most severe, most painful, and of short duration, comparatively to its state, in that respect, in the after part of the disease.—”

“ 602. This disease may be called the indigestion, or dyspepsia, of the luxurious; that is, depending upon indirect debility.”

This author then combats, with much clearness of reasoning, the prevalent notion that gout is hereditary, and goes on to state:

“ 604. The hurtful powers producing the gout are, first indirectly debilitating, not effectual, all of a sudden, nor commonly before the meridian of life, that is, before the thirty-fifth year.” “ All which has a tendency to wear out life, to consume the excitability; but the first fit scarcely comes on, till directly debilitating hurtful powers have been superadded to the indirect.” After enumerating the causes of gout: “ abstinence, vegetable food, cold drinks, acid, malt, and other fermented liquors, indolence, *deficiency of blood* in the system, purg-

ing by medicines, as Glauber's salts, *nimia venus*, impure air, hard thinking, passions of the mind, too much or too little sleep:" and then adverting to the means of cure, in some of which few medical observers will agree with him: "607. Rich food taken in plenty — especially animal food, avoiding vegetables — strong drink, gestation, moderate exercise — fulness of blood — no evacuation, sparing venery, a moderate temperature, pure air, cleanliness, being much in the open air, a happy train of thinking, tranquillity of mind, moderate sleep," &c.

Dr. Brown concludes: "608. From what has been said, it must appear certain, that the gout of stronger persons is not also itself a disease of strength, or a sthenic one; and that it does not depend upon vigour of the constitution and plethora, as it has been commonly hitherto imagined; but that it is manifestly asthenic, and not to be treated by an antisthenic, but by a sthenic plan of cure," &c.

2. *The Gout of weakened Persons.* — "613. The gout of weakened persons, which is an increased

degree of the gout of strong persons, is that asthenia in which the inflammation runs out to greater length, and at last does not form at all; and the general affection increases in violence, in obstinacy, and at last attains its highest degree; exhibiting, towards the end of the disease, almost all the symptoms of debility, every form of asthenia, and sometimes, by a false resemblance, counterfeiting synocha."

The cure of gout, then, we are informed, is the same as the cure of all other diseases of an asthenic nature, affecting the alimentary canal,—to avoid all causes either directly or indirectly debilitating, and to have recourse to stimulants and nutriment. "615. The cure of every one of them must be stimulant." "In a higher degree of violence of any of them, animal soups and pure strong drink should be administered: and when the violence of any case baffles this whole form of stimulus, recourse must be had to musk, volatile alkali, camphor, ether, and opium: these must be administered in large doses."

Such is the amount of Dr. Brown's views on

the subject of gout; conceptions no less remarkable for their originality, than for their bold independence, but unfortunately carried to unwarrantable extremes, leading to most precipitate and mischievous practical conclusions.

The pathology offered (601, 602, 613,) is doubtless very deficient and indefinite, and by no means amounting to a theory either characteristic or explanatory; and even as a statement of opinion, or a description of the disease, is manifestly limited and imperfect. 604. On the whole very sound, and particularly the inductive conclusion 608, which is moderate, judicious, and incontrovertible; but the practical deductions, as expressed in 607, 615, &c. are not less inconsistent with the known laws of the animal economy, than with common sense and general experience.

DR. DARWIN'S Pathology.

DR. DARWIN'S* view of the nature of gout, though partaking of that speculative ingenuity by which the author was so distinguished, is in certain respects just, and really important.

“The proximate cause is the inirritability or defective irritation of some part of the system; whence torpor and consequent inflammation.”

This position is manifestly much too elliptical and vague to be satisfactory. The term inirritability is particularly unhappy, as is exemplified in the following paradox: “The debility or torpor which is the cause of gout, is prevented by the greater irritability of the system, acquired during the lessened use of fermented liquor.”

In the common acceptation, “irritability of the system” is what every sound medical practitioner must deprecate in cases of gout; and how the system should become morbidly inirritable

* Vide Zoonomia, 1801, 3d edit.

by the use of wine and spirituous and fermented liquors, is not to be apprehended. The converse is more consistent with observation. What follows is rational, and worthy of notice :

“ The gout, except when it affects the liver or stomach, seems always to be a secondary disease, and begins with the torpor of some distant part of the system.” Again : “ The most frequent primary seat of the gout I suppose to be the liver, which is probably affected with torpor, not only previous to the annual paroxysms, but to every change of its situation from one limb to another.” He observes — “ A pain over the pit of the stomach, with indigestion and flatulency, generally attends the commencement of the inflammation in each limb.” “ The remote cause is, whatever induces temporary torpor or weakness of the system,” “ debility or torpor, which is the cause of gout,” &c. “ When the membrane which covers the ball of the great toe sympathises with some membranous part of a torpid or inflamed liver, this membrane of the toe falls into that kind of action, whether of torpor or inflammation, with greater energy than

those actions excited in the diseased liver; and when this new torpor or inflammation commences, that with which it sympathises ceases; which I believe to be a general law of associated inflammations," &c.

Such is Dr. Darwin's pathology of gout; on the whole ingenious, and closely approximating to truth, but rather to be regarded as an imperfect outline, than as furnishing a consistent and detailed explication of pathological principles. Somewhat is assumed on loose analogy — much is left unexplained — and part is misconceived. Gout, for instance is supposed to be simple topical inflammation; no reason is given for the peculiar characters of the local affection, or for transference to other parts, or for the succession of paroxysms as dependent on successive occurrences of torpor, &c.

On the other hand, the view that gout depends on debility — that the local affection is secondary and dependent on sympathetic association with a primary affection of the liver and digestive organs, and that it is preceded by torpor of the parts affected, — are positions no less

ingenious than original, and in some respects accordant with accurate observation.

DR. SUTTON'S Pathology.

DR. SUTTON,* in a short tract on gout, chiefly referable to his own case, comes to the conclusion, that the principal exciting cause of gout resides in the alimentary canal. From the relief he himself experienced on one or two occasions from a powerful purgative, and on another occasion from an opiate, he infers there must exist some irritating matter in the bowels, which a purgative may evacuate, and an opiate counteract. This inference is natural, so far as it goes; but the existence of depraved secretions in the alimentary canal, calculated to irritate to morbid action, is by no means confined to the gouty, and at all events can only be viewed as an exciting cause. The question of a proximate cause, this

* Vide Tracts on Gout, 1813.

author admits to be inexplicable: "No fit of the gout comes on without some derangement of the alimentary canal, which for the most part evidently precedes it:" and adds, "It is certainly difficult to conjecture what the real essence or nature of the gouty cause is; but, whatever *it may be*, it is capable of shewing itself by affecting parts distant from the original disease." This is manifestly saying nothing at all. The query is, how should this mysterious something be capable of affecting distant parts? Instead of pursuing this inquiry, we are simply told: "The view now taken, is founded upon the supposition of a very intimate connexion between the original cause and the external and evident symptoms, which, from the experience adduced, appear to be most intimate, and so necessarily connected, that there needs a species of co-existence of the original cause and its effects to constitute gout; and that the immediate effects of this cause can no longer exist than as continued by it." This, to say the least of it, is extremely loose, and, as the author admits, "founded only upon supposition;" what is still more unsatisfactory, it seems

to be directly contradicted by the sequel of Dr. Sutton's own observations. "The fits of gout are preceded by some derangement of the alimentary canal, as a first step to the formation of the disease, which, after it has been affected frequently in this way, will be liable to be reproduced without the *action of the actual causes* which first occasioned it." And again:—"The gout will not generally be roused into immediate action by the application of causes which tend to excite it."

After acknowledging "the obscurity of the connexion betwixt cause and effect" in respect of gout, this author considers the only practice admissible to be empirical. He erroneously conceives gout to be a local disease, a simple topical inflammation;—indiscriminately recommending cold applications to the part, and of course discovering no necessity for that caution in the treatment which those who hold the constitutional nature of the disorder wisely conceive necessary, and which fatal experience has dictated.

In these respects, Dr. Sutton's views, both in

theory and practice, are, on the whole, limited, imperfect, and vague; but, in so far as they regard derangement of the alimentary canal to be essentially precedent to the local disorder, and inculcate the propriety of evacuating irritating and offending matter by purgatives, they are just in theory, and practically sound.

MR. PARKINSON'S Pathology.

THIS author's* view of the nature of gout is also founded upon a very narrow basis. From one or two observations of the temporary benefit derived from the use of caustic alkali, Mr. Parkinson informs us he was led to the conclusion, that the "proximate cause of gout appears to be—a peculiar saline acrimony existing in the blood, in such a proportion as to irritate and excite to morbid action the minute terminations of the arteries in certain parts of the body." The

* Vide Parkinson on Gout, 1805.

coincident experiments of Wollaston, Pearson, and Fourcroy, upon arthritic concretions, by which lithic acid and lithiate of soda were uniformly obtained from the analysis of these formations, appears to have confirmed Mr. Parkinson's belief in the soundness of his theory. The observations, that gout frequently follows the habitual use of spirituous and especially of acescent liquors,—and that the disorder is almost invariably associated with symptoms of indigestion, in which acid-formations take place abundantly in the stomach,—is regarded as a still farther demonstration of the same point, by reference to fact; and the idea thus conceived and supported, begins to assume the importance of a theory.

Mr. Parkinson, it is well known, has directed his attention with much assiduity and success to antiquarian researches respecting the antediluvian world; and the following passage certainly manifests a strong predilection to revert to the exploded pathology* of former ages also. “The

* Mr. Parkinson's view is a revival of that of Tachenius, who ascribed gout to gastric fermentation and acidity; an

humoral pathology of diseases in general having yielded to the numerous and powerful arguments with which it has been opposed, it is not with the expectation of a prompt and implicit adoption that the above conjecture is opposed, respecting the proximate cause of this disease. Strong arguments in its support, it, however, is hoped, will offer themselves, when the nature of the morbid matter, which is separated in this disease, and which has been ascertained by the indisputable evidence of chemical analysis, is considered."

In the view of gout suggested by this author, there is not much inducement, it must be confessed, to revert in a retrograde direction for the sake of any satisfactory explanation furnished by the humoral pathology of the phenomena of that disease. So far as animal chemistry has hitherto been applied to pathological inquiry with judgment, it has shown a strong inclination to revert to the hypothesis which had nearly lost its ground, with the decline of the humoral doctrines, till the chemical experiments of Forbes, on the nature of the gouty concretions, &c. again restored it to general notice, in 1783.

ment and success, the revival of these antiquated doctrines has certainly not been promoted according to this author's sanguine expectations, —much the contrary.

Discarding, therefore, as untenable and unsatisfactory, all attempts at the elucidation of this disorder by the supposed existence of "saline acrimony in the blood," the principal point deserving notice in this treatise is the uniform observation that "indigestion," and an "impaired state of the stomach," as indicated by "the generation of gastric acid" in more than usual abundance, is more or less, invariably and in some unascertained manner, apparently essentially connected with the occurrence of gout. And farther, as shall be hereafter noticed, that acid matter, in considerable quantity, is generally secreted by the kidneys and skin of gouty individuals, and also in the capsular membranes in the case of concretions.

DR. PARRY'S Pathology.

THE late Dr. Parry, "On the Elements of Pathology and Therapeutics,"* a work distinguished by original and comprehensive thinking, considers gout principally to depend on a certain state of the circulation. The disorder he also refers to the agency of nature, considering it to be "an exemplification of a salutary process, the final cause of which is the evacuation of the habit, and the consequent reduction of plethora, which is relatively excessive; another end is, the restoration of the due balance of circulation, previously determined in excess towards other and more vital parts."

These two processes, the one to relieve general plethora, the other to rectify a defective balance of circulation, may occur separately in different

* Vide 2d edition, 1825. Underwood.—The value of this production is too well appreciated to be affected by any objections here urged. No modern author is at once so sound and so comprehensive in the explication of pathological principles.

constitutions, or at different times in the same constitution, or “both may be occasionally combined;” in all of which cases the same result ensues as a mode of relief, viz. gout.

This similarity of consequence, in states of the constitution so essentially different, appears, *primâ facie*, to imply some material defects, if not in comprehensiveness of pathological principle, at least in the consistency and precision of the details. The pathognomonic proposition, at all events, is much too general in its form of announcement to furnish that satisfactory rationale of the phenomena of gout which is desirable. How a local inflammation in the extremities—if gout be simply such—can be calculated on pathological principles to relieve general plethora, is not easily to be apprehended; and the correction of misdirected circulation in this way must be extremely limited and inadequate to the purpose. The means, if really intended to relieve the system, must be admitted to be extremely ill adapted to the end, and to betray a singular unskilfulness in the agent with whom the intention originated.

That the local affection termed gout is to be regarded as the natural consequence of plethora, or of misdirected circulation, would be a proposition not difficult of admission, provided any intelligible principle were offered by which this morbid effect could be traced to these constitutional conditions, consistently with the acknowledged laws of the animal economy. But to suppose, with Dr. Parry, that a local morbid effect takes place with the view of correcting that morbid constitutional condition on which it naturally and necessarily depends, is it not to imply the operation of an agency super-constitutional, and, in short, possessed of calculating intelligence?

There is "another mode of the production of gout," described by this author. "Gout and dyspepsia, instead of being to each other in the relation of cause and effect, are the simultaneous effect of one common cause — a general reaction of the sanguiferous system, *intended*, perhaps, to relieve the stomach itself, but affecting the capsular ligaments of joints, sheaths of tendons, &c.

by extension of excessive momentum to predisposed parts."*

Here reaction is considered *as intended* not only to relieve disordered circulation, but also dyspepsia; which dyspepsia is not precedent, but consequent to the reaction, *i. e.* the reaction is *intended to relieve the dyspepsia it produces!!* and does so by exciting a simultaneous disorder of greater severity. A reaction which carries intentions of relief into effect in this manner, cannot surely deserve the character of salutary.

But reaction cannot be supposed an intentional agent, acting with an ultimate object in view, and is therefore, strictly speaking, only the instrumental mean of producing these simultaneous morbid effects. Who, then, or what is this agent—this minister of torture by way of intended relief? The answer is, Nature—the constitution. How far the personification of Nature, as an agent, is consistent with pathological propriety, is in any circumstances very doubtful—much more in

* What is excessive momentum pathologically?

the production of disease, which, in correct language, is a deviation from nature or health. "Gout," however, we are told, "is a salutary process." Does it sound well, in the ear of reason or common sense, to style any disease a salutary process, more especially when attended with such constitutional disorder, and with such serious consequences, as frequently arise from a paroxysm of gout? * It might be very consistent to regard gout, in certain forms and circumstances, as a salutary or favourable symptom of the state of

* Nature here is considered a greater bungler than even gout physicians. She says to her numerous patients on the eve of disease, 'You have now got too much blood, and it is rather distributed towards the head and alimentary canal in excess. Now, I propose to relieve you for a week or two by exciting, in a manner known only to myself, reaction, dyspepsia, and excruciating torments in the feet; perhaps I may think proper to visit the other joints also. Meantime, be you patient and submissive: the pain will effectually prevent you from eating, drinking, sleeping, and from all exercise; but it will save you from the evils under which you labour in anticipation. In one or two weeks, or months at most, you must have another attack; but be comforted, it is "a salutary process." I know too well what I am about, to exercise discipline so severe, without some ultimate

the constitution at the time; but neither is this position, even although true, entitled to compose an essential characteristic.

Notwithstanding these objections, which apply chiefly to the form of pathological proposition adopted by Dr. Parry, his views of the constitutional circumstances connected with the gouty paroxysm are comprehensive, and embrace some of the most prominent characteristics of the dis-

good — temporarily relieving you from plethora, misdirected circulation, and dyspepsia, sure speedily to return.'

This we cannot help thinking rather a libel on Nature, than giving her due credit for sanative power.

We differ with Dr. Parry very widely, believing Nature to be a much better physician; and if, instead of being illegitimately personified, she is left to her own way, we are convinced that health, not disease, is the result of her agency. "Take it," says Dr. Brown,—with a degree of point peculiarly effective and apropos, to those physicians who, with Stahl, Cullen, Parry, &c. are continually laying the burden of their own difficulties on Nature's shoulders.—"Take it for a certain and demonstrated fact, that the fits of recurrent diseases do not return from any inherent power of nature, but from human folly." "Accept that," says he, "as a joyous piece of news, and such as nobody ever expected."

order, particularly as regards reaction, misdirection of the circulation, and the connexion between dyspepsia and gout. There is, however, a want of precision and minuteness in the details, which leaves the rationale of the symptoms involved in great obscurity. Had the ingenious and instructive author been spared, to follow up these more general conceptions by adopting a more explicit and detailed method of inquiry, much light might have been thrown on this abstruse and complicated subject. — *Vide infrà.*

DR. JAMES JOHNSON'S Pathology.

DR. JAMES JOHNSON* has rendered an acceptable service to the pathological inquirer on the subject of gout, by presenting a copious detail of facts

* Well known, and justly distinguished, as author of the work on *Tropical Climates*, and other valuable medical writings.

and practical observations, illustrative of the causes and symptoms of the disease; of its various forms, regular, irregular, anomalous; and farther, of the different remedies, constitutional and local, most in repute; together with remarks on the principles of treatment, which, as the author informs us, comprise what is valuable in the works of "two eminent foreign physicians, M. Guilbert and Hallé."

On the nature of gout this writer* is very elliptical. After adverting to the numerous erroneous opinions that have deluged the world with writings on the subject: "Nevertheless," says he, with as much modesty as truth, "at the risk of adding another page to this book of errors, we shall venture to make some reflections, and hazard some views on the subject."

Dr. Johnson then proceeds to develop the following hypothesis:—"The functions of digestion and perspiration become deranged some time prior to the invasion of gout. The excretions languish, and a state of fulness of the blood-

* Vide Johnson on Gout, 1819.

vessels is the result. The secretions also are deranged in various ways." From these observations, coupled with the manifestly constitutional nature of gout, seeing "it is not confined to the muscular system alone, but invades tendon, ligament, periosteum, serous, synovial, and cellular tissues, cartilage, and even bone itself," the author concludes, that the cause of gout must reside in some universally pervading system, which he conceives to be the lymphatic, absorbent, and exhalant vessels, in the most extended view of their relations. "Musgrave," says he, "and Hoffman, have come to nearly the same conclusion. We believe, indeed, that the phenomena presented both in regular and irregular gout, can be better accounted for in this way than on any other principle."

"Under the influence, then, of those causes which have deranged the functions of digestion and perspiration, and given rise to a state of fulness of the blood-vessels, certain matters destined for excretion have not been thrown off; consequently, the lymphatic system remains gorged with these materials, which become a

source of irritation wherever they are deposited, and, in short, produce *gout*.

“ The laws of predisposition determine these irritations to certain parts rather than to others; as to the joints in regular, and to various other points in anomalous *gout*.

“ These irritations having developed themselves to a certain extent, assume sometimes the form of inflammation, sometimes that of spasmodic affection, attacking in preference the white fibrous tissues of the human frame, but, occasionally, all the other tissues and structures of the body; and that with such a remarkable character of mobility, as cannot be explained on any other principle than the agency of the lymphatic system.

“ Now, although this mobile inflammation or irritation denominated *gout*, succeeds a derangement of the digestive and perspiratory functions, and the *plethora* which thence results, yet, its manifestation, in the *predisposed* organ or part, is preceded by a *debilitating action* of some kind.*

“ *Gout* then, being the consequence of a

* How satisfactory !!

plethora, the superfluous matters must be evacuated; and if the organs necessary for their expulsion are unequal to this office, a deposition must take place somewhere. These expulsions, and these depots, will be effected at points more or less distant from the vital organs, according to the force of the vital energy; and the same engorgements and concretions, which at first are consequences, may in their turn become causes, and convert a mobile into a fixed affection, by soliciting the return of gouty inflammation on the irritated points, according to a well-known law of the animal economy, *ubi stimulus ibi affluxus.*"

The author, having advanced this train of assumptions and statements, which he attributes to the continental writers above named, remarks, that it is "supported by them with great ingenuity," and "illustrated with much talent and effect;" but adds, "I am unwilling to occupy that space with hypothesis, which may be more usefully filled with practical information." He however states, that the views of Guilbert and of Hallé are, with some changes of terms, nearly accordant with those of Dr. Scudamore.

In place, therefore, of combating here, in detail, the hypotheses of Johnson, Guilbert, and Hallé—which are, it must be admitted, pregnant with conceptions somewhat fanciful, and although generally accordant with some of the phenomena of gout, leave all the essential points respecting the explanation of symptoms unexplained,—it will serve nearly the same purpose, to pass on to the examination of the theory of Dr. Scudamore, whom the intelligent author before us denominates, “the latest and the best writer in our own country.”

In thus taking leave of Dr. Johnson as a pathological writer, we shall, however, reserve the liberty of making use, on a future occasion, of some of the practical observations and statements of fact contained in his volume.

Dr. SCUDAMORE'S Pathology.

DR. SCUDAMORE, “the latest,” and at least the most voluminous writer on gout,* has, in a great

* Vide Scudamore on Gout, 1823.

measure, evaded the difficulties attending the pathological investigation of a proximate cause, resting contented with an attempt to settle certain chemical points, more especially relating to the examination of the gouty urine. After a lengthened detail of experiments and minute disquisition on this subject, under the article "proximate cause," this author, in rather indirect but plain terms, confesses that he is not able to demonstrate the proximate cause of gout. "The proximate cause of a disease must not only be something which is invariably antecedent, but also that which is distinctly peculiar to such disease; and the whole of this position *I am not able to demonstrate*, although some general points are, I trust, satisfactorily proved," *i. e.* respecting the urine: and ultimately concludes the article "Proximate Cause," with the following very unaccountable remark:—"Although any definite and essential condition, either of the solids or fluids, standing in the immediate and certain relation of cause and effect to gout, *cannot be demonstrated* with the precision which may be desired, yet, our information *appears sufficiently complete* to conduct us

to a *clear arrangement* in theory, and a *solid foundation* in practice." This philosophical *ne plus ultra* to farther inquiry is tantamount to the position, that accuracy and precision of pathological knowledge of the proximate cause of gout, is not essential to a clear arrangement in theory, and to sound principles of practice: in other words, that in *confessed ignorance* of the nature of the disorder, it can be clearly understood, clearly arranged, and correctly treated!!!

After a specimen of pathological reasoning — so truly consoling to all and sundry, whether physician or patient, who are contented with the complacent perpetuation of darkness, error, torture, and fears of sudden death — it might seem unnecessary, if not to prosecute any farther inquiry into the nature of gout, at least to notice farther the views advanced in this ponderous volume, inasmuch as the author himself assures us it contains nothing satisfactory to repay the trouble. But though Dr. Scudamore's forte is decidedly not pathological investigation, as is amply apparent in the confusion, want of precision, and inconsistency, which we are thus almost fore-

warned to expect,* he has exhibited sufficient industry and laudable anxiety, in elucidating his subject to the utmost of his abilities, to shield him from silence.

As a practical writer, Dr. Scudamore is far from being destitute of merit. He has adduced a very copious detail of observations, which, although disfigured by an egotism we can easily forgive, and by false hypothesis which it is our duty to expose, are made with industry and care, and are apparently sufficiently accurate to render them important. Besides, the work under notice has received the most favourable reception from the public, of any that has hitherto appeared on the subject of gout;† and therefore, the views it

* And fully realised; vide p. 61.

† This author exultingly informs his reader—what no one of discernment can easily doubt—that he is “highly flattered” by some writer in the Edinburgh Medical Journal. By whom these encomiums have been bestowed, or upon what grounds, I have not inquired. It is to his theoretical, or rather hypothetical tenets, the present critique applies. As a very zealous, though not always sound practical writer, he shall be amply noticed hereafter.

contains may be presumed to have gained considerable influence and currency. As the discovery and establishment of truth cannot always be effectually attained without the previous exposure of prevailing error, the views adduced in this volume demand a peculiar share of attention; in order that, in so far as just, they may be candidly admitted—in so far as unsupported, they may be unsparingly overthrown. The wider any misconception may have spread, of the more importance is it, to the welfare of society, to annihilate it at the source. Thus much of general explanatory remark is due, because Dr. Scudamore is a living and a popular author, and because, in calling in question some of those positions he considers correct, I intend to express myself with perfect freedom and without either defect or excess of personality, beyond what is essential to the demolition of promulgated errors. To lay violent hands on a favourite hypothesis, I am aware, is not much different to striking the darling child in the father's presence; and views that have been fondly nursed and caressed through successive editions, each more fully revised and improved

than the former, are not perhaps to be questioned with impunity. But truth knows no respect of persons, or of paternal partialities; and necessary castigation is less exasperating than unmerited correction, however lenient. Giving this author, therefore, all due credit for the fervency of his good intentions, I shall treat this pampered progeny of the brain as it appears to merit.

Under the article "Ratio Symptomatum,"* Dr. Scudamore comes to this conclusion: "That gout is a disease depending on a redundancy of blood with relation to the powers of the circulation particularly affecting the system of the vena portarum, and the consequent functions of the liver; together with the production of a morbid change in the secreted products of the alimentary canal in general, and of the kidneys in particular."

To this conclusion, as it is called, we are brought very abruptly, and without any inductive steps I can discover; on the contrary, there is a

* The article "Proximate Cause," as already observed, is devoted almost exclusively to the urine.

continued series of sudden transitions from observation to experiment, and from experiment to observation, without either order, consistency, or perspicuity; and whensoever any position is advanced in the room of induction, the only origin to which it can be traced is some vague conception of the author himself, not direct and explicit basis of fact. We must protest against this illegitimate method of bringing forth such a premature and shapeless conception; whether it be inference, hypothesis, assumption, or simple expression of opinion, no man can say; "it comes in such a questionable shape." One thing is certain, it is neither "conclusion," "theory," nor "ratio symptomatum."

But let us analyse the proposition *seriatim*: This, taken as a whole, if not in some respects unintelligible, is very vaguely conceived. We are expressly given to understand "that gout depends on the production of a morbid change in the secreted products:" "*of the kidneys in particular*," otherwise this latter clause would not have composed part of the pathological enunciation. The proposition, however, it is impossible to

admit; it is distinctly absurd. The converse, therefore, must be the author's meaning, — that “gout is a disease” not “depending upon,” but peculiarly giving rise to the invariable symptom of a morbid change in the urinary secretion.

Even in this form, however, the assertion is not admissible; and indeed the author himself sets it at rest by stating elsewhere, that this symptom is not peculiar to gout, admitting it also to occur in cases of dyspepsia unconnected with gout. Thus, after founding certain reasonings leading to inferences as to the state of the blood in gout, as being “unhealthy in quantity, and probably also in quality,” on the circumstance of the increased specific gravity of the urine in the paroxysm, we are told: “In every inflammatory disease, the urine which is secreted bears a specific gravity much beyond the natural standard.” Again: “I have invariably found, that the urine secreted in the paroxysm has furnished urea more abundantly than the healthy urine of the same individuals;” and after stating that the presence of this urea is indicated by the pink sediment, — “much more commonly it is pink

or lateritious, containing chiefly uric acid," it is immediately added: "In a morbid condition of the digestive organs assuming the chronic form, whether in a *gouty* patient, or in one *not liable* to the disease, we *find this sediment deposited.*" And farther, after quoting Cruickshank,—"This peculiar sediment (the pink-coloured) we consider as in some measure characteristic of diseased or rather scirrhus liver,"—Dr. Scudamore observes, "That although this sediment is a certain indication of some error of the digestive functions, it does not necessarily denote so serious a state of complaint as is here mentioned. In many instances I have seen it appear, for a short time only, as an attendant upon transient derangements."

Now, the amount of all this, and a great deal more of observations no less incoherent than tedious, is,—that excess of urea and of specific gravity is common to the urine of the invalid, in dyspepsia, in various liver complaints, in every inflammatory disease, and in the gouty paroxysm.

How, then, the above clause respecting the

urine could find its way into a pathognomonic proposition peculiar to gout, we cannot perceive; we must oppose its admission into such a distinguished place, in any theory of gout, even although we thereby throw cold water on the whole disquisitions and experiments on the gouty urine, however elaborate, which this author has offered as a substitute for more direct and comprehensive pathological investigation; and we must express our conviction, that every conclusion of this nature is very remotely, if at all, connected with the subject.*

* It is, indeed, surprising that Dr. Scudamore should not have perceived from the commencement of such inquiries, how little of definite or satisfactory results was to have been expected from the investigation. Secretion being an animal process, not a chemical, it is from the nature of things utterly impossible to determine, whether changes in the quality of secreted matter are due to changes in the secreting organic action, or to changes in the nature of the fluids whence it is derived; a point, indeed, respecting which there are absolutely no data on which to found any decision. Unless Dr. Scudamore had *in limine* cleared away this difficulty, the legitimacy of any inference respecting the state of the blood, drawn from the examination of urine, may be fairly denied. These remarks do not detract

To proceed. The opinion that "Gout is a disease depending on a redundancy of blood in relation to the powers of circulation," has been a prevailing notion among modern physicians ever since the time of Cullen, and may be traced much farther back.* It shall be amply noticed hereafter: *vide infra*. The hypothesis of Dr. Scudamore thus stripped, the only part of the

from the praise due to this author, for the unwearied industry exhibited in the matter of the urine; but unfortunately it has been labour to no purpose, and the introduction of irrelevant details and illegitimate inferences from the state of the urine, has contributed much to mislead the author into the perplexity and misconception so conspicuous in his pathology, and also unnecessarily to swell out the volume, to the great annoyance and embarrassment of every reader. Of any attempts to revive the humoral pathology by the aid of chemical science, it is needless to say, it is like converting the light of the sun to conjure up shades and spectra.

* Several of the older authors have held an opinion very similar, and nearly as intelligibly expressed as that now under notice. This is particularly true of Baglivi's pathology, who regarded gout as depending on deficiency of due equilibrium between the propelling power of the solids and the circulating fluids. Vide also Stahl and Hoffman.

position remaining as peculiar to that author, is that which respects plethora of the vena portarum. “*A disease depending on a redundancy of blood,*” &c. “*particularly affecting the system of the vena portarum, and the consequent functions of the liver.*”

Here again a very obscure mode of expression occurs: by what necessary consequence are the hepatic functions disordered by plethora in the system of the vena portarum? The converse position it is not difficult to appreciate — that hepatic obstruction must be attended with consequent vascular congestion of the vena portarum; and had the proposition run thus, it would have been anatomically unobjectionable.

Without calling in question the existence of this local plethora, which is a natural and ingenious idea, and in fact nearly synonymous with, though better expressed under the term “*misdirected circulation*” of Parry, the propriety of the mode of inference may be justly doubted, that hæmorrhoids, or even considerable alvine hæmorrhage, is any indication necessarily of fulness in the circulation of the venæ portarum. This

symptom frequently occurs in persons not liable to gout; and it cannot be denied, by any accurate observer, that abdominal corpulency, and, it is to be presumed, attendant fulness of the venæ portarum, distributed over the abdominal viscera, frequently do exist to a very great degree indeed, unconnected either with hæmorrhage or with gout, and conversely. To infer the existence of plethora of the porta, as an essential cause of gout, from the gradual increase of the abdomen in size, in certain cases, a few days or hours previous to the paroxysm, which Sydenham naturally enough ascribes to "puffing up with wind," is certainly not a satisfactory method of conclusion.

The difficulty, however, does not so much consist in proving the existence of portal plethora, or even the mode in which it may arise, neither of which has been done, as in demonstrating, in a satisfactory manner, how this condition is productive of the peculiar inflammation of local gout in the extremities; a postulatam which Dr. Scudamore, in what is called his "Ratio Symptomatum," has not attempted to solve. In these circum-

stances, the pathology of this author is a manifest retrograde from that of Cullen, and is so far from satisfactory, as to contain no one position which is either definite or characteristic, much less explanatory of the symptoms of gout. It would serve much better for a pathology of inflammation of the liver or of the bowels, than for that of gout.

Similar objections are applicable to the arrangement of gout proposed by this author, as a substitute for the excellent and almost unexceptionable classification of this disease by Dr. Cullen, that of Dr. Scudamore being much less comprehensive, as well as less scientific.*

* We should not have regarded an hypothesis so vague and superficial as meriting so much notice, but from the circumstance that it has been lauded by reviewers, and indiscriminately and extensively adopted, as not only tenable, but luminous and intelligible; whereas, by the above analysis, it turns out to be more the phantom of a theory than any thing tangible or embodied.

OPINION OF MODERN PHYSICIANS.

“THE opinion” (according to Dr. Thomas*) “most generally entertained by modern (and it might be added ancient) physicians, is, that the gout proceeds from an accumulation of humours in the relaxed vessels of the ligaments and tendons of the joints; but concerning the nature of these humours different opinions are entertained, one looking on them as a morbid secretion, and others considering them to be mere blood.”

That such an accumulation of fluids does take place in an attack of gout on certain occasions, is self-evident from the attendant swelling; and that the vessels of the parts affected must be so much relaxed or distended as to admit of this extra fluid, is a matter of physiological necessity. But whether the accumulation is the cause or consequence of relaxation, and what is the originating cause of such a topical disorder of the parts, is left entirely *in dubio*. In this uncer-

* Author of that useful and judicious practical work, entitled, “Practice of Physic.” Vide p. 199.

tainty, we must grope in the darkness of empiricism in search of correct treatment; and as experience has decided that the most effectual topical means we possess for discussing and removing local relaxation, effusion, and inflammation, are, in cases of gout, seldom successful or permanent in their effects, and never safe, we must, while we rest contented with this view of gout in theory, also rest contented with passive and trivial palliatives in treatment.

Besides, this view bears no rational regard to the acknowledged influences of the exciting causes of gout; and is entirely inadequate to afford any explanation of the disease when it attacks other textures than the articular, or of the attendant constitutional symptoms in any of its forms.

The authority of this respectable writer, therefore, seems to coincide with that with which we set out,—that there is at present no hypothesis before the public at all amounting to a satisfactory theory of gout; and notwithstanding all that has been written and observed on the subject, the “real nature or proximate cause of the disease is as yet unknown.”

Query. Does gout depend on a plethoric state of the constitution?

The belief that gout depends on plethora, or redundance of blood in the system, has been of late so generally and implicitly received and supported by the concurrent testimony of so many and respectable writers, ancient and modern, that in venturing an opinion to the contrary, I fear I have to contend, not only against the current of popular belief, but the influence of medical authority.*

However strong the persuasion may be, and however monstrous the position may appear to certain of my readers, I hesitate not to make the assertion, that gout does not essentially depend

* Among the advocates for the doctrine of pléthora, may be enumerated Erasistratus, Galen, Oribasius, Paullus Œgineta, Willis, Lister, Cheyne, Mead, Stahl, Hoffman, Pringle, &c. &c. and the other lights of the dark ages. If the antiquity of a theory, or the weight of authority in its favour, be any proof of its truth, he who opposes it ought to look well to the facts on which his reasonings are founded. But, to direct, unequivocally authenticated facts, all opinion, all authority must bow.

on plethora; on the contrary, that a state the reverse of plethoric is, in certain circumstances, highly unfavourable to the constitution subject to gout.*

In maintaining these positions, I shall, first, urge objections to the legitimacy of the mode of inference that gout depends on plethora; and, secondly, advert to such facts and reasonings as directly militate against this view.

1. The structure and conformation of frame usually observed in those liable to gout, as the large body and head, circular chest, &c. is no necessary indication of vascular plethora. Even if it were such, conformation is neither peculiar to nor invariably manifested by the gouty subject; on the contrary, not infrequent instances of gout in spare and contracted habits are met with.

2. The presumptive conclusion that plethora is the cause of gout, founded on the indulgence of inordinate appetite, to which the gouty subject is occasionally prone, is illegitimate. How often

* I find this conclusion strikingly accordant with that of Dr. John Brown—a coincidence of which I was not aware when writing it.

are luxurious and inordinate eaters entirely free from gout! On the contrary, habits of extraordinary abstemiousness neither prevent nor remove gout; but rather, in certain circumstances, appear to conduce to that disorder. *Vide infra*, p. 65.

3. Though sedentary habits are perhaps conducive to plethora, and also to gout, these observations by no means imply any necessary connexion between plethora and gout. Plethora is frequently attendant on sedentary habits when gout is not; and, *vice versâ*, gout frequently appears in the sedentary, when the proofs are rather against the existence of plethora.

4. The enlarged veins in the extremities of gouty persons, are no proof of existing general plethora. Even if they were, this symptom is not confined to the gouty, nor even invariably attendant on the gouty constitution.

5. The occurrence of hæmorrhages is no necessary indication of existing plethora as peculiar to gouty constitutions, because this symptom occurs in constitutions not gouty, and frequently after such depletion as precludes the possibility of plethora.

Nor is there any difficulty in directly dis-

proving any necessary connexion between plethora and gout, since the advocates for this doctrine have themselves supplied some of the strongest facts that could be adduced, directly and decidedly at variance with such a position; whereas every inference in favour of plethora is indirect and questionable.

The venerated Sydenham says, "The gout does not only seize the corpulent, for sometimes also, though seldomer, it seizes thin folks:" again, "nor does the said voracity or full feeding so frequently occasion gout, as the immoderate and mad drinking of wine." He also condemns bleeding.

Heberden, whose authority is weighty, says, "The gout is derived from gouty ancestors, or is created by intemperance, or arises from some unknown causes, which are sometimes found in the *sober and abstemious*."

Darwin constitutes plethora no part of his theory, and obviating it no rule of practice.

Dr. John Brown has combated the plethoric doctrine with very sound reasoning.

Dr. Parry admits, that "gout may occur in

persons in whom there is in reality no general plethora."

Dr. Cullen says, "I have found it (gout) occurring in females whose menstrual evacuations were more abundant than usual;" and again, "it very often happens to females long before the menstrual evacuations have ceased." Now the usual period of female life when the inconveniences of plethora are experienced, is the menstrual cessation, diminution, or obstruction.

Among the causes of gout, this celebrated authority enumerates "excessive evacuations—the sudden change from a very full to a spare diet."

Dr. Scudamore, who has laboured more directly and strenuously than any of his predecessors to establish the essential dependence of gout on plethora, adduces certain facts, which, so far from proving his tenets, militate so strongly against them as to be utterly irreconcilable with their possibility.

The first cases adduced, refer to the practice of bleeding in gout. As this disorder is presumed to depend on plethora, the natural inference is, that diminution of plethora to the healthy stand-

ard by venesection must effectuate a cure. This expected result, however, by no means accords with experience. One case is related by this author, in which, "a gentleman upon losing sixteen ounces of blood was in two days thereafter attacked with gout, first in the hands, and next in the knees and one foot."

It might be perhaps argued, that the depletion in this case was not adequate to the correction of plethora; but this defence is precluded by the next case, in which, "a patient, after losing seventy ounces of blood, under inflammation of the liver, in the short space of thirty-six hours, was in a few days thereafter attacked with violent gout, apparently not controlled, in the severity of the painful symptoms, by the previous depletion." Surely, if gout depends on plethora and full living, the loss of seventy ounces of blood in thirty-six hours, and, we presume, a low fever diet, might have been enough to purchase immunity for the patient, if not for life, at least for a longer period than a few days, as specified. It might be urged, that this is a solitary case and proves nothing; but it is immediately

added: "I am made acquainted with many instances in which bleeding has been employed for the relief of pleurisy in gouty persons, so as to reduce the constitution considerably; at which period a fit of gout has occurred in a severe degree. I could relate many more instances in illustration of my present subject."* Vide Scudamore on Gout, p. 191.

If it is from such facts as these, or rather in direct defiance of such facts as these, that the advocates for the doctrine of plethora propose to establish their views, there is an end to all just induction. On the other hand, if the correction of plethora, and the reduction of the constitution considerably by depletion, be succeeded by a fit of gout, in more than usual severity, is not the inference inevitable, that a condition the reverse of plethoric is compatible with, or even conducive to gout on certain occasions, and, by legitimate consequence, that gout does not essentially depend on plethora?

If it were requisite to adduce the result of

* By much the greater number of authors on gout, condemn bleeding as injurious.—Vide future pages.

original observations of my own, enforcing the same conclusion; I hold myself pledged to bring forward evidence, consisting of an extensive and varied series of facts, amounting to incontrovertible demonstration of the point.*

That a state of plethora cannot be essential to the production of gout, is farther proved, in a different way, by the general fact that a course of extraordinary abstinence is not unfrequently followed by a paroxysm. Now if gout depends on plethora, and plethora on full living, how could this event possibly occur? But let this exclusive advocate for plethora speak for himself.

“A lady, &c. much subject to gout, abstained wholly from wine and all fermented liquors, and even from meat, living wholly on vegetables and puddings. Her attacks of gout” (were entirely suspended? nay) “were not *less frequent* than before!!”—Vide Scudamore on Gout, p. 668.

“A. aged 54, slight in form, and *not plethoric!* subject to hereditary gout; abstained wholly from

* Proofs might be abundantly extracted from the works of various authors, to the same effect.

wine and all fermented liquors for fifteen months : also being very sparing in the use of meat. At the end of this period he was attacked with gout, *more severely* than on any former occasion, in a *greater number of parts*; and the fit was longer than any *which he had ever experienced!!!*"

The primary article in Dr. Scudamore's theory of gout, it will be recollected — and which has been promulgated in several matured editions—is, that the "disease depends on a redundancy of blood." Yet, here is a case of gout, slight in form, and originally possessed of no redundancy of blood; "not plethoric," and after a course of abstinence for fifteen months, his gout, so far from being cured, occurs in greater severity than ever. Upon what principle of rational induction, or of consistency, are we then to be told that gout depends on plethora? If facts were wanted to prove this doctrine impossible, and its very opposite correct, could a stronger case be made out?

The only possible reply is, that this case of gout was "hereditary." If, however, there is an hereditary gout independent of plethora, the

theory which regards plethora as essentially the cause of gout must be erroneous. If the hereditary nature of gout be questioned — which it justly may — the gout of this case is left entirely unaccountable, except, indeed, by adopting a conclusion the reverse of our author's theory, that the gout proceeded from a condition the very opposite of plethoric, and was aggravated by abstinence.

As if to obviate all room for reply on the score of hereditary liability to gout, the following case is added by the author himself.

“J. K., tall and slight, *not plethoric*, subject to severe attacks of *acquired* gout; discontinued strictly the use of animal food, wine, and all fermented liquors, for the long period of four or five years. When two years of this probationary regimen had expired, he was attacked with gout most severely, and the fit proved of more than usual duration; nor was there less inflammation of parts than on former occasions.” — Vide Scudamore on Gout, p. 668.

Here the case is *slight* in form, *not plethoric*, and the gout is *not hereditary*; and after rigid abstinence of two years, a severe fit ensues,

acquired by the very means most calculated to prevent plethora.

Another case, p. 669, is added, where “a gentleman, after six months’ abstinence, for the express purpose of curing gout, is attacked by a severe paroxysm.”

It is not therefore in a solitary case, but in a number of instances, that gout not only is not cured, but aggravated, by such a course as renders a plethoric state impossible; and, indeed, is declared primarily to have occurred in constitutions “not plethoric.” How Dr. Scudamore, with these cases before him, should not have perceived them to be utterly subversive of the leading position maintained throughout his whole treatise, “that gout depends on plethora,” it is not easy to conjecture.*

My reader will at all events agree with me, that enough has been quoted to prove that the

* Surely, with such palpable contradictions between his facts and conclusions, this writer cannot expect to be conceded to him, what he would have believed, that his “information on gout is sufficiently complete to conduct to a clear arrangement in theory, or a solid foundation in practice!”

theory of plethora cannot possibly be correct, since it is inconsistent with facts. This conclusion might be incontrovertibly confirmed by innumerable observations similar; but as the advocates of the doctrine have themselves furnished facts sufficient to demonstrate its impossibility, farther argument is superfluous.

HAVING thus noticed some of the more generally received opinions as to the nature of gout, it may be useful still further to adduce certain negative positions, for the purpose of bringing the inquiry into the direct and proper channel towards the discovery of truth.

That gout is not simply a local disease, but also constitutional.

THIS position will, it is believed, not require proof. On this subject, every author of the slightest pretension to practical acquaintance with the disease is agreed. Dr. Kinglake, it is true, and a few other speculative practitioners, more eminent for bold rashness than the caution of experience, have attempted to maintain the oppo-

site tenet; but the ultimate issue of the introduction of their views into practice has been fatally demonstrative of their fallacy.

A correct and comprehensive acquaintance, indeed, with the almost innumerable forms in which gout appears, and especially with the manner in which sudden transference of gouty action takes place from one part of the system to another, apparently acknowledging no law, and confined to no locality, is proof sufficient that gout must depend on some peculiar condition of the whole constitution, or at least of some texture pervading the constitution.

There are only three such universally pervading textures known: those are, the absorbent or lymphatic, the vascular, and the nervous systems.

In one or other of these vital organic textures, the peculiar condition which may be regarded as the constitutional origin of gout must reside. As the lymphatic and vascular systems, as well as the whole other textures of the animated body, depend essentially on the nervous, both for functional and vital power, the probability, it is

remarked, is *à priori* strongly in favour of the latter texture being the seat of gout.

A more particular inquiry may exhibit this point in a clearer light.

1. *Does gout arise from any deranged state of the absorbent system?*

THERE are two different morbid states of the absorbent system of which we can form an idea—excess of action, and deficiency of action. This excessive or deficient action may operate in different ways.

The absorbents may fail in taking up their appropriate fluids, generally or locally, in which case various effects ensue, according to the texture; œdema in cellular, serous accumulation in cavities, mucous accumulations in membranes supervene. Neither of these effects, it is plain, are the constitutional origin of gout, or capable of affording any satisfactory explanation of the symptoms.

The principal feature of the paroxysm that

may appear to indicate deficient activity of the absorbents, is the local swelling. This however, is very circumscribed — it does not always occur, even in considerable severity of symptoms — it is admitted not to be strictly œdematous, and indeed appears not truly connected with any permanent deficiency of the absorbing activity; for no sooner does the local disorder in other respects yield, than it is almost instantaneously removed. All these circumstances seem to indicate its dependence on some other ultimate cause, and that it is indeed merely a symptom.

The absorbents may take up excess of their appropriate fluids. This morbid change evidently cannot be the cause of gout, though, if occurring, it may be symptomatic.

Of the existence of this state in gouty habits there is no direct proof, but it may be inferred indirectly.

Thus the speedy removal of cellular effusion on the remission of the paroxysm, of serous accumulations in cavities during a paroxysm, and the speedy subsidence of that swelling of the hands and feet consequent on exercise, are all symp-

toms indicating sufficient or increased absorbing activity on occasions, in the gouty system.

To this might be objected, the permanent swelling and effusion of chronic forms of gout, and the occasional complications of gout with œdema, and anasarcaous effusions. The only just inference to be extracted from these opposing observations is, that the gout occurs independently of either excess or deficiency of absorbent activity.

A striking feature is, the unnatural and morbid desire for food in the gouty invalid, shortly previous to the impending paroxysm, which all observers have noted. This appetite I have known on occasions, indulged from day to day for considerable periods together, without corresponding evacuations by the bowels; a fact which indicates sufficient activity of the alimentary absorbents, and which, indeed, has been regarded as of so uniform occurrence, as to amount to a proof of plethora being the cause of gout. But gout does not always follow the indulgence of this inordinate craving, and has frequently ensued when the desire has neither been felt nor indulged.

At all events, activity of the assimilating absorbents, if connected with the production of gout, must be so only in a remote manner. That certain variations in the degree of absorbing activity occasionally occur in the gouty constitution, is very evident. But this variable condition is rather occasional and incidental, than essential and invariable; and appears, indeed, referrible ultimately to peculiar corresponding states of the nervous and vital powers, as might be instructed by various analogical inferences.

The third condition is a morbid excess of absorbing action, in respect of the textures removed. The only observations worth noting are, that deep-seated abscesses, and other formations, as also serous effusions, are sometimes removed with unusual celerity in the paroxysm.

2. *Does gout, proximately, depend on any deranged action of the exhalant or secreting vessels?*

THIS query claims an importance it would not otherwise have attained, from the views of the French pathologists, Guilbert and Hallé, who

reason in this way :—“ The functions of digestion and perspiration become deranged, sometime prior to the invasion of gout. The excretions languish, and a state of fulness of the blood-vessels is the result. The secretions also are deranged in various ways. Now, we know that the lymphatic or absorbent system performs an important part in these operations of the animal economy ; and we may be permitted to conclude, that this system is principally affected, or at least principally engaged, in the disease under consideration.

“ We see that the gout, though most frequently attacking the muscular system, is not confined to that alone, but invades tendon, ligament, periosteum, serous, synovial, and cellular tissues, cartilage, and even bone itself. When we see that it attacks one or all of these parts, separately or collectively, but not exclusively, it is reasonable to conclude, that it does so through the medium of another system, which enters as an elementary part of each—a system of vessels which surround and penetrate the joints, spread themselves over the fibrous, serous, and synovial tissues, dip into

the periosteum and bone, and which serve for the purpose of nutrition in all these parts, and for those multiform secretions and excretions performed therein : for we are not to view the lymphatic vessels as merely the system of absorbent vessels, but in the extended sense above mentioned. Musgrave and Hoffman have come to nearly the same conclusion. We believe, indeed, that the phenomena presented both in regular and irregular gout, can be better accounted for in this way than on any other principle.

“ Under the influence, then, of causes which have deranged the functions of digestion and perspiration, and given rise to a state of fulness of the blood-vessels, certain matters, destined for excretion, have not been thrown off; consequently, the lymphatic system remains gorged with these materials, which become a source of irritation wherever they are deposited, and, in short, produce *gout*.”

This, it must be admitted, is rather a short cut to a demonstrated conclusion; like the traveller, who, after being thoroughly fatigued with the anxieties and exertions of finding his way

through a dreary, winding, perplexed, and unexplored country, is glad to cut short into the first human habitation that perchance appears. We must say that we do not find ourselves at home, on the above termination of the inquiry : on the contrary, after a great deal has been observed accurately, and something like a chain of argument on assumed premises has been carried on, we find a sudden leap to a conclusion, over a wide gap, and that by means of a simple assertion — “ in short, produce *gout*.”

It would have been satisfactory, had these ingenious theorists not stopped short here, but pursued the stream up to its source, *i. e.* have regarded the derangements of the lymphatic system adverted to, as valuable and important indices, pointing to a more ultimate origin ; as, in short, phenomena frequently, though not invariably, concerned in the local disorder of gout, and when occurring, directing the attention rather to a deranged condition of that influence on which the lymphatic functional capacities necessarily depend, than as constituting the “ *prima origo mali*.”

As the matter rests, innumerable insurmountable objections offer themselves to their theory,—objections no less direct, than those which apply to the humoral pathology,—of which, indeed, this seems merely a revival on mechanical principles.

It may be objected, “perspiration” is *not always* “deranged prior to the invasion of gout;” I have known gout occur under profuse perspirations. “The excretions languish;” — diarrhœa* frequently attends gout. “Fulness of blood is the result;” gout has been proved not to depend on plethora. “We see that gout is not confined to the muscular system, but invades tendon, ligament, periosteum, serous, synovial, and cellular tissues, cartilage, and even bone itself;” the same may be said of white swelling and dropsy, and of a common strain. “That the phenomena of gout, regular and irregular, can be better accounted for in this way, than on any other principle,” we take the liberty of question-

* I have at present two patients with severe gout, notwithstanding very full evacuations.

ing. The very explanation offered, requires explanation. Upon what does the peculiar derangement of the lymphatic system, supposed to constitute gout, depend? Surely, not upon mechanical gorging of the lymphatic system from impurities in the blood: this is a pathology which it is easy to confute. How can apoplexies, palsies, visceral inflammations, spasms, sudden accessions, remissions, and translations of exquisite pain, and other symptoms unconnected with any apparent lymphatic derangement, be reconciled with this view? What rational connexion has this theory with the acknowledged causes of gout, predisposing or exciting, excepting on the principle of plethora, or the humoral pathology—exploded doctrines?

Whence come obstructions by matter in the blood not to occur wherever that blood penetrates, exciting gouty action all over the system at once, and annihilating the patient by a universal torture? What are the laws of predisposition? How come any of the organs destined to expel superfluous matter, to be more unequal to the office than others? How come depôts of matter

and expulsions so suddenly to succeed in the same parts, or in different parts — and even to take place at the very sources of vital energy?

These, and many other objections, which no ingenuity can answer, apply with irresistible force to the hypothesis which refers gout primarily to the lymphatic system.

Admitting, as we do, to the fullest extent which observation warrants, the frequent occurrence of certain derangements of the lymphatic system, as connected with the paroxysm of gout, we shall briefly investigate, *seriatim*, what appears to be the true nature of the connexion betwixt such derangements and that disorder.

Cutaneous Secretion. — The principal fact respecting perspiration in the gouty subject, is irregularity; the skin being alternately inactive and chill, and liable to copious exudation from slight causes: an observation which rather indicates general debility of that power on which vitality of the skin and activity of function depends, than any essential connexion

between these states and the production of gout as a proximate cause; for though the cutaneous secretion is generally diminished or suspended, universally or locally, shortly previous to an attack of gout, this is not invariably the case. I have known, as before said, individuals liable to copious perspirations, even at the time when affected with gout.* Inordinate facility of perspiration, on slight exertions, is generally manifested in all cases of debility; and the same tendency is exhibited in gouty constitutions. In both cases, sudden and complete suspension of cutaneous secretion occurs from slight exposures to cold; the inference from which is, that gout depends on, or is connected with constitutional debility, not on obstructed perspiration. To suppose that sudden checkings of the perspiration induce gout through the medium of plethora, is to mistake the effect for the cause, is

* I have one case of gout at present under treatment, who, for some nights previous to the attack, has been bathed in perspiration, with daily alvine evacuations. This case has used a very low diet for years.

irreconcilable with what has been advanced, and with the following observations:—

In constitutions, whether gouty or not so, every degree of cutaneous secretion, from absolute inactivity to the most copious perspirations, occurs without inducing any symptom of that disorder. I know a whole family who never have perspired; exposed to the most scorching summer heats, under pedestrian or other exertions, I have felt the skin almost as free from moisture as in inactivity, during winter cold. Not one of that family have ever manifested either inflammatory affections, or gout, or any disorder usually attributed to plethora. One old gentleman, long liable to gout and copious perspirations, is now sedentary, seldom perspires, and is free from gout. A curious instance lately occurred. A gentleman, aged about thirty, who has sometimes consulted me, and whom I have forewarned of gout, seldom perspires at all; but on occasions, a spot the size of half-a-crown, on the back of the right hand, unexpectedly becomes moist, then wet, and at length the perspiration oozes out in copious dew, running off in large drops with

almost incredible celerity. Such an inexplicable anomaly, however, can neither derange nor substantiate any conclusion.

Bronchial Secretion.—The mucous bronchial secretion in gouty habits is frequently increased, especially in cases adverted to (vide Predisponent Causes); but during a paroxysm it is usually diminished or suspended, again becoming more copious and free on remission. Nothing, therefore, it is plain, can be concluded from these conditions, excepting as referrible to an ultimate cause—appearing to be symptomatic of pulmonary congestion, as coincident with a regular paroxysm. (Vide Paroxysm, vol. ii.)

Observations respecting the exhalant power of the lungs are rather interesting. With every breath ejected, a quantity of moisture is known to be exhaled from the system, in the form of vapour. This, partly, is derived from the bronchial tube, partly from the surface of the air-cells, in which the air inspired is brought in apposition with the blood. In this case, the vapour in question must be derived pretty directly from that fluid.

In many cases of gouty constitutions, I have observed, that the breath ejected is much more fully charged with watery vapour than in health. It is a curious observation at least, and may serve, in part, to explain the mode in which the system gets rid of superabundant fluid, and how part of the excessive aliment the gouty system sometimes receives is disposed of, creating a more than usual demand for repletion. Unquestionably more nutriment is sometimes taken by gouty invalids, than is converted into fat or to other uses; for although the alvine and urinal excretions are scanty, the individual continues spare, and apparently deficient both in solids and fluids. The quantity of fluid that is imperceptibly discharged by the lungs, may be very considerable, insomuch as, in connexion with increased cutaneous secretion, sufficiently to account for the balance.

This symptom, when occurring, I believe to be generally connected with constitutional debility and relaxation; and so far from indicating low living, indicates and requires the very opposite of plethoric counteraction.

Secretions of the Alimentary Canal and Digestive Organs.—Gastric acid, flatus, eructations, biliary acrimony and depravity, and morbidly offensive excreta, indicating frequent dyspepsia, periodical biliary derangements, with habitual alvine inactivity and occasional irritative diarrhœa, are usual symptoms more or less occurring, and invariably noticed by all writers and observers on gout.

How far secreting inactivity in the villous and mucous membranes is connected with these derangements, it is impossible to decide on direct evidence. Taking, however, all the symptoms connected, and duly estimating the effects of certain causes exciting or predisponent of gout, it appears probable and natural to infer, that indigestion is more or less connected with peculiar irregularity or depravity of the gastric secretions; and that obstinate evacuating inactivity, or diarrhœa, are owing to deficiency, or excess, or depravity of the secretions concerned in exciting healthy peristaltic functions; and, in particular, that the mucous membrane of the intestinal canal is frequently liable to a peculiar

disordered action in the gouty constitution, either dependent upon or giving rise to vascular determination and secretion of blood.

With regard to the biliary secretion also, it is a fact established by general observation, from Hippocrates to the present, that it takes place in a very irregular manner in the gouty subject. Perhaps the most usual variation from health is a morbid excess of bile; how far it is secreted of a morbid quality, it is not easy to decide. On occasions, an almost total obstruction of biliary secretion exists for a considerable period together; and sometimes accumulations to a great extent of that which has been formed, causing much disturbance of the alvine functions. On periodical occasions, an unusual flow of bile takes place, which is possessed of a very depraved, acrid, or irritating quality, when ejected by vomiting or purging.

These variations from health in a secretion so important as the biliary, cannot take place without great corresponding disorder of the system generally. But as the primary effects of irritating alvine contents, of whatever kind, are local, and

only involve the system or particular distant parts in a secondary manner, and as such derangements in the various secretions connected with digestion are not peculiar to gouty individuals, but frequently occur in persons with whom this disorder is unknown—it is plain that this condition, if essentially conducive to the production of gout, is only so in a subsidiary manner, and when associated with some other peculiar state of the system. (Vide Predisponent Causes.)

The uniform coincidence of such disorder of the visceral secretions with gout, indicates a very important connexion between these states. The explanation must be reserved for future investigation. (Vol. ii.)

The Urinary Secretion.—What precise changes take place in the secretions from the inner surface of the bladder, urethra, ureters, and kidneys, in the gouty habit, it will always be difficult to determine. That morbid secretions do at times occur, and that morbid actions of these organs supervene, are facts established.

It has frequently been observed, that spasms

in the bladder and urethra occur in the subject of gout.

In such cases there is usually pain of some severity in the part more immediately affected; exquisite sensibility to the stimulus of urine, insomuch that the smallest accumulation excites violent involuntary efforts at micturition. There is a tingling pain and burning sensation, as if of scalding, especially as the drops of urine make their way from the bladder along the urethra. The urine itself is sometimes very small in quantity, sometimes considerable, and generally loaded with a thick mucous deposit. It is voided either in drops involuntarily, or in occasional gushes, with a violent spasmodic effort, and exquisite pain affecting the whole system.

That this morbid action on occasions extends along the ureters, and to the kidneys, is frequently demonstrated by peculiar symptoms corresponding. In such cases the urinary secretion is usually very much diminished in quantity; and no sooner does this morbid action become suspended, which sometimes suddenly ensues on the occurrence of a fit of local gout in the extre-

mities or elsewhere, than a copious and natural flow of urine supervenes. The relief from the distressing sensations described is immediate and complete.

The fact that suspension or diminution of the urinary secretion is the result of the morbid action described, presents some ground for the analogical inference, that similar effects will ensue from similar depraved action in the other secreting organs, especially spasmodic and irritative muscular actions in the alimentary viscera. Vide Paroxysm, vol. ii.

That in gouty constitutions certain morbid urinary products occur, is sufficiently established; but how these products are formed, is not hitherto determined.

The change to which the gouty urine is particularly liable, is superabundance of earthy ingredients, in combination with certain animal acids, as uric and phosphoric, from which calculous concretions are believed to proceed. These formations, it is obvious, may either be derived from the blood by the natural act of renal secretion—in which case the conclusion is, that

a general depravity in the mass of blood exists ; or they may be formed during or immediately consequent to the secreting act, from certain changes in that process to which the gouty habit is liable.

To which of these sources urinary products are referrible, must be left in a great measure to conjecture. In tracing these formations to their source, it is to be borne in mind that we cannot proceed beyond the verge of the urethra, without taking into account circumstances that may modify these products, and of course affect every conclusion. At all events, every definite inquiry must be limited at the kidneys, till the nature of the secreting act be ascertained, and the variations of which it is susceptible, in correspondence with other states of the system.

So far as conjecture may be permitted, the presumption is strongly in favour of the inference, that those changes in the urinary products to which the gouty system is liable, are referrible to a certain change in the process of secretion, consisting of a morbid or irritative activity, excited and maintained by local determination ; and the

result of which is analogous to what takes place in similar circumstances of the constitution and of the parts from capsular membranes. In the latter case, calcareous formations take place, in the other, excess of earthy ingredients.*

In these circumstances the changes in question peculiar to gouty urine, are to be regarded as symptomatic of local determination in a constitution susceptible at once of that state, and of morbidly irritative local actions. This constitutional susceptibility must of course be referred ultimately to some other condition. *Vide infrà.*

Secretion in the Cellular Tissue, and in the Capsular Membranes, Ligaments, &c. — That an increased secretion usually takes place locally in a paroxysm of gout, from the lymphatics both of the cellular and capsular membranes, has been already admitted as an established

* This opinion is coincident, I find, with that of Dr. Uwins, who considers it more likely that urate of soda in gouty cases is formed by an irritative action in the part affected, than existing already formed in the circulating blood.

observation, this symptom being indeed the foundation of the views of the proximate cause of that disease at present entertained. Reference of gout to obstructions of the lymphatics situated in these parts is not, however, originally due to Guilbert and Hallé, as above adverted to, but was an opinion held by Dr. Latham nearly thirty years ago.*

“ From the observations which I have already made, it will easily be seen, that I consider a preternatural degree of irritability to be generated in the system as the effect of excessive stimulus; and that, the digestive faculties being thereby also deranged, chyle in an imperfect state is con-

* The same mechanical notion is nearly synonymous with that of Musgrave, 1702. “ *Semper incipit à frigore, causa hujus affectionis evidentè fidelissima: ex qua celerrimè sanguini, præcipuè verò ab exercitiis incalescenti, lentor inducitur: qui, in musculis et membranis, infarciens capillaria, circuituri fluminis meatus obstruit, dolores et interdum tumores affert. Quæ inest sanguini pituitæ, sive seri crassioris massa horæ, paucarum aliquando sexagesimarum, spatio, momento temporis ferè, tota lentescit et (uti cera per syringem injecta) ductus*

stantly forced upon the lacteals, and thence into the circulation, in a greater quantity than the ordinary offices of the intervening glands and of the lungs are able to correct. An incongruous unassimilated fluid must therefore every where be circulated, and exposed to the action of the discerning extremities of the arteries." "The body may be in such an extreme state of irritability, that the lymphatics, upon receiving this imperfect fluid, may thence immediately be disturbed, their functions interrupted, constriction produced; and pain, heat, redness, and tension follow. Gout, therefore, according to this idea, may, as the common expression has it, be flying all over the body; for every lymphatic through-

impulsus exiguos impedimenta, moras, oppilationes creat propius crassitie plus minusve pertinaces." There is immediately added the expressive admission of inexplicable obscurity: "*Quæ fiat tanta, tamque subita Γλιχροτης, (haud explicatu facile problema) professores medicos optima quidem ingenia fatigavit.*"

How little of novelty there is in this notion, appears also by the following sentence: "*Manantia corpuscula, per invisibilia foramina subsistendo, iter claudunt, ut Asclepiades contendit.*"—

Celsus, p. 4.

out the system may be more or less affected. If situated in a patient's extremities, it is generally attended by the usual symptoms which, in an active state of the body, constitute it a regular fit; but if misplaced, or seated in parts very essential to life, the same activity of system immediately produces such imminent distress, that death too frequently unexpectedly destroys him.* Vide Latham on Rheumatism and Gout.

If derangement of the lymphatic system is to be regarded as the proximate cause of gout, these derangements, it is plain, must either arise through the medium of the blood, in consequence of some peculiar state of that fluid, rendering it difficult of transmission—an opinion generally held, and which shall be noticed hereafter (*vide infra*); or in consequence of some functional incapacity, or disorder of the discerning lymphatics themselves. If any difficulty† in trans-

* Of this latter clause we may say, “haud facile explicatu problema.”

† This notion is nearly synonymous with that of Caverhil, who ascribed the gout to obstruction of the circulation from cohesion of the minute terminations of the arterial ramifications.

mission of the blood existed, how, it may be asked, does a local effusion so very circumscribed take place, where a universal or more extensive derangement was to have been expected? And how does remission of this state so speedily and suddenly supervene? If the topical disorder of gout is referrible to the lymphatic actions simply, how comes transmission of this disordered action to take place so suddenly and so completely? This account of the matter, although possibly applicable to local gouty derangements in parts of such a structure as the joints, is far from adequate to explain either the constitutional symptoms, or the local disorder occurring in many other parts; as the diaphragm, bowels, brain, and other organs, &c. &c. In short, all the objections to the theory of M. Guilbert apply equally to this.

Though the joints, it is admitted, are a frequent seat of local gouty action, and distension of the cellular and capsular membranes, together with the occasional formation of calcareous concretions, indicate excessive and depraved capsular secretion, these derangements cannot be essentially

the cause of gout; since, as above stated, that morbid action frequently occurs elsewhere, in textures which, although doubtless penetrated by lymphatic vessels, are not of such structure as to admit of the same explanation of gouty action in a satisfactory manner.

The lymphatic disorder in question, therefore, occurring in the articular and cellular membranes, is only occasionally and incidentally connected with gout, and must of course be referred to some ultimate constitutional cause; to that influence, in short, on which the lymphatic functional capacity depends.

This inference, it is satisfactory to perceive, is confirmed by the sensible writer of the tract before us. "I consider," says Dr. Latham, "a preternatural degree of irritability to be generated in the system as the effect of excessive stimulus, and that the digestive functions being thereby deranged," &c. Again: "The body may be in such an extreme state of irritability, that the lymphatics, upon receiving this imperfect fluid, (in circulation) may thence immediately be disturbed." Thus, justly considering the lymphatic disorder

to depend on extreme irritability as the ultimate origin, which state he refers to other remote causes. "I might, perhaps, have added above, to the excesses which become the foundation of an irritable and depraved state of the body, that any thing superadded to those irregularities, which, in its consequences, diminishes the vigour of the system, must necessarily increase that irritability and depravity," &c. Thus explicitly pointing to a peculiar constitutional condition, as ultimately at the origin of that lymphatic derangement on which gout is supposed to depend.

On the whole, the general inference from these considerations is, that certain variations do take place in the lymphatic and secerning functions — as is clearly indicated by corresponding local disorder in the various organs or textures affected during the paroxysm of gout, whether of greater or less severity; but that these changes, though occurring with considerable uniformity of character, being inadequate to afford any satisfactory rationale of the whole symptoms of that disorder, and bearing no rational or intelligible reference to the acknowledged occasional causes, cannot be re-

garded as the proximate cause of gout. On the contrary, whensoever occurring in such constitutions, they are to be regarded not as primary but secondary; and, indeed, as effects symptomatic of some other constitutional or local condition, in which the gouty disposition consists — referrible, manifestly, to the source of functional power on which the secreting actions ultimately depend.

Query. Is there any peculiar disordered condition of the sanguineous and vascular system, from which the gout may proceed as a proximate cause?

This inquiry comes in closer contact with the leading constitutional symptoms of gout than the former; and it is therefore requisite to take as comprehensive a view of the subject, in this relation, as observation of facts will admit of.

The consideration of the circulating system may be pursued under three divisions:

1. As regarding the condition of the blood circulated;

2. The condition of the circulating vessels ;
3. The powers by which circulation is effected.

As adherence to this general division might fetter rather than facilitate inquiry, the following order shall be adopted. How far gout may arise from, or be essentially connected with, the following conditions : —

1. A peculiar or morbid state of the blood ;
2. An unhealthy proportion of blood, general excess, or deficiency ;
3. Irregular distribution of blood, or unhealthy determination to particular organs or parts ;
4. Velocity of circulation ;
5. Any peculiar condition of the blood-vessels.

1. *The State of the Blood in Gout.* — This point has been already briefly adverted to. The general objections to the doctrine of the humoral pathology, as inadequate to afford any satisfactory, intelligible, or consistent explanation of the symptoms of gout, have been noticed. But it by no means follows, that no

reference is to be made to the state of the blood in gouty constitutions, so far as, from certain concomitant circumstances, it may be capable of modifying the constitutional tendency to that disease.

An important query in respect of all diseases deserves consideration,—Upon what does a healthy state of the blood depend? On a due supply of suitable nourishment; on a healthy assimilation of nutrient matter; on a due performance of the various secretory and other functions, by which the blood is disburthened of impurities rendering it unfit for the purposes of the animal economy; and on a healthy condition of that fabric through which the blood pervades, and from which, by means of absorbents, it is continually receiving tributary supplies. Various and important changes in the condition of the blood, may also take place by temperature, agitation, the degree of its vitality, &c. &c. A minute consideration of these various points in their numerous connexions and consequences, would be an inquiry much too wide for the present limits. Selection,

therefore, shall be made of such as bear more immediately on the elucidation of the subject under investigation.

Morbid Assimilation not the cause of Gout.—No direct observations or experiments are extant which establish a necessary connexion between any precise state of the blood and gout. A rich condition of this fluid has been very generally conceived to exist in gouty constitutions; but this notion has rather been presumed upon from indirect considerations than from fair inductive inference, and adopted rather from convenience in explaining certain otherwise inexplicable symptoms, than from an unbiassed conviction of its existence upon more solid grounds. It may be proper, nevertheless, to give due weight to the evidence depending on authority in favour of the supposition.

Sydenham has the following passages:—
“ They that are subject to this disease, are not only most commonly greedy of meats in general, but chiefly of those which are hardest to digest; of which when they eat as much as they were

wont to do when they exercised themselves, they are unable to digest them." "When at one and the same time the vigour of the spirits that are the instruments of concoction are lessened, and also a *great heap of humours oppresses the blood.*" "Moreover, as every one of the causes we have mentioned promote indigestion, so most of them occasion a looseness of the habit and muscles of the body, by which means a passage is opened for the receiving of crude and *indigested humours*, as often as they are obtruded to the outward parts; and when lying long in the *blood*, they increase in bulk, and contract an ill disposition, and at length acquire a putrifying heat, and can no longer be governed by nature; they break out into a species, and fall upon the joints, and by heat and sharpness produce most exquisite pains in the ligaments and membranes covering the bones," &c.

These views, however hypothetical, are written in the spirit of accurate observation, and of experimental acquaintance with symptoms.

Dr. Latham says, "The digestive faculties

being thereby also deranged, chyle in an imperfect state is constantly forced upon the lacteals, and thence into the circulation, in a greater quantity than the ordinary offices of the intervening glands and of the lungs are able to correct. An *incongruous unassimilated fluid* must, therefore, every where be circulated, and exposed to the action of the discerning extremities of the arteries," &c.

Guilbert, the most recent French writer, holds precisely a similar view, referring gout to lymphatic obstruction arising from plethora, and "the retention of matters intended for excretion by other outlets."

Dr. Scudamore, the principal object of whose pathology is to confirm the doctrine of an exuberant state of the blood, by examination of the urine, manifests a strong tendency to revert to the humoral pathology. After stating the strange belief that the urinary secretion is, in gouty cases, part of "the curative process which nature is attempting to accomplish;" yet, "*without removing the specific cause of the disease;*" he remarks, "The investigation appears to me of

additional importance with reference to the doctrines of the *humoral pathology*, which have probably been too violently discarded from modern medicine."

This author then, singularly enough, deprecates the hypothesis of Guilbert, "as an easy assumption of cause, abounding in romantic opinions and unsound pathology;" and yet, as the result of "a closer view of the subject," offers the following substitute, which is strictly synonymous, so far as intelligible, with what he condemns. "The stomach is truly the medium through which the gout is created. Excess of ingesta beyond the powers of healthy assimilation, and the supply of blood demanded for the useful purposes of the body, is the *material foundation* of the disease. In those instances of sudden and unexpected attack, when the patient considers himself in the most vigorous state of health, he is pursuing free habits of living, and carelessly producing a *state of repletion*, which *insidiously grows into a fit of gout*."

Here we are informed, that a fit of the gout is, or is like, a vegetable "*insidiously growing*" out

of an overfed carcass, in the same manner, we are led to presume, in the absence of better explanation, as ugly overgrown cabbages grow out of over-manured flower-beds; or, rather, gout is a pathological fungus, in our author's view, mushrooms* being well known to sprout to an incredible size in a night, even emulating the gouty limb in rapidity of "*growth.*"

Such an idea, though not very "*romantic,*" is certainly more metaphorical than "*pathologically sound.*" As no rationale is offered of a mode of "*growth*" so very extraordinary, Dr. Scudamore obviously exemplifies, in all its force, his own critique of M. Gilbert, of being "quite contented with an easy assump-

* The boletus squamosus will, in two or three weeks, attain an enormous size, and sometimes gains above a pound weight in a night. Less violent or protracted paroxysms may be compared to the agaric tribe, some of which are *wholesome*, like gout. The amanita muscaria, another genus, is large and red, like the gouty joint; and has another point of resemblance, producing nervous tremors, delirium, and melancholy, as gout does. These are not regarded as symptoms of its being *wholesome* or "*salutary.*"

tion of cause," and with assertion of the loosest order, in place of sound and satisfactory theory. In quest of evidence to support his assumption, our author betakes himself from botany to chemistry, and, with mortar, crucible, and alembics, straightway descends into his favourite element, the gouty urine, where we suddenly lose sight of him, and of all rational pathology together.*

Were it deemed necessary, it might be easy to confront these speculative notions with the opposing authority of Heberden, Brown, Parry,

* Having no time for chemical experiments, and having already expressed doubts as to their relevancy, we must be excused from following this author through the many pages of verbiage and useless details on this subject, in which he has immersed himself. Nothing is conspicuous but confusion and contradictory statements. After a long and fruitless search amid the commotion of turbid "pink and brick-dust sediments," we were compelled to leave our author for drowned. Not all the inductive powers of a Davy, the scientific accuracy of Thomson, or the ingenuity of Brande, can save his chemical life; pathologically he was proved *felo de se*, on incontrovertible evidence, some pages back.

and other judicious writers ; but it is the shorter way to appeal to fact.

It is an indisputable fact, that in innumerable cases, where reasons equally strong exist for inferring the existence of this supposed imperfect assimilation and exuberance of blood, no symptom of gout supervenes. It is but little to the point to have remarked, that persons in high life, affluent circumstances, and luxurious habits, are chiefly liable to gout; for persons with these advantages oftentimes escape, while others, with no opportunities of full, or even adequate diet, are at times affected : of which ample exemplification by cases shall be offered hereafter. Vide Predisponent Causes, vol. ii. p. 1.

How, it may be asked, come excessive depletions and abstinence, and a sudden change from a full to a low diet, to cause gout by imperfect assimilation and exuberant qualities of the blood ?

Nor is it easy to discover how such a supposed state of the blood can give rise to gouty symptoms. It is, doubtless, not to be denied, that some features in the history of the disease

accord with this view ; but for one that might be explained thus, I would pledge myself to adduce many that are incompatible with the supposition.

While nothing, therefore, would be more difficult than to demonstrate, in a definite and satisfactory manner, any necessary connexion between full habits of living and the formation of rich blood, terminating in gout in consequence of imperfect assimilation or mechanical obstructions, it is plain that to adopt such a mode of explaining the disease, would conduct us back centuries in pathology, and involve us in the incomprehensible chimeras of the doctrine of humours.

It is, indeed, a point well meriting due consideration, how far that condition of the blood produced by full and nutrient diet is not, in general circumstances, the most favourable for health and constitutional vigour ; and how far, as shall be hereafter more fully shewn, the effect of such diet on the gouty habit is, for the most part, to be regarded as salutary, and counteractive of other debilitating influences. As the subject is important, and the misconception very

prevalent, that animal and nutrient diet is productive of rich blood and plethora, with all their concomitant horrors, and among the rest gout, I shall merely anticipate one fact:—A. a gentleman who for some years back has been extremely subject to inflammatory affections, requiring occasional depletions and abstemious living, with the view of counteracting his constant tendency to become *plethoric*, at length contracted gout. Accustomed to regard with the greatest dread the slightest indulgence in wine, and feeling generally flushed and inconveniently heated by one or two glasses, he has rigidly abstained from every stimulating liquid; confining himself usually to milk and water beverage, vegetable diet, with moderate and simple animal food once daily, his dietetic system being of the simplest description, and rather under than exceeding the salutary standard in quantity. He has pursued regular, and even fatiguing exercise; nevertheless he has become the victim of gout.

With due regard to circumstances and limitations, in other respects hereafter to be fully explained, (vide Therapeutics,) this gentleman was

put upon a solid animal diet twice, and sometimes thrice daily, recommended to use half a pint to a pint of port wine every day or second day—and occasionally has gone the length of a bottle; but for many months he has not had a single symptom of gout.

How then can we be told, with propriety or consistency, that there is any necessary or conceivable connexion between rich exuberant qualities of blood and lymphatic obstructions terminating in gout? This is not a solitary case; numerous others will hereafter be referred to, precisely similar. Vide Therapeutics.

If any thing were likely to affect the state of the blood, surely, the potation of one or two bottles of port wine should; and the immediate conveyance of such a stimulating fluid into the mass of the circulation might naturally be expected to produce the most serious inconveniences, in all circumstances. How groundless these apprehensions sometimes are, is sufficiently apparent in the above case, as well as in the experience of most persons in the habit of moderately using that beverage.

I am far from recommending wine or stimulating liquors indiscriminately, or in excess. He who puts too much faith in the corrective powers of the constitution, will certainly and inevitably have reason afterwards to regret his contempt of the universal voice of experience. Moderation is not more important to be observed, however, than discrimination. The whole benefit or injury of wine in moderate quantities, depends upon the peculiar state of the constitution. B. a gentleman, of abstemious habits, who has long (above thirty years) been liable to gout — but within the last two years, from appropriate treatment, has not been visited by a single attack — experiences great inconvenience from a single glass of port. This inconvenience at times assumes the form of local gouty pains; sometimes a less, at others a more serious aspect. This fact is merely noticed, to counteract any impression produced by the case A. in creating the belief that such a beverage may be resorted to with impunity or safety in all cases. This same invalid uses spirit and water daily with benefit.

With such opposite cases before him, which

are merely a specimen of numerous others, who is there that can consistently maintain that gout originates in lymphatic obstruction, from a plethoric or exuberant state of the circulation?*

Of Acid in the Blood. — As it is an established observation, that the contents of the alimentary canal are usually in a morbid and depraved condition at the period of the occurrence of gout, it has been supposed that a depraved state of the blood, by absorption of such matters existing in the alimentary passages, is materially and

* While writing the above, an invalid has just called, who is liable to hepatic obstruction. In recommending to him a course of medicine, and nutrient animal diet, twice daily, he informs me, that about a year ago, under somewhat similar symptoms, with some fever, he was bled, starved for six weeks, and sent to Brighton. He then found his feet and ankles so tender, liable to aching pains, cramps, and swellings, that he was unable to take exercise — a symptom quite new to him. At that time, by the advice of some sensible physician there, he was ordered animal food twice daily, and a little wine, in place of the starving plan. He rapidly recovered, and his feet became quite sound. His age is 28.

essentially connected with the production of the disorder, as a *materies morbi*.

It is only doing justice to the subject, therefore, to state the authority upon which this hypothesis rests.

The opinion of Dr. Sutton has been already adverted to, that the cause of gout resides in the alimentary canal.

This idea had previously received a much more definite and important form, from the views of Mr. Parkinson, who may be regarded as the principal modern advocate for the doctrine that gout depends upon saline acrimony in the blood.* The objections already urged against this hypothesis were rather of a general nature, and intended to shew its imperfection and inadequacy as a theory, being on the whole much too limited and indefinite to meet the various characters of gout. Nevertheless, it must be admitted, that Mr. Parkinson's views are proposed with ingenuity, and are, in certain respects, undoubtedly accordant with observation.

* The notion may be traced, in various forms, to a very old date.

The acidity in the stomach to which gouty habits are so liable, is supposed, by Mr. Parkinson, to be conveyed into the blood directly, or at least to furnish the acid principle with which that fluid is conceived to abound in gouty invalids.

“As age advances, the morbid effects of the gastric acid become more evident. Digestion is more impaired, and the patient is frequently distressed with pain of the stomach, heartburn, or eructations; the acidity of the latter being often said to exceed that of vinegar, and to excite the sensation generally described — setting the teeth on edge. When these circumstances are considered, there can exist little reason to doubt the propriety of regarding the stomach, when in a debilitated state, as an inexhaustible source of acidity.” This is very just, but it is immediately added: “the acid it yields passing into the intestines, and being thence absorbed and conveyed, by the medium of the blood, into every part of the body,” &c. &c. This is mere assumption. We are then told, “The discharge of the uric acid with the urine, may be regarded as

the most constant mode by which its superabundance is intended to be prevented. But when, from the profuse introduction of these substances into the stomach—on which the formation of this acid depends—a sudden and considerable augmentation of it takes place, it is probable, the skin unites with the kidneys in performing the depuratory office; and the superabundant acid, somewhat changed, perhaps, in its nature, is exhaled in combination with the sweat.”

We are then led to believe that this acid, deposited in the kidneys, assumes the form of red sand and gravel; in the ligaments and tendons, depositions of acid* cause inflammation, thickening, stiffness, and hinderance of motion. “When

* Mayerne conceived the gout to proceed from tartar, or some other acrimonious matter of a saline nature, which, when deposited in the joints, produced corrosion of the capsular membranes: of the existence of this substance, no proof has ever appeared.

Musgrave speculates on the existence of an alkali in the blood, by which coagulation and thickening of the capillary secretions on the ligaments takes place; remarking, “*Experimentis Baylianis manifestò constat acidi præter salis marini quantitatem perexiguam, nihil natura sanguini inesse.*”

the paroxysms are slight and seldom, a sufficient opportunity is yielded between the fits, for the absorption of the deposited matter;" but when the paroxysms are of long duration, the intervals from disease are not sufficient to allow of the removal of the deposited matter, before a fresh separation and deposition takes place."

It is farther assumed, that the concomitant existence of soda in the blood, by uniting with the lithic or other acids, counteracts the noxious principle causing those dreadful diseases — gout, gravel, and stone—and gives origin to calculous concretions in the kidneys, or in the joints.

The basis on which this hypothesis rests, is, 1. The frequent occurrence of gout, in consequence of the use of acescent and fermented liquors, and articles of diet. 2. The almost uniform coincidence of gastric acid, in abundance, with the gouty state of the constitution. 3. The frequent occurrence, in such constitutions, of lithic acid in the urine, of acid matter in the perspiration, especially of the gouty part; and 4. The existence of acid in the calculous concretions of gravel, and in the joints of gouty subjects.

It is due to Mr. Parkinson to state, that

although he places, perhaps, an undue stress on those observations which support his doctrine, and undervalues or overlooks many of those opposing considerations which a more expanded view of the subject would have afforded, he has the candour to admit that his views amount only to conjecture; and that an extensive series of observations of the state of the blood alone can supply direct and satisfactory evidence to support them.*

Mr. Parkinson himself admits, that gastric acid, lithic acid in the urine, and acid in the perspiration, not unfrequently occur in constitutions not gouty; he will readily admit, that local solid concretions are of rare occurrence, comparatively with the frequency and violence of gouty attacks; and that the reception of food calculated to generate gastric acid, frequently takes place habitually, without inducing the gout. The conclusion, therefore, is obvious and incontrovertible, that even although acid in the blood were invariably indicated in gouty constitutions, the same reasons existing in other cases, for

* No such experiments have as yet been made.

inferring this acid to exist, where no gout follows ; there must be some other state of the constitution to which the occurrence of gout is ultimately referrible.

Some conviction of this kind, indeed, is expressed by this author, in various parts of his treatise, though very obscurely. “ Impaired digestion is the most prolific source of acid in the human system.” “ When the stomach is not endued with a *proper tone*, a fermentation productive of an acid appears to take place.” The difference between the various animal acids depends, probably, on the powers yielded by the *nervous influence* to the vessels by which they are formed. There can be little reason to doubt, that at one period, and under the influence of a particular diathesis, the uric acid may be formed from the same principles which, under other circumstances, by a difference of modification, might have rendered some other particular acid, for instance, the phosphoric.”

Supposing we were to offer the counter-hypothesis, that there is a certain state of constitution, in which the generation of acid is liable to take place, by secretion from healthy blood at once

in the stomach, the kidneys, the articular membranes, and from the skin: what argument would be urged to disprove it? If, in such a case, the *onus probandi* lies upon us, does it not also lie upon our opponent? If acid matter is formed by secretion in gouty habits, either Mr. Parkinson's account of the matter, or ours, must be true. On whose side the probability lies, has been already hinted above; and further evidence shall be hereafter adduced. (Vol. II.)

In the mean time, we must be allowed to say, that the existence of saline acrimony in the blood is ill calculated to explain, in a satisfactory manner, almost any of the symptoms of gout; and that a moderate consideration of the phenomena of that disease will furnish innumerable and unanswerable objections to this hypothesis.

Dr. Scudamore, whom we left, at page 106, in a rather awkward predicament, on this very subject, with justice regards "acidity, when accumulated in the *primæ viæ*," among the exciting causes of gout, rather than a proximate cause — although no conceivable mode is suggested in which this exciting cause operates —

and assuredly that, by the plethoric doctrine, is inadmissible.

The laborious chemical investigations of the gouty urine, adduced by this author, we have at length come to read with more indulgence, from the belief that they are to be regarded rather as a harmless display of chemical talent or vanity on the part of the writer, than as seriously intended to prop up the tottering theory of plethora. From an incongruous mass of irrelevant matter, we extract one or two sensible remarks, which go far to demonstrate the untenable nature of Mr. Parkinson's conjecture, although they, at the same time, set in a very dubious light the *cui bono* of Dr. Scudamore's chemical enthusiasm.

“ In respect to the uric concretions, as a consequence of gout, it must be observed, that their formation is comparatively so rare an occurrence, and so much confined to certain peculiar habits, that the phenomenon cannot be assumed as a basis for the construction of a general theory of the disease; and much less can this singular morbid process be considered as its proximate cause. In five hundred cases of gout, I have not

discovered any trace of this kind of concretion, in more than forty-five persons." This is fair reasoning, and a sufficient *veto* upon any inferences, deduced from gouty concretions, in favour of a *materies morbi*—"saline acrimony."

Again, "The sediments in the urine," says Dr. Scudamore, "to which I have adverted, are not the peculiar attendants of gout, but occur under various kinds of disease, both constitutional and local, in connexion with a morbid state of the digestive organs." After stating farther, that the sediments in question are no proof of an excess of uric acid, but rather as a separation of this principle from the urine after formed, it is justly concluded,—“In proportion, therefore, as gout is associated with such disordered functions (*i. e.* of digestion), and not further, are these urinary evidences connected with the disease.”

It would not fall within the limits of a pathological inquiry, to notice particularly the ingenious researches of Vauquelin, Scheele, Fourcroy, Forbes, Berthollet, Wollaston, Richerand, Berzelius, Prout, G. Pearson, Cruickshanks, Brande, and other eminent chemists, on the urine, and

particularly on the acid and calcareous formations which are observed to occur so frequently in gouty habits* — the only useful practical consequence hitherto resulting from which, has been the more frequent employment of magnesia and alkalies in gouty cases, especially when connected with gravel — little or no light having been thereby thrown on the proximate cause of gout, or, indeed, on that of these formations themselves.

The amount of the whole view of the subject presented in this relation, is, — 1. That acid matter in the stomach, whether extraneously received, or formed in that organ, is of very frequent coincidence with the occurrence of gout; but as gastric acid occasionally is manifested, in almost every constitution and period of life, unconnected with gout, the presence of this matter can only be regarded as capable of exciting gout, when associated with some other peculiar constitutional condition.

* The reader who is desirous of seeing this subject treated in a philosophical manner, with a complete reference to all good authorities, may consult Thomson's "System of Chemistry," latest edition.

2. That increased secretion of acid principle in the urine, is also of frequent occurrence in gout; but is not peculiar to these constitutions, occurring indiscriminately, in most disorders connected with disordered digestive functions. That increased specific gravity of urine is also common to gout and to other inflammatory disorders. From which observations, no direct or satisfactory evidence is afforded respecting the proximate cause of gout.

3. The same may be said of acid in the perspiration, which is not peculiar to gouty habits.

4. That the formation of concretions in the joints, though apparently peculiar to gouty constitutions, (vide Scudamore, p. 125,) is of rare occurrence, comparatively, and can afford no satisfactory basis for any direct conclusion, respecting a proximate cause.

5. That there is no evidence of the presence of acid ready formed, or of the principle of acid in excess, in the blood of gouty constitutions; seeing the deposition of such matter, by the various secreting acts, gastric, renal, capsular,

and cutaneous, may take place from blood in its usual constituent condition, by some change in the secretory processes, to which the gouty constitution is peculiarly liable.

6. That the assumption of a depraved state of the blood, by imbibition of saline acrimony from the stomach, being the proximate cause of gout, is entirely hypothetical, and inadequate to afford any intelligible or rational explanation of the symptoms of gout.

7. That some other method of explaining the *modus agendi* of gastric acid in the production of gout must be attempted, necessarily bearing reference to some peculiar state of the constitution, which may be denominated the gouty disposition or diathesis.

Of Impurities in the Blood from other Sources.—Alterations in the constituents of the circulating blood, are known to ensue from deficiency of the various secretions. Thus, biliary obstructions, as in jaundice, impregnate the whole mass of blood with bile; urinary obstructions, with absorbed urine, suspension of seminal and of

alvine evacuations, and of cutaneous secretion, might, in like manner, be expected to alter materially the qualities of the blood. These secretory acts may, therefore, be regarded as purifying and salutary processes. But, as occasional suspension and obstructions are of very common occurrence, in all states of the constitution, these variations from health cannot be admitted to effect any change in the blood peculiarly necessary to the production of gout; and indeed, when occurring in extremes, produce symptoms quite different, and strictly of a constitutional nature. Unquestionably, such derangements of organic and depuratory functions may aggravate, or otherwise modify the characters of the disease, when concurrent with the diathesis or the paroxysm; but farther than this, there is no reason for admitting their influence to extend. We are, consequently, referred from such incidental influences, to search for a proximate cause, in some other constitutional condition.

The only process remaining to be considered, as affecting the general state of the blood, is

respiration. The continual purification of the blood by the lungs being indispensable, not only to health, but to life, no inquiry respecting the constitutional origin of any disease can be correctly or comprehensively instituted, without due reference to this function.

There are two ways in which respiration may fail in sustaining a healthy state of the blood: by some morbid change in the structure or functional powers of the lungs, or in consequence of inadequate purity of the air inspired.

The influence of inadequacy of the respiratory act, in both these respects, as connected with the production of the gouty state of the constitution, is elsewhere considered at length. — Vide *Predispos. Causes*, Vol. II.

The necessary physiological consequence of imperfectly performed respiration, it may be here remarked, is imperfectly purified or decarbonated blood; and the pathological results naturally ensuing, are especially manifested in deficiency of vital and constitutional energy, deranged or imperfect performance of the various organic functions, especially those connected with di-

gestion, and a morbid or unnatural state of the secretions, especially in the alimentary canal.

This complication of disorder, as before observed, though not peculiar to gout, nor adequate to the production of its peculiar characteristics, is, nevertheless, more or less invariably attendant on its occurrence, and is, therefore, apparently essentially contributive to that event. The uniform coincidence of this disorder of the vital powers and organic functions with the previous influences of imperfect respiration, and the occasional supervention, in certain circumstances, of that state of the constitution most liable to gout, tends directly to establish, at least, a certain degree of connexion betwixt these different occurrences, as cause and consequence. That the state of the blood is in such cases the medium of connexion, is, as hereafter shewn, (vide Vol. II.) in the highest degree probable.

At the same time it is to be remarked, the inference is not the less inevitable, that such a peculiar consequence of imperfectly purified blood is ultimately referrible to some other concomitant state of the constitution.

*Of unhealthy Proportion of Blood, in relation to
the proximate Cause of Gout.*

THE opinion that gout depends on a plethoric state of the system, has been already disposed of. It appeared evident to a demonstration, that this condition is far from being essential to gout. On the contrary, immediately on its correction by depletion, a fit of gout has sometimes been observed to supervene. Though, on the one hand, from many circumstances connected with the previous habits and constitutional tendencies in individual cases, there is good reason to infer the existence of a plethoric habit, at the time a fit of gout takes place, on the other it is observed, that the gout not unfrequently ensues in circumstances where the existence of plethora is physiologically impossible. The conclusion is incontrovertible, that the mere proportion of the circulating fluid has essentially nothing to do with the production of gout.

The opinion, as already said, originated with Baglivi, Hoffman, and Cullen, and has more

recently been maintained by Dr. Scudamore and others, that the "gout depends on a superabundance of blood, in relation to the powers of circulation."

Without denying that there appear, in most cases, some reasons for believing this relative condition to exist in gouty constitutions, it is to be remarked, *in limine*, that such a view refers the inquirer away from the mere quantity of the circulating fluid, to the investigation on what the circulating power depends, and from what causes proceeds the want of energy therein, from which gouty symptoms are supposed to ensue?

This very natural line of inquiry, the plethoric advocates have avoided following up; an oversight the more surprising, as difficulties accumulate at every step, in the endeavour to explain the symptoms of gout, on the view of plethora alone. Indeed, the practical consequences of such a theory being utterly at variance with the results of experience, a writer who maintains it must necessarily feel the same embarrassment, and exhibit the same inconsistency, as of building

a structure with the one hand, and undermining it with the other.

With regard to the position in particular, — of the supposed superabundance of blood in relation to the circulating power being a constitutional condition, essential to gout — it is to be remarked, that the physiological consequence, naturally resulting from decrease of the circulating power in relation to the mass circulated, is a tendency in the blood to be concentrated in the larger and more permeable vessels around and near the centre of circulating energy; and although this distribution of the circulation, so far as observation instructs, appears to be frequently connected with the gouty disposition, (*vide infra*,) we are left, by this view, entirely to conjecture, how congestion and inflammation in the extremities, under the form of local gout, can occur in circumstances of diminished power of circulation and superabundance of blood, with consequent tendency to retrocession of the circulating equilibrium. Still more is it inexplicable, how, when this over-proportion of blood is corrected by depletion, local gout should

occur at all, much more in equal or aggravated severity, as exemplified in the facts this author has himself furnished. *Vide supra.*

The legitimate conclusion from these facts, it is submitted, is, that gout in the extremities is not the result of diminished circulating power and of increased plethora, but rather of diminished plethora, and, by consequence, relatively increased circulating power.

But however well either of these views might agree with particular features of the paroxysm, the occurrence of local gout, its particular directions, and especially the sudden transference of local congestions from one to another part, distant and unconnected, are left altogether unaccounted for. In order, therefore, to a complete and satisfactory explanation of the symptoms essentially constituting gout, it is requisite to search somewhat deeper than such vague conceptions as to the relation subsisting betwixt the circulating power and the circulating mass. Objections to this view of the matter, do not apply so forcibly on the score of inconsistency with observation, as on the score of inadequacy. As,

therefore, no necessary connexion appears to subsist between any particular proportion of blood and the occurrence of gout, inquiry, as before said, necessarily is directed to the condition of those powers by which the circulation is effected, on which the gouty disposition must ultimately depend.

*Is irregular distribution of the circulating fluid
the cause of gout?*

THE solution of this query, naturally arising out of the last, connects the inquiry more closely with the symptoms of gout than any hitherto considered.

Brief allusion has already been made to this view of the subject, in adverting to the pathological opinions of Drs. Parry and Scudamore, who may be regarded, especially the former, as the chief authorities for the connexion between misdirection of the circulating equilibrium and gout. It is due, therefore, to these authors, as well as to the subject, to examine somewhat

more particularly their respective propositions on this point.

The views of Dr. Parry, though unquestionably comprehensive, are too abstractedly and generally conceived to give that precise and satisfactory explanation of symptoms which is desirable.

This author's pathological propositions are unfortunately of a mixed character — partly consisting of assumed conceptions, and partly of inferences from general observations unconnected with the individual facts on which they are founded; so that it is not always easy to discriminate between what is legitimate induction, and what hypothesis. We are led to understand that the local inflammation of gout is in all cases a *salutary process*.* “ I. With the final cause of

* It seems very unaccountable how a writer of Dr. Parry's strength and maturity of judgment, should have conceived an idea so very eccentric; one might as well style priapismus a salutary process, or inflammation, or tenesmus. Nothing is more common in medicine, than to mistake the effect for the cause; but a misapprehension of this kind, so extremely unnatural and uninviting as this, is not often encountered.

correcting plethora, by evacuating and soothing the constitution, which was before unduly stimulated by excessive vascular fulness." On this view it is sufficient to state, that the local inflammation of gout produces effects quite the reverse from soothing the system.—2. That the mode in which evacuation of the system is effected in this way is incomprehensible.—3. That the ascribing of such a final cause to any disease is entirely assumption, and offers no rationale of the symptoms of gout.—4. That plethora is not essentially precedent to gout.

“ II. With the final cause of restoring the healthy circulating equilibrium, previously determined in excess to other more vital parts.” Morbid determination of blood to the head, as indicated by nervous symptoms, and to the alimentary canal, as indicated by dyspeptic symptoms, are considered very frequently to occur in gouty constitutions previous to a paroxysm. When this disordered condition exists, re-action of the constitution takes place: “ which re-action is sometimes a mere aching and preternatural heat of these extremities, &c. &c. ; at advanced

periods of life the re-action in question goes the length of causing gout."

If we ask how should this be, the theory gives no answer. If we inquire how the peculiar features of local gout should occur, there is no rationale offered.

Dr. Parry's views, therefore, as a theory, are not sufficiently explicit; but as practical observations respecting the relative distribution of the circulation previous to or coincident with gout, they are extremely important, and shall hereafter receive the consideration they merit. Vide Paroxysm.

The position of Dr. Scudamore, that gout depends on "a redundancy of blood particularly affecting the system of the *venæ portarum*," is obviously synonymous with "the morbid determination of Parry towards the alimentary canal." Viewed as a theory or *ratio symptomatum*, it affords no satisfactory explanation whatever of the symptoms of local gout. As a practical observation, the existence of this portal plethora, as connected with the paroxysm, if it can be established on clear grounds, merits attention.

The observations which follow bear reference

especially to the symptoms indicated by the gouty constitution, and are more or less directly accordant with those of the authors just noticed.

In individuals liable to gout, and especially during the accession of a paroxysm, remarkable irregularities in the circulation occur. That in the extreme vessels of the skin is at all times very variable. Whether the individual is pale and sallow, or florid and bloated, the complexion is liable to changes so marked and peculiar, that the gouty aspect can seldom be mistaken. Sudden recession of blood from the extreme vessels, leaves the skin of a papery paleness, which is as suddenly succeeded by momentary flushings. Strainings, as by stooping, laughing, or otherwise, cause such instantaneous determinations of blood to particular parts, especially towards the head, as prove no less distressing to the individual than alarming to the spectator. Excitement of mind, as a fit of passion, in some cases occasions a singular admixture of paleness and partial flushing: in other instances of excitement, the circulation is directed inwards, and the countenance is pale as chalk; the eye exhibiting a characteristic combination of excitement and

uneasy oppression, and at times the power both of speech and of thought is for the moment suspended.

On exposure to other causes capable of affecting the vascular actions, as vicissitudes of temperature, &c. corresponding alterations in the circulation of the cutaneous vessels are strongly marked.

One patient in gout informs me, that he has a regular shivering-fit usually after dinner. Another patient, in describing minutely her sensations, mentions, that at times she is liable to cold extremities, with chilly and numb sensations, and with cutis anserina, while the face is much flushed; and on such occasions a sudden glow of heat usually pervades to the extremities, like warm water poured on the limbs; after which the general heat is equalised.

Similar irregularities in the circulation of the limbs are observable in most cases. The blood, from slight causes, is particularly apt to leave the extremities, especially the feet: in which case, diminution of their apparent size, of animal heat, and sensibility, occur. After exercise, however,

suspension, re-application of heat, and at times without any extraneous cause, by internal circulating excitement, a sudden glow of heat diffuses itself, with a tingling sensation, towards the extremities.* The blood seems to rush thither, restoring heat and sensation, distending the vessels, and exciting them to activity. In such cases, indeed, sensibility seems preternaturally increased, the sensation of heat being greater than the actual degree of it; sometimes the limb feeling even cool to another person's sensations, while to the individual it seems to burn. The veins are distended and turgid, and more or less arterial throbbing is experienced, with sensations precisely similar to those in a frost-bitten extremity, though less acute in degree.

That this recession of circulation from the skin and extremities towards the internal parts, and its subsequent recurrence to the extremities, is liable to occur in gouty constitutions to a considerable extent, and that without inducing the

* These descriptive observations, I find, are exactly synonymous with those of Dr. Parry.

peculiar symptoms of local gout, is an established fact. Though this condition, therefore, may be essential to the occurrence of gout, it cannot be regarded as of itself adequate to the production of that disorder. Indeed, the peculiar characteristics of local gout are such as cannot be satisfactorily explained in this manner.

In the gouty constitution it may be further remarked, irregularities in the circulation are not confined to the skin and extremities. In that state of the system in which the extreme parts are left in an exsanguious condition, there is generally languor and depression of all the vital powers, as well as of the circulating activity, indicated by low, compressed, irregular, or intermittent pulse. The circulation is determined in unhealthy excess towards some of the larger internal organs, as the lungs, liver, brain, or abdomen. Vide Predisposing Causes, Vol. II.

In either of these conditions corresponding symptoms ensue, which it requires considerable discernment to distinguish. Upon the state of depression and inactivity, there supervenes re-excitement of the vital powers, as indicated by

full, free, or tense pulsation, with thirst, heat, and oppression, at length terminating in perspiration. These re-active symptoms invariably supervene on the previous condition. The succession of symptoms is more or less violent, and shorter or longer in duration, according to peculiarities of circumstances. Sometimes it continues only for a few minutes or hours; at other times it is maintained in frequent repetitions by slight causes for days, or even weeks. It is sometimes so obscure as scarcely to attract attention, as when the constitution is vigorous, or the causes operating trivial. In other circumstances the symptoms are so violent and overpowering as to be attended with great danger. The peculiar characters of disorder resulting, depend partly on the particular local determination of the circulation coincident with re-action, and partly on the general condition of the constitution. As, however, every variety of vascular determination to individual organs, associated with febrile re-action, is known to occur in given circumstances without giving rise to the symptoms of gout, it is plain that the peculiar phenomena of this disorder

are referrible rather to some other constitutional condition, than to misdirection of the circulating equilibrium simply. Observation of the extreme liability to misdirection of the circulation in the gouty constitution by slight causes, indicates that constitutional origin to reside in the condition of the circulating power; an inference also confirmed by duly estimating the influences of the predisposing causes. Vide future pages, Vol. II.

The connexion betwixt the circulating velocity and the occurrence of gout is, in like manner, chiefly deserving of attention in so far as variations in general or local circulating activity may be regarded as indicative of that peculiar state of the circulating power on which the liability to gout depends.

A similar remark is applicable to the query, how far any peculiar condition of the blood-vessels is connected with the production of gout? Observations on this subject are principally limited to the distended and apparently relaxed condition of the veins in the extremities of gouty constitutions. The uniformity of this symptom has been supposed to furnish the inference of

existing plethora as the cause of gout. Many considerations might be urged, however, militating decidedly against this conclusion. If general plethora were necessarily indicated by turgescence of the veins in the hands and feet, the presumption would be that the same fulness pervaded the whole vascular system; a condition quite incompatible with physiological possibility. It is farther worthy of remark, that this fulness of the venous ramifications in the extremities of gouty individuals is not constant: on occasions, these vessels are diminished so as to be scarcely perceptible, while in other circumstances they are preternaturally large. This fulness occurs after the most copious depletion, in certain circumstances, and is not peculiar to gout. The symptom, indeed, is rather indicative of irregularly directed circulation than of general plethora; an inference established by duly considering those causes by which it is produced or removed.

The peculiar condition of the blood-vessels favouring this tendency to distension, appears to be simply a loss of contractile tone, proceeding

from that state of the general system in which the disposition to gout consists. This is sufficiently manifest from the fact, that in certain circumstances of exposure to the predisposing causes of gout this tendency to venous relaxation does at times occur: and again, on removal from the influence of these causes, the healthy tone of the vessels is restored. Vide Vol. II.

These observations tend to the inference, that, although the various changes in the state of circulation noticed are invariably and essentially concomitant, more or less, with the constitutional liability to gout, these deranged conditions of this function are incapable of furnishing a satisfactory and consistent explanation of the peculiar symptoms of that disorder, but refer the inquirer to some ultimate constitutional cause, residing in the source of circulating power and of vascular vitality.

In summing up these critical remarks and practical observations, the following general inferences are suggested:—

1. That gout is not simply a local, but a constitutional and local disorder.

2. That from the concurrent observations of the various authors noticed, certain derangements of the hepatic, gastric, and alvine visceral functions, though not adequate to the production of gout, are, in some manner or other unexplained, invariably and essentially contributive to that disorder.

3. That though the gout is usually associated with certain disordered conditions of the lymphatic and absorbent system, the cause of the disease does not ultimately reside in that texture.

4. That, in respect of the circulation, gout does not essentially depend either on the existence of a morbid matter in the blood, or on general superabundance of that fluid beyond the healthy standard.

5. That though, by the concurrence of medical authority and observation, certain disordered conditions of the circulation, especially consisting of irregular distribution of the circulating equilibrium, and variation in velocity consisting of inactivity and collapse, followed by febrile reaction, are, in some obscure manner, essentially connected with the production of the disorder

termed gout; yet these derangements of the circulation appear to be referrible ultimately to some peculiar condition of the power by which the circulation is effected.

6. That the probability, *à priori*, lies strongly in favour of the position, that the proximate cause of gout ultimately is referrible to the nervous system, the organic source of vital and functional power: which supposition is confirmed by the result of the preceding observations: vide 1, 3, and 5.

That the Constitutional Origin of Gout resides in the Nervous System.

THOUGH the inquiry hitherto has embraced some of the prominent characteristics of gout, no conclusion respecting the nature of that disorder has been attained; and it is manifest that the connecting links betwixt the causes and symptoms are as yet to be discovered. The various considerations adduced, however, concur in suggesting the inference, that correct views of the state of the nervous system alone can unravel the mys-

tery in which the pathology is involved. This branch of the inquiry, therefore, is not less important than confessedly difficult; and although results cannot be established with mathematical precision,—an extent of accuracy not attainable in any pathological inquiry,—it is believed that a comprehensive view of the subject in this relation will afford explanation more distinctly and satisfactorily, than in any other manner conceivable, of the true rationale of the symptoms of gout, as dependent on the influence of its real causes; and at the same time furnish more definite, consistent, and efficient therapeutical principles.

Lest objections should be conceived against the propriety of attempting the elucidation of any disorder by reference to a branch of pathology so obscure as that of the nervous system, the answer is the necessity which the considerations already adduced impose on the inquirer, to direct his attention to this department of pathology—a necessity which leaves no alternative.

On this point the authority of Cullen may have some weight. After advancing the position,

1st, "That the gout is a disease of the whole system;" this eminent author observes, 2dly, "That the gout is manifestly an affection of the *nervous system*, in which the primary moving powers of the whole system are lodged:" an inference drawn from the observation that "the occasional or exciting causes are almost all such as act directly upon the *nerves* and *nervous system*." "This leads us to seek for an explanation of the whole of the disease in the laws of the *nervous system*." — Vide Cullen, Pract. Phys. vol. i. p. 262.

A similar impression may be traced in the works of most writers of eminence on this disorder from the earliest periods, though in the obscurity resting upon the laws of the vital functions, pathologists necessarily laboured under great disadvantages in giving to their conceptions any definite or precise form. It may be of consequence, therefore, to ascertain, how far, and in what manner, this view is suggested and sanctioned by medical authority.

From the era of Hippocrates till the period of Sydenham, the ancient authors generally

ascribed gout to plethora, and loss of tone or debility; insomuch that, with the exception of certain changes of terms, and of certain variations in the degree of prominence and importance attached to particular views and relations of symptoms, the ideas entertained have, in a remarkable degree, corresponded with each other, and with those of the moderns. One class of writers leaned more to the doctrine of a plethora, or a morbid state of the fluids of the body; while another class, as *Ætius*, &c. insisted more on debility of the solids, as being the condition of the gouty constitution. This latter idea became more and more decidedly maintained after the period of *Baglivi*, the publication of whose work, *De Motu*, is justly regarded as the commencement of a new pathological era, and the basis of some of the most important inquiries, in after-times, into the conditions and functions of the solid textures of the body.

The extension of such views, particularly by *Haller* and *Whytt*, and their more definite and comprehensive explication, and application to pathological investigation, by the ingenious and

philosophical researches of modern physiologists, has gradually tended to place in a more clear and striking aspect the intimate connexion between the disorder termed gout and some peculiar affection of the nervous system.

In these circumstances of approaching light, when sounder and more comprehensive pathological views seemed about to dawn upon the perplexed inquirer on this, as well as upon other obscure disorders, the attempted revival of the humoral doctrines, and the exclusive advocacy of the doctrine of plethora as the cause of gout by recent writers, cannot but be regarded as calculated to eclipse the rays of physiological science, and to contract, as well as to confuse, correct and expanded views of this subject in its more extended relations. From the necessity of counteracting such notions, the preceding observations have assumed a more cogent form than might otherwise have been proper or consistent with that deference which is due to writers of acknowledged authority; but if the reasonings adduced are sound, the support of truth could not admit of any compromise; and if they are

not sound, no one would be more satisfied in seeing them controverted than their author.

To the inquiry, What grounds there are for attributing gout to a peculiar condition of the solid textures of the body? the following references to medical authority are offered as meriting attention.

Commencing with Sydenham, the following passages occur:—

——“ In those who are obnoxious to this disease, they being either *worn out* by age or having by intemperance hastened old age, the *animal spirits* are decayed throughout the *whole body*, being consumed by the immoderate use of the vigorous functions in the heat of youth. For instance, by too early or too much venery, by mad and extravagant exercises; to which is to be added a sudden intermission or cessation from the exercises of the body.”—“ And sometimes hard study had increased the disease, the *fine and volatile spirits* being thereby diverted from their business of concoction.”—“ The immoderate and mad drinking of wine, whereby the *natural spirits* are vanquished;”—“ but when the *vigour of the spirits*

are lessened." And again:—"From the same defect of *spirits* whereby the concoctions are vitiated in those who are accustomed to have the gout, the *frame* of the same *animal spirits* is rendered less *firm* and *vigorous*, so that it is presently disturbed by any cause whereby the mind or body is violently moved; and so very fleeting and shattered is it, as it happens to those that are subject to hysterical and hypochondriacal diseases."—"The tone of the body being dissolved, which the firmness of the *spirits*, whilst they continue brisk, keeps compact and vigorous," &c.

In reference to the digestive organs it is said, "We must have respect to two causes, chiefly, in the cure of this disease; first the antecedent cause, or the indigestion of the humours arising from the defect of heat and the *natural spirits*." "Whatever assists nature in duly performing her offices either by *strengthening* the *stomach*," &c. is useful.

Allowing for the vagueness of idea inseparable from the use of obsolete and quaint phraseology, the prominent impressions here conveyed are

principally referrible to impaired energy or exhaustion of the nervous system generally or locally.

By the "animal spirits," was usually implied by earlier writers the nervous influence. Thus, in deprecating bleeding, this author attributes the indigestion of the gouty to "a depravation and defect of *the spirits* (which bleeding lessens and oppresses more):" alluding to the nervous debility ensuing upon depletion. Many other observations to the same purpose occur in the work of this truly judicious and accurate observer.

"Has the gout, therefore," says the experienced Heberden, "any relation to those complaints that have been styled nervous?"*

Dr. Williams, who published, 1774, some remarks on this disorder, not the less apposite for not having been much noticed, and at least

* In the time of this author the belief that the gouty state of constitution is essentially associated with stomachic atony, appears to have been as prevalent as now. "The stomachs of arthritic persons are exceedingly subject to weakness, flatulencies, acidities, and indigestion." Again: "The peculiar mischief

as definite and sound as many notions at present entertained, contends that the first cause of the gout is in the solids, and not in an indisposition or depraved state of the fluids; the latter being only a secondary cause. "We never," says he, "hear of a country farmer or workman, whose *fibres* are properly braced by exercise or otherwise, who has the gout, though he lives irregularly; but as soon as, by accident or otherwise, his *fibres* begin to lose their *elasticity*, he will be as liable to gout as any other person. We find, likewise, that the generality of mankind who are subject to gout, seldom have it till they are advanced in years, when the *fibres* lose their *elasticity*, and the circulation comes to be imperfect. Those few who have this disorder early in life, have naturally very weak and *relaxed fibres*, or are born of parents in the decline of life, or whose constitutions have been weakened

which this distemper does to the appetite and digestion, makes it probable that its power might be so far curbed and counteracted by whatever *strengthens* the *stomach*, as to afford us hopes of considerable relief, if not of a cure." P. 51.

by debauchery and irregularity." He then notices the various remote causes of gout, as being all of such a description as "deprive the *nerves* and *fibres* of the body of their elasticity and *power*." These causes are whatever "gives the nerves and fibres of the human body too great a degree of tension, as intense thought, great application to business, excessive venery, sudden joy, or any thing which violently irritates these nerves and fibres, in the end greatly weaken their elasticity and force, and may be ranged among the primary causes of gout." This author then fancifully, but with some ingenuity, illustrates his ideas by the tension of a musical chord; and, guided by strict observation, characterises gouty persons as possessing a relaxed state of the nerves and fibres indicated by corresponding symptoms, as "spasms, and a train of hysterical and hypochondriacal symptoms; and often by *low remitting fevers*."

Such remarks, although deficient in precision, and partaking of the obsolete phraseology of the age, are on the whole very sound.

Dr. Cullen, as already observed, is very

explicit on this subject. This sagacious pathologist, after forming the general inference that the gout is referrible ultimately to the "nervous system," supplies the following observations farther.

"The occasional causes of the gout seem to be of two kinds; first, those which induce a plethoric state of the body; secondly, those which in plethoric habits induce a state of *debility*."

We do not question the soundness of the first position regarded as a practical observation; but that the plethoric state of the body is not essential to gout, has been already demonstrated; and it may farther be observed, that habits calculated to induce this state, are frequently pursued by persons who are never attacked with gout. It follows, of consequence, that the influence of the first class of causes regarded by this author as capable of exciting gout by inducing plethora, may be fairly questioned. That a mode of life calculated to induce plethora, is not infrequently pursued by gouty individuals, cannot, by any accurate observer, be for a moment denied — the fact is indubitable; but enough, it is submitted,

has been advanced, to shew that the connexion between such habits of life and the supervention of this disorder, must necessarily be viewed in some other light than the essential relation of cause and effect, through the medium of plethora.

The only class of causes, therefore, noticed by Dr. Cullen, which can be properly regarded as essentially productive of gout, are those which “ induce a state of debility :” coupling this result with the inferences supplied by the negative considerations already adduced, this debility is necessarily referrible to the nervous system, the ultimate organic origin of general vital and functional energy, or in accordance with the just observation of the author before us, in which the “ primary moving powers of the whole system are lodged.”

Of the causes inducing gout by debility, Dr. Cullen enumerates — “ excess in venery ; intemperance in the use of intoxicating liquors ; indigestion, produced either by the quantity or quality of aliments ; much application to study or business ; night watching ; excessive evacua-

tions; the ceasing of usual labour; the sudden change from a very full to a very spare diet; the large use of acids or acescents; and, lastly, cold applied to the lower extremities."

The inconsistency of supposing gout to depend on plethora, after such a catalogue of causes, it is unnecessary farther to insist on.

"Loss of *nervous tone* in the *stomach* and *extremities*," is farther regarded by this author as essentially coincident with the gouty state of constitution in a peculiar degree, insomuch as to constitute an essential point in his theoretical proposition—"In some persons there is a certain vigorous and plethoric state of the system, which at a certain period of life is liable to *a loss of tone in the extremities*. This is, in some measure, communicated to the whole system, but appears more especially in the *functions of the stomach*." As an observation this is unquestionably sound, though the effect is obviously mistaken for the cause.

Next we have the authority of Dr. John Brown. "The gout of stronger persons is a form of asthenia, in which, after a long habit of luxury

and indolence, and especially when to those hurtful powers directly debilitating ones have been recently superadded, indigestion, diarrhœa," &c. — "This disease may be called the *indigestion* or *dyspepsia* of the luxurious, that is depending on indirect *debility*. — The hurtful powers producing the gout are first indirectly debilitating. All which has a tendency to wear out life, to consume the excitability, contribute; but the first fit scarcely comes on till directly debilitating hurtful powers have been superadded to the indirect. — No gout ever came on, but in consequence of direct debility," &c. — "The gout of weakened persons is an increased degree of the gout of stronger persons, and exhibits, towards the end of the disease, almost all the symptoms of *debility*." — "For the patient's management all debilitating powers must be avoided," &c. Almost all the causes noticed by this writer are such as affect the nervous system by exhaustion or debility.

Dr. Darwin's views of gout almost exclusively instruct the same point: "The remote cause is whatever induces temporary torpor or weakness of the system; and the proximate cause is the

inirritability or defective irritation of some part of the system." Again: "The debility or torpor, which is the cause of gout." Various other extracts might be made, to shew that this ingenious and original observer refers gout principally, if not solely, to the state of the nervous system.

To the same purpose are the following extracts from the sensible tract of Dr. Latham: "From the observations which I have already made, it will easily be seen that I consider a preternatural degree of *irritability* to be generated in the system as the effect of excessive stimulus;" "the body may be in such a state of *irritability*," &c.; "occasional causes, concurring with the *increasing irritability* of the system, at last render the disease more manifest."

"I might, perhaps, have added to the excesses which become the foundation of an irritable and depraved state of the body, that any thing super-added to those irregularities, which in its consequences diminishes the *vigour* of the system, must necessarily increase that *irritability*; thus it has always been maintained, that immoderate

venery and intense study, as they are two principal causes of *debility*, must very considerably augment any previously existing disposition to a gouty affection; but, independent of such a previous disposition, they may eventually produce the disease; for whatever debilitates the general frame, must debilitate its functions, and by that means ultimately induce preternaturally *irritability* of the *solids*." This latter sequence is not so clear; but the bearing of the whole passage is much in point.

A similar conclusion is directly instructed by the whole scope of pathological principles and observations so ably adduced and illustrated by Dr. Parry.

"DCCCCXXII.—I have already endeavoured to shew that the greater number of *nervous* diseases arise from excessive determination of blood to the head, and that dyspepsia is usually the produce of a similar cause in the vascular system of the villous coat of the alimentary canal. Now it is well known, that the diseases which more especially precede gouty paroxysms, or occur in their intervals, are those of the alimentary canal

and head." Again, in adverting to the usual progress of the constitution from youth and vigour to age and gout, it is added: "At more advanced periods (of age), especially in persons who have been subject to excessive determinations of blood to the head and alimentary canal, producing the symptoms before described (*i. e.* nervous symptoms), the re-action goes the extent of causing gout." If we were in quest of a pathological principle for the production of gout, this manifestly offers none; for the question demands solution, Why and how does the re-action in such circumstances go the length of causing gout? The position, therefore, amounts merely to a practical observation, and is sufficiently decisive in involving the authority of Dr. Parry in favour of the connexion between nervous disorder and gout, and that, too, a species of nervous disorder peculiarly liable to re-action, — which re-action, however, we should rather be disposed to denominate a morbid than a "salutary process," with this author.

It is interesting and important to observe farther, that this interesting writer adverts also to

a condition of increased liability to collapse, as precedent to, and apparently essentially connected with, this condition of the constitution, *but*

“ During this excessive determination of blood to these important parts, (*i. e.* the brain and alimentary canal,) there is often an unusual degree of coldness in the lower extremities, proceeding from the defective balance of circulation. This coldness is often so great that it can be removed by no clothing, and only temporarily by the application of external heat. It seems to be seated, not merely in the skin and near the surface, but, as it were, in the most internal parts; so that the sensation continues, although the skin, to another person who touches it, seems sufficiently warm.” Again: “ This coldness is often spontaneous; but it is often produced by assignable causes; such as, extraneous cold and moisture, sedentary habits, late hours, *venus nimia*, determinations to other parts, indigestion with costiveness, mental anxiety:” it is added, “ such (*i. e.* indicated by such a symptom) is the state of circulation in the extremities, which usually precedes and probably causes the re-

action of the constitution." And farther: "From whichever of these, or other causes, great coldness is induced on the lower extremities, especially if that coldness be of long duration, the accession of a paroxysm of gout may, in predisposed habits, with considerable certainty be predicted."

Without being fettered too much by the above explanation of nervous symptoms, at the same time without being understood as altogether objecting to it, it will not be questioned that this coldness, described as so invariably precedent to the paroxysm, is symptomatic of nervous collapse, or a state of nervous texture incompatible with healthy vital activity, and "probably causing," at all events followed by, re-action in these parts. That this explanation of the symptom is in some measure necessary, is apparent from the circumstance that these sensations of coldness frequently occur in a limb, when the circulation is by no means so completely withdrawn as it is on certain other occasions, when no such sensations ensue.

It is, in my view, therefore, much better

explained by reference to different degrees of nervous sensibility in these parts at the time,—an inference borne out by the fact that, in gouty invalids in particular, the sensation does not invariably correspond even with the extrication of animal heat, (a process for which nervous influence is essential,) for the limb sometimes feels to the patient to burn, when to the touch it is cold; and sometimes feels to the invalid unusually cold and numb, when to the touch it is of temperature at or above the animal average.

It is by no means averred, that recession of the circulation from the limbs, when it does occur, is not calculated to produce nervous collapse and diminished sensibility; but only that that relative condition is not essential to the symptom in all cases: a point, indeed, virtually conceded by Dr. Parry in the list of causes producing this state, most of which act on the nervous system by exhaustion.

The legitimate inference suggested by Dr. Parry's observations is, that these symptoms, indicating collapse and re-action, denote a previous condition of the nervous system pecu-

liarily susceptible of these states in extreme, from slight causes, as constituting the gouty disposition or diathesis.

The coincidence of this view with the local atony and general re-action of Cullen, is striking.

Dr. James Johnson may be quoted to the same purpose. After a correct but elliptical statement of various causes of gout, this intelligent writer classes them thus: 1. A hitherto unexplained state of predisposition; 2. Derangement in the functions of digestion and perspiration, of which he regards "plethora to be the infallible result!!" 3. Debility: or "the various causes of gout, may be comprehended within the three words, *predisposition*, *plethora*, and *debility*."

If this mode of settling the point were as explicit and satisfactory as it is summary, farther inquiry would be superseded. The minute divisions and subdivisions into which this writer has reduced the subject,—however well calculated for clear expression of what is known,—in my opinion, and with all due deference, are somewhat akin to premature generalisation, tending rather to embarrass than facilitate inquiry, for the purpose

of a clearer apprehension of what is not known. Of this remark, a better exemplification needs not be adduced than Class I. "a hitherto unexplained state of predisposition." We are very averse to rest here; and it would be more desirable that individual cases were detailed, illustrative of this unaccountable predisposition, than to admit such a vague and general statement among the causes of gout.

The second cause, "plethora," cannot be admitted among the essential constitutional conditions of the gouty constitution, for reasons heretofore adduced, and also because the legitimacy of the inference may be fairly questioned, that "*plethora is the infallible result of the derangement in the functions of digestion and perspiration usually attendant upon the paroxysm.*"

The only remaining source of gout noticed by Dr. Johnson is "debility." In this we are compelled to acquiesce, from utter want of objections to urge. On this point, a remark or two of Brown are extremely apposite: "From what has been said, it must appear, that the gout (even) of stronger persons is not also itself a disease of

strength; and that it does not depend upon (absolute) vigour of constitution, as has been hitherto commonly imagined, but that it is manifestly asthenic." "What had hitherto deceived physicians, and passed for a cause of gout, was the appearance of vigour, and an over-proportion of blood in most podagrics, from the bulk of simple solids, in consequence of their way of life, and often from great strength. But, good men! they never recollected that vigour and a great quantity of blood was not a property inherent in animals, but that it depended upon foreign circumstances every day and every hour. Is a person liable to gout, who has for twenty years undergone an excess of stimulant (and nutrient) operation, about the fortieth year of his age, or even afterwards, to be reckoned fuller of blood, and more vigorous, either than another person who has lived lower, or than himself twenty years before? Where, pray, was the necessity of comparing gouty persons with others free from all bias to that disease, and not comparing them with themselves? Such is the effect of the powers operating upon us, that a certain degree

of that operation produces an effect which would not arise under another. If the customary operation has been moderate, habit will render the excitement arising from it in some measure sufficient for the demands of the system: hence, day-labourers are supported upon less stimulus than gentlemen. Again, which is a circumstance liable to happen also to the latter, if the customary operation has been excessive, there will be a necessity for the continuation of some degree of the excess. A podagric may be stronger than a labourer, and yet fall into the gout; for though, compared with the other person, he is strong, — compared with himself at another time, he is weak: and the reason is, that though he is better supported than the labourer, he is *worse supported* than the *usual* state of his system requires. Further, the labourer, though he falls not into the gout, may, by carrying his moderation too far, fall into indigestion, or some other disease in every essential respect the same as the gout." This reasoning is so just, and accordant with observation, that it would imply some ingenuity to answer it.

But to return. If debility be admitted an essential cause of gout, we ask, debility of what? not of the blood or fluids of the body, but of the solid textures of the frame, muscles, membranes, ligaments, &c. and other organised textures. Upon what do these textures depend for vital power? — Upon the nervous energy. Are there any causes known to be concerned in the production of this debility of the gouty constitution, except those which act through the medium of the nervous system? Every observer answers No. Are not the very functional derangements of the skin and digestive organs, described by this author as preceding gout, symptomatic of a particular state of the nervous influence at the time?

“ § 9. Another question” (continues Dr. Johnson) “ has been agitated — Is gout of an inflammatory or nervous nature? Pinel, in the first edition of his Nosography, ranged it in the latter, but has since transferred it to the former class. Notwithstanding that gout is characterised by extreme mobility, and that its morbid action can be transported in the twinkling of an eye from

one joint to another, or from thence to an internal organ; yet the more closely we examine into the phenomena of the disease and its morbid anatomy, the more evident will be its inflammatory nature." Without here adverting to the opinion of Dr. Latham and other writers, that the morbid action of local gout is quite peculiar in its features, and destitute of some of the prominent circumstances attending other local inflammation, we would call for an explanation, where is the line of demarcation between an inflammatory disorder, as distinct from a nervous in a gouty habit? So long as the animal system is constituted as it is, neither Pinel nor any other nosographist can create any distinction founded in things between the affection of the nervous and circulating systems usually constituting gout, since both inseparably depend mutually on each other. If by an inflammatory* disease is meant that in which the vascular actions

* No pathological term has gained a more unwarrantable extension of application than "inflammation." It is one of those chimeras which, seated like an incubus on the imagination of practitioners, and sometimes writers, has encroached

are principally affected with general and permanent circulating excitement and local determination, heat, tension, pain, redness, swelling, &c. such disorder cannot possibly occur without involving the nervous system necessarily, and is in fact partly symptomatic of derangement of that texture.

Although, therefore, we admit, with Pinel and Dr. Johnson, that the circulating system is usually engaged in derangement in gouty disorders, it is not incompatible with, but rather borne out by, just pathological principles, that the nervous texture is also simultaneously affected.

This position, indeed, with propriety, is virtually conceded by the latter in the character of "extreme mobility," which is unquestionably an attribute of the nervous system peculiarly. Many other observations in Dr. Johnson's Treatise, especially the passages quoted as including the views of Guilbert and Hallé, &c. are accordant with the most deeply on the province of rational pathology and of sound practical principles: and disorders are frequently treated by depletion and antiphlogistics, which have no more connexion with inflammation than with inanition.

inference that the gout is referrible to the nervous texture, pervading, as it does, "not only the muscular system, but tendon, ligament, periosteum, serous, synovial, and capsular tissues, cartilages, and even bone itself," and not only pervading but essentially supplying the energy necessary to vital and functional actions in these structures.

Dr. Scudamore notices the "nervous temperament," as almost invariably preceding and co-existing with the constitutional disposition to gout. The object of this author's pathological inquiries being, as before said, principally directed to the quixotical attempt of establishing the doctrine of plethora by examination of the urine, it was not to have been expected that he should have bestowed that consideration on the arguments and evidences on this view of the subject, to which other writers have considered them entitled: accordingly,—though very frequent and direct references are made to the state of the nervous system in the practical observations pervading his work, directly establishing the invariable coincidence of nervous derangements with

the gouty state of the constitution,—these features are rather noticed as incidental concomitants of the disease, than as calculated in any material degree to afford elucidation of its true nature and constitutional origin, excepting, indeed, where excess of blood is supposed to exist “in relation to the powers of circulation.” Now, the powers of circulation depend ultimately on the nervous energy; an inductive position, which this author appears to have overlooked.

The following excerpts, however, are satisfactorily accordant with the views of the preceding authors.

“The nervous system is often apprised of the approaching gout by previous general lassitude, with much agitation of mind,” &c. “The sensibility of the nervous system is in a high state of morbid excitement.” “The pure or mixed nervous temperament of the gouty, induces frequent and severe hypochondria, in connexion with the influence of an impaired state of the digestive functions.” “When the gout has been frequent in its attacks, the sensibility of the nervous system is much increased, as is

strongly exemplified by the various premonitory symptoms which mark the approach of a fit, and the numerous sympathies which attend its continuance. The prevalence of cramp in gouty persons, which occurs before and during the paroxysm in the most exquisite degree, is a strong indication of high *nervous* irritation. The agitation of mind is more remarkable than in any other inflammatory disease. The disposition to return at certain intervals, although mostly to be referred to a periodical state of plethora, either general or partial, also shews how much the disease is connected with the *nervous system*. *Nervous* symptoms of a distressing nature sometimes precede the occurrence of gout for many months, or even a longer period."

These observations are equally explicit and just, with the exception of the old notion plethora. Had Dr. Scudamore, in place of prematurely generalising this idea into an essential cause of gout, confined himself to the observation, that the plethoric condition of the system is frequently (but not invariably) coincident with the paroxysm, — in the same manner as he has so

faithfully recorded the invariable occurrence of nervous symptoms,—we should have been spared the necessity of controverting a pathological position, which has unfortunately imbued with erroneous hypotheses almost every page of a work which, though replete with unimportant and irrelevant details, contains much solid and useful practical matter.

It would be easy to multiply proofs to the same purpose, by a very extended and varied reference to the works of all correct practical writers on this disorder, from the time of Hippocrates downwards; from whose concurrent observations and authority, the conviction seems to be inevitable, that some peculiar condition of the nervous system is essentially connected with the constitutional disposition to gout.

This conclusion is formed under the fullest appreciation of the soundness and importance of those views advanced by Parry, and other judicious pathologists, tending to establish grounds of more precise discrimination of numerous and diversified symptoms, previously classed under the vague and convenient term “nervous:”

observations which demonstrate at once the difficulty and necessity of adopting that cautious and discriminating precision which is requisite to avoid confusion, and lead to clear and satisfactory results.

Having thus adduced evidence almost amounting to demonstration,—consisting, firstly, of indirect and negative inferences, founded on observation; and, secondly, of direct proofs derived from the pathological views of the most eminent authors on this subject, and confirmed by the concurrent practical observations of accurate and original observers of the phenomena,—that the constitutional tendency to the disorder of the vital and textural functions denominated gout, ultimately is referrible to some peculiar condition of the nervous system, the organic source of general vital and functional power,—the important query is, What is that condition?

This question may be answered in two methods. First, by a general pathognomonic proposition, founded on the materials already adduced, as comprising the views of pathological observers in general on this disease. In this method the following enunciation appears to be suggested.

That the gouty disposition or diathesis is to be regarded as consisting of a debilitated condition of the general nervous system, and of increased susceptibility to the influence of causes productive of collapse and re-action generally, and a peculiar morbid action locally, induced by the operation of debilitating influences affecting the animal system: this deficiency of nervous energy consequently affecting the whole organised textures and functional capacities, but especially manifested in the digestive organs and extremities.

The second method of reply is, by independent observation and induction, — by inferences drawn from the acknowledged influence of those causes by which the gouty diathesis or disposition has been induced,—and by reference to those symptoms manifested by the constitution when subjected to their operation, and thereby rendered liable to the disease. How far results thus attained by the author are accordant with those suggested by preceding inquirers, will hereafter appear. Vide Vol. II.

If it can be shewn that certain symptoms indicating a peculiar condition of the nervous

system, invariably precede and attend the gouty state of the constitution, — and if these symptoms can be referred to certain influences calculated to induce them as a natural consequence, which influences are invariably ascertained to have been in operation previously to the supervention of the gouty diathesis, — a satisfactory ground for legitimate conclusion is submitted to exist. Much more, if, after the occurrence of this constitutional tendency to gout, the accession of individual paroxysms can be shewn to be the natural and invariable result of certain other influences (the exciting causes) under the existing constitutional circumstances.

As the best and most convincing test of the truth and utility of every theoretical position respecting any disease, is the soundness and efficiency of the practical principles thereby suggested for prevention and cure, — it is farther incumbent, and it shall be the author's endeavour to shew, by satisfactory evidence, consisting of extensive and varied references to facts and experience, that by therapeutical principles, naturally arising out of the pathological views of

gout to be advanced in this treatise, individual paroxysms of this disease can be correctly and efficiently treated, amidst various and apparently conflicting indications; — and farther, that the accession of future attacks may be, for the most part, effectually prevented—not by any mysterious agency under the name of a specific, but by counteracting and restoring, in individual cases, that peculiar constitutional condition which really constitutes the gouty diathesis.

Having now, however, completed the object proposed in the commencement of these pages, the prosecution of the inquiry, in that channel into which, by the foregoing observations, it has been directed, is reserved for a future volume.

THE END.

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PREPARING FOR THE PRESS,

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VOL. II.

A TREATISE ON GOUT,

PATHOLOGICAL, THERAPEUTICAL, AND PRACTICAL;

OR,

An Attempt to elucidate and establish the Nature and Causes of that Disorder, and to deduce definite and correct Principles for its Prevention and Cure, consonant with just Pathological Views, and confirmed by Observation and Experience.

