

gradually increase among them ; and Colonel Humphries, by selecting for breeding a marked variety, has succeeded in procuring a flock, all of them with deformed bones. If the same causes operate in man, may we not impute to them, many endemic peculiarities found in certain sequestered districts, which have hitherto been imputed to the water, and other localities ? And may we not trace a provision against such a deterioration of the race, in that revealed law, by which any sexual intercourse between near relations is forbidden, on pain of death ? This prohibition, as far as we can judge, proves sufficient to prevent the too great influence of such an hereditary cause, since the number of maniacs does not increase in proportion to our increased population, and the great exciting causes of madness, namely, increased wealth, and other sources of ambition. Nor is this the only provision we can trace. The worst stages of madness are attended with a total indifference to the sex, not to mention the very general inclination

to suicide, which the utmost vigilance cannot always prevent. Seeing then how little is left in so important a concern to the operation of human institutions, have we not reason to be satisfied with the provisions of Nature, and with the Divine commands? Yet, in the most serious of all hereditary peculiarities, the great susceptibility to madness, celibacy has been recommended as a duty. Before we venture to propose measures contrary to one of the strongest impulses of Nature, and to the first blessing which the Almighty Fiat bestowed on man, it becomes us seriously to weigh the consequences.

Were this opinion universal, it would probably produce its effects only on the most amiable and best disposed, whilst the profligate and unprincipled would indulge themselves, regardless of posterity: It is scarcely necessary to hint at the result. To interdict marriages with the healthy individuals of such families, might do much towards extinguishing that enthusiasm, which,

when well directed, proves the source of those achievements which aggrandize families, which encrease the glory of nations, and improve the condition of mankind. Nor is this confined to heroes and statesmen, but extends to the effusions of genius, and to the cultivation of the softer virtues. It is neither necessary, nor proper to introduce names, they will occur to every one who has lived long enough to become acquainted with the ramifications of families.

We see the influence of climate sufficient to preserve a race suited to particular regions; and where the irregular action is unconnected with climate, we find a Divine law, with other causes arising from the irregularity itself, all tending to restore the original form.

But should there exist a disease, the disposition to which is excited by climate; should such a disposition become hereditary, and should the disease when excited prove incurable, from such a combination of causes we could expect nothing less, than the gra-

dual extinction of the race ; and should the district be re peopled, the same succession of causes and effects must gradually extinguish the descendants of the new Colonists ; yet, such a disease does exist in the finest and most extensive part of the habitable globe. Human institutions have indeed made some feeble attempt at restraining it, but human endeavours must have proved ineffectual. Happily, the same power which permitted such a cause, has fixed limits to its effects.

The *Elephantiasis* of ARETÆUS is peculiar to warm climates ; the disposition to the disease is hereditary, and the disease itself has, hitherto, proved incurable. I have never been able to learn, that it has attacked emigrants from a colder climate, nor their immediate descendants. A residence therefore of some generations, is probably necessary to induce the disposition. When the diseased disposition is *derived* from *inheritance*, the action always commences before the age of puberty ; and the subject never

arrives at that state ; the organs are never evolved, and no other marks of virility appear. When the disease originates with an individual, it usually commences at a more advanced age ; but from that time, the organs which distinguish the sexes decay, and become gradually unfit for their original purposes. This fact of a disease, which arrests the progress to virility of every youth, and emasculates every adult whom it attacks, is so surprising, that after having witnessed it myself, I should have been backward in publishing the result of my observations, had not others been present at every examination ; and I should have been unwilling to draw inferences from them, had not subsequent Writers confirmed my account.*

Thus is an hereditary disposition to an irregularity of the most formidable nature, which being excited by climate, must have progressively increased in spite of all human

* See Edinubrgb Medical Journal, vol. v. p. 500, Note.—Gentleman's Magazine, Vol. 81, July to Dec. 1811, p. 145, second Column ; and Dr. Gourlay's History of Madeira.

institutions, arrested as soon as it occurs, by those very actions which form a part of the deviation from the usual progress of Nature.

If what has been stated in this and the other parts of the paper should be confirmed by future observations, the result of the Inquiry will be,

That *connate* diseases or privations are not hereditary.

That *dispositions* to certain diseases are more commonly family than hereditary ; that the diseases arising from them usually show themselves at certain ages ; if early in life, that we have little chance of preventing or curing them ; but that such of the children as escape that age, are as safe as the descendants from other families.

That *hereditary predispositions* to the most prevalent diseases are brought into action, either by climate, which destroys at an early age those who would be the means of transmitting such predispositions to posterity, or by such external causes as may often be prevented.

That whenever an *hereditary* or *family susceptibility* to any disease is suspected, the changes in the constitution induced by gestation, parturition, and the more advanced climacterics, should be particularly attended to.

That if the human race, like other animals, has a constant disposition to restore itself from every irregularity, the Divine law, which forbids any sexual intercourse between near relations, seems sufficient to correct every peculiarity unconnected with climate.

That if an *hereditary disposition* is generated by climate, it must progressively increase from the constant operation of such combined causes. That no remedy, therefore, can be sufficient, but the prevention of propagation as soon as the disposition becomes hereditary; and that such provision is made by the diseased action itself.

That as far as our inquiries into these irregularities have hitherto extended, sufficient provision is made for correcting them

by the influence of climate, by the interdiction of sexual intercourse between near relations, and by the effects which the irregularities themselves induce.

That all interference, therefore, with the dictates of Nature, beyond the expression of revealed will, appears unnecessary.

That to lessen anxiety, as well as from a regard to the moral principle, family peculiarities, instead of being carefully concealed, should be accurately traced and faithfully recorded, with a delicacy suited to the subject, and with a discrimination adapted to the only purpose for which such registers can be useful.

NOTES.

NOTES.

NOTE 1, Page 6. — “ *Cautions on Cautions are multiplied, &c.*”

When men gravely tell us, that we cannot be too cautious, or that it is better to take too much than too little care, we can only remind them of the *male sedula nutrix* of Ovid, and the *operosus nihil agenda* of another Latin Poet. A caution ill-directed is a greater evil than no caution at all, inasmuch as it supersedes inquiry, by interrupting the common order of facts, and lulls us into an ideal security, when we have not advanced a step towards so desirable an end. When the English shut themselves up during a pestilential season in the Mediterranean ports, they conclude that they have secured themselves, because when the season is passed, they meet their friends alive. Would it not be worth inquiring, by what means the higher class of natives have escaped for years, without any such cautions? And also, by what means some have fallen a sacrifice, who have fancied themselves safe, in consequence of their caution? On the subject of quarantine, on which so much time has been spent, and by the strict observance of which, every honest trader is so much injured, whilst every unprincipled smuggler is making his harvest, would it not be reasonable to ask, Why the Dutch escape, who use no quarantines? and how Malta should be afflicted, where the most rigid quarantine has been observ-

ed? I am aware it has been urged, that whenever the plague appears, it has always been found, that some infected person or goods, or some person from an infected port, has been discovered. Let us ask, If the same diligence were used at other times, would not the same discovery be made? In short, is it possible, in a commercial port, to preserve a strict quarantine?

The cautions relative to hereditary diseases, if less numerous, have not been better directed. On those moral cautions, which have been repeated by some of the best intentioned writers, I shall offer no remarks in this place. But, as I know only one instance in which Legislature has interfered, and as it is impossible that any future act can be more pointed or cautious, I shall take this opportunity of transcribing the passage, leaving it to the decision of others, whether any, or what effect has been produced by it, towards exterminating such diseases from the families of our sister kingdom.

* “ Morbo comitali, amentia, mania aut simili
 “ tabe, quæ facile in prolem transfunditur, laborantes,
 “ intereos ingenti facta indagine inventos, ne genus
 “ fœda contagione ab iis qui ex illis prognati forent læ-
 “ deretur, castraverunt, mulieres hujusmodi morborum
 “ quavis tabe leprave infectas procul a virorum consor-
 “ tio ablegaverunt. Quod si harum aliqua concepisse
 “ inveniebatur, simul cum fœtu nondum edito defo-
 “ diebatur viva.—Voraces, manducones supra quam
 “ erat humanum, helluonesque et perpetuæ ebrietati in-

* Scotorum Historiæ a prima Gentis Origine, cum aliarum et rerum et gentium illustratione non vulgari, Libri XIX. Hectore Boethio Deidonano Auctore. Parisiis, 1574, lib. i. p. 12.

"dulgentes aut addictos, ne tam fœda monstra in patriæ dedecus superessent flumine mergentes, prius quantum libuit et cibi et potus vorare ac ingurgitare eis præbentes, miti supplicio exterminarunt."

How severe soever these laws may seem, they may be easily justified by saying, that *one cannot be too cautious*; and perhaps, future ages may be of opinion, that they are not more cruel than the destruction of a year's harvest of the staple commodity of an island, the crowding pestilential subjects into a Lazaretto, and confining those who are in health by a *cordon* within the sphere of a pestilential atmosphere. It may be thought unreasonable to compare the institutions of the present day with the laws of a less enlightened period, but we shall see, that these cautions for the preservation of a sound progeny, were mixed with others, founded on sentiments which would do honor to any nation or age.

"In bellis autem gerendis aut privatis item inimicitiiis, nihil dolo, nihilque fraude agebant. Aperto Marte decernere ac vincere generosum ducentes. Turpe vero arbitrabantur inimicitias blandiloquio occultantes, per dolum postea nec opinantibus insultare, censentes id esse imbecillium, nec suis viribus confidentium. Simpliciter omnes sinceritatemque ex æquo semper colebant."*

NOTE 2, Page 7. — "*Neither time, industry, expence, nor obloquy.*"

To improve what Mr. Hunter has done must appear a bold undertaking. It may therefore be pro-

* Id. loco citato.

per to inform the general reader, that in the opinion of most medical men, the writings of that justly celebrated physiologist are often obscure, and that he concludes his *TREATISE* with some "remarks on diseases resembling Lues Venerea," acknowledging, that what he has "said, should be rather considered as hints for others to prosecute the Inquiry, than as a complete account of the subject."

My first attempt was to execute an obligation imposed on me by the last conversation I had with that great man. This was to defend him from a host of writers, who had opposed, I might almost say abused, without understanding him. To do this, it was only necessary to explain his meaning; a task very much facilitated, by pointing out the mistakes of his enemies. This naturally led me to the attempt of "prosecuting the Inquiry which he left for others." In doing this, all the information that could be collected, by conversation among the most experienced practitioners, by the access they allowed me to their respective hospitals and libraries, as well as from correspondence, was brought into aid. The fruits of my conversations enabled me, among other things, to announce the cow-pox to the Public two years before the ingenious discoverer. Every reader attached to physiological researches, will easily conceive, with how much reluctance I restrained myself from pursuing this inquiry, especially as it strongly confirmed one of Mr. Hunter's conjectural theories. But Mr. Cline, from whom I received my information, assured me, that Dr. Jenner was actively employed in some important experiments. It would, therefore, have been great injustice to have interfered, till the result of his observations were made public.

Various difficulties occurred in prosecuting the other inquiries. Conscious, therefore, how imperfect the work still remained, I concluded by inviting the communications of all my brethren, and particularly of those whose residence allowed them a full opportunity of investigating certain local diseases. My own industry, however, did not relax. Nothing that could be personally examined was afterward omitted. The leprosy of Madeira was supposed so highly contagious, that the physician who had the charge of the unhappy objects, had never ventured into the Lazaretto destined for their reception. In this place, I spent a considerable part of several days. Finding the insect, which was, by some, supposed to be the cause of the Itch, very common in the island, I determined to put the controversy on this subject at rest, by inserting two of the *acari* into my own hand. Not perfectly satisfied with any history of the African Yaws that could be met with, nor with the correspondence I had instituted with some West Indian practitioners, it was my resolution to repair to those islands, had not a case occurred to me in Madeira.

My researches into books were not confined to medical writers. Every publication that came in my way, particularly those accounts of voyages which mention the diseases of the countries, were carefully examined in those passages. By comparing them, I was convinced, that a disease said to have been carried from Europe to Otaheite, and to have depopulated those Islands, had never been known in any of them; and the subsequent report of Mr. Wilson,

Surgeon in his Majesty's Navy, who arrived under a conviction that the disease existed there in all its forms, has proved the truth of my suspicion.

On my return to England, to prepare my Second Edition, I was disappointed in finding that none of the northern practitioners had furnished me with any information on the subject of a morbid poison, known only in that kingdom, and hitherto imperfectly described. The only remedy was, to repair to Scotland, and spend as much time in the district, as might be necessary for a fair investigation of the disease : and this I made no scruple to undertake.

Furnished with such materials, and with some claim to maturer judgment by lapse of years and by greater experience, my Second Edition appeared on a larger scale, with an attempt to comprehend diseases which, though not strictly Morbid Poisons, are generally considered as contagious. Among these are the yellow fever and plague, neither of which appeared to me contagious. My opinions were principally founded on the facts and reasonings of those who, after a practical knowledge, held a different opinion. To engage, if possible, the public attention, a smaller tract was published, under the title of an "Inquiry into the Laws of different Epidemic Diseases." This was circulated with much industry and some expence, in order that the subject might be more carefully examined by all travellers, who are certainly as capable as medical men of forming an opinion concerning matters of fact. The contagious property of the yellow fever had been long disputed by those who had the most ample means of information, and the controversy was in such hands as must

gradually produce conviction. Such was not the case with the plague. As soon, therefore, as that disease was known to visit Malta, I expressed a wish to Sir JOSEPH BANKS, to be entrusted by Government with such a commission as would have enabled me to put my opinions to the proof, without danger to any one but myself, and such others as might chuse to volunteer with me. In this undertaking, we should have exposed ourselves to the effluvia and contact of all the subjects submitted to our charge, not in the manner Mr. White had done, the whole history of whose proceedings served to confirm the doctrine contained in the "Inquiry."

It is unnecessary to say more than, that in all the delays of office, and the reference to different boards, we had the learned President with us. The correspondence which passed on the occasion is preserved, and may be resumed, if ever the question meets with that fair investigation, to which, by its importance, it is justly entitled.

What has been said will be considered as a vindication against any charge of remissness in duty, not as a claim to any superior merit. No man scruples to plead his industry, especially if those whom he addresses, have no other means of knowing its extent. Industry, with some perspicuity of description, is all that can be inferred from the above account. It is hoped also, that the introduction of the word "obloquy" will not lead to the suspicion of petulance. Few men have better reason to be satisfied than the author. To be destined to an occupation which is followed with delight, and without being prevented from pur-

suing the more intricate inquiries of his favourite science, are enough of themselves to excite gratitude; but for a physician to be distinguished by the College, and to be answered by the Arbiter of Science in this kingdom, that he should feel flattered in seeing a physiological work which he had perused, dedicated to him, would prove a balm against discontent, if any cause for it existed.

There will, however, arise incidents so congenial to the wishes of the best of men, that any thing less than enthusiasm may excite surprize, which the more designing will readily direct in their own way, as long as it serves their purpose. Perhaps too, when it is feared that the public mind can only be reconciled by acclamation to what is really good, or when it is found necessary to meet invective by invective, the cool reasoner ought to be thankful, if he is only overlooked. Let me conclude, and in some measure, explain the cause of this digression, by subjoining a correspondence, which will show the uniformity of my opinion of Vaccination, and how generally the same is now admitted.

" Copy of a printed Letter from Dr. Hervey, Registrar of the Royal College of Physicians, to Dr. Adams, Physician to the Small-Pox Hospital.

" SIR,

*" HIS Majesty has been graciously pleased,
" in compliance with an address from the honourable
" House of Commons, to direct his Royal College of
" Physicians of London to inquire into the present*

“state of Vaccination in the United Kingdoms, to
 “report their observations and opinions upon that
 “practice, upon the evidence adduced in its support,
 “and upon the causes which have hitherto retarded
 “its general adoption.

“The College are now engaged in the investiga-
 “tion of these several propositions, and request you
 “to communicate to them the result of your experi-
 “ence and inquiries on the subject, that they may be
 “thereby assisted in making their report as perfect as
 “possible.

“I am, SIR,

“Your most obedient servant,

“JAMES HERVEY,

Registrar.

“By order of the Royal College of }
 “Physicians, Oct. 23, 1806.” }

“*Copy of a Letter from Dr. Joseph Adams to Dr.*

“*Hervey, of the College of Physicians.*

“November 17, 1806.

“SIR,

“I have been honoured with your circular,
 “expressing the wish of the Royal College of Physi-
 “cians to comply with his Majesty’s gracious com-
 “mand, relative to Cow-pox.

“The College are pleased to expect a communica-
 “tion on the three following points :

“1st, My own experience in Vaccination.

“2dly, The result of my inquiries.

“3dly, My opinion of the causes which have hi-
 “therto prevented its general adoption.

“ 1st, My own experience fully confirms all that
 “ *Dr. Jenner* promised in his Inquiry into the Causes
 “ and Effects of Cow-pox.

“ 2dly, I have made no digest of my inquiries, ex-
 “ cepting as they lead to experiment, which are con-
 “ sequently included in the former answer.

“ 3dly, Besides the prudent backwardness of most,
 “ in admitting novelties into practice, without ample
 “ proof of their utility, the causes which have pre-
 “ vented the general adoption of Vaccination, appear
 “ to me to have been principally the mistaken zeal of
 “ its friends. It could not be expected, that men
 “ who value themselves on their talents at investiga-
 “ tion, and feel conscious of their scrupulous adher-
 “ ence to truth, could patiently submit to be uncan-
 “ didly treated for a scepticism induced by events,
 “ however accidental. When their accuracy was
 “ questioned, whilst they disregarded the assertions
 “ of their accusers, they became diligent in collecting
 “ collateral evidence, and when their reasoning was
 “ ridiculed, instead of expressing only their doubts,
 “ they became parties in their own defence.

“ Another inconvenience has arisen from a too
 “ great forwardness at answering objections before
 “ they were sufficiently matured ; hence, when Variola
 “ appeared after Vaccination,* the event was either
 “ denied, or explained by so many minute causes as
 “ were sufficient to frighten the ignorant, disgust the

* In the year 1796, I gave it as my opinion, that small-pox had
 occurred twice to the same person ; and in 1805, was the first to
 urge this argument in defence of Vaccination.

“ candid, and induce the prudent to avoid an experi-
 “ ment, the result of which was not sufficiently un-
 “ derstood.

“ A practice at one time represented as so simple,
 “ that the clergy and females were invited to under-
 “ take it, became at once so mysterious, that only a
 “ chosen few were said to *understand* Vaccination;
 “ every untoward event was imputed to ignorance be-
 “ tween the true and the spurious pustule, to taking
 “ matter at a too late period, and to other causes still
 “ less satisfactory.

“ Had these uncertainties really existed, they
 “ would have been sufficient objections against a
 “ practice, the object of which is to secure the sub-
 “ ject from a formidable disease, and from which he
 “ might be secured by another, certainly less desirable
 “ but well ascertained operation. But the truth is,
 “ that Vaccination is as simple as it was at first an-
 “ nounced; that the true character of its vesicle is
 “ more certain than the local effect of any other mor-
 “ bid poison; that it is impossible to confound it with
 “ a pustule of any kind; and that every difficulty
 “ might have been avoided, by requiring a correct
 “ register of the progress from the period of insertion
 “ to cicatrization, or for the most part of perfect
 “ scabbing.

“ I am, Sir,

“ Your obedient,

“ Humble Servant,

“ JOSEPH ADAMS.

“ To Dr. James Hervey,

“ &c. &c.”

The following is an Extract from the First Edition of my "Answers to the Objections against Vaccination," published for the Benefit of the Small-pox Hospital in 1805.

"However, if we were to admit, that some instances have occurred of small-pox after cow-pox, I shall show that this is really no objection to the practice. There are three ways in which this may happen. 1st. By an imperfect vaccination.

"2dly. By the constitution being under the influence of some other disease at the time of vaccination.*

"And lastly, By the person being liable to the small-pox twice.

"This last seems very strange to those who suppose, that there are rules which admit of no exceptions. But it is well-known, that some people never take the small-pox at all; and it is equally certain, that some few, happily very few, have it twice. I know some say, that this was never thought of till the cow-pock made its appearance; but the following quotation is from a book published before vaccination was practised.

"It is a law with most morbid poisons, that a constitution which has once gone through the action excited by them, is no longer susceptible of it. This is the case, with very few exceptions, in the small-pox; I say with very few exceptions, because some cases to the contrary, have been so well authenticated, that I am not sceptical enough to

* "See Observations on Morbid Poisons, published by Johnson, 8vo, 1795."

“doubt that the susceptibility may be so strong in some particular constitutions, as to *admit of the disease a second time, after a certain period.*”

After this, follow cases published by the College of Physicians, of Small-pox by Inoculation, twice in the same person; and one from the Memoirs of the Medical Society, of the casual Small-pox twice severely in the same person, and in the second instance fatal.

Of the work from which the above is extracted, near ten thousand copies have been circulated among that class, who at one time seemed averse to Vaccination. This may be an apology for the style in which it is written.

NOTE 3, Page 7. — “*Whilst Sir Joseph Banks, &c.*”

The little concerning hereditary diseases, which was contained in my paper on Elephantiasis, was derived from Mr. Hunter's Lectures, and may be found in his Evidence on the Trial of Donellan, for the murder of Sir Theodosius Boughton. Not aware that the former had never been printed, and that the more interesting events of the latter would easily eclipse a pathological remark, which, from its novelty, the learned judge acknowledged he did not clearly understand, I could not help feeling surprised at the manner in which the attention of the learned President seemed arrested, whilst perusing this part of the paper. The subject afterwards came frequently before us; and for most of the illustrations derived from the inferior animals, I am indebted to his conversations, and his reference to his own library.

NOTE 4, Page 8.—“ *Every technical expression is avoided.*”

Technical language should always be avoided, and is never necessary in medicine, excepting when parts are described anatomically, for which there are no English words, or the functions of which it would be necessary that the reader should know before he can understand the question. If these terms continue to be technical, it is not the fault of physicians, but of the public. It ought to be part of every gentleman's education to learn the structure of his own body. On all other occasions, such words are only a cover for ignorance or indolence. If a man cannot explain his terms, it is because he has no precise meaning. If he understands his subject, his wish to explain himself will always induce him to adopt language the most simple, because he will find it the most intelligible. It is very true, that this will be less pleasing to those who can be satisfied with such words as *scrofula*, *hereditary taint*, *eradication of disease from the constitution*, and many others, which, as the writer is too cautious to explain them, do not oblige the reader to form any combinations, nor consequently present any difficulties in his way.

NOTE 5, Page 9.—“ *No systematic performance on the subject.*”

Stahl is quoted by most authors who have noticed hereditary diseases, but the great variety of his works, or of the different editions, makes it difficult at all times to refer to the passages cited. Haller, in his *Elementa*, Vol. 7, Article *Similitudo Parentum*, gives us no reference but to page 497. The fact quoted,

I have found in Stahl's *Theoria Medica Vera*, published at Halle in 1737, page 377. In the Collection of Dissertations, published by Stahl in 1707, there are several passages which refer to hereditary diseases, and an Inaugural Dissertation, "*De Hereditaria Dispositione ad varios Affectus*," by Burchart. The title of this seemed to promise some information, but no systematic arrangement of the subject is to be collected from any part of the volume. If Stahl himself has written any regular Treatise on hereditary diseases, I have not been able to meet with it.

NOTE 6, Page 9. — "*Overlooked by every succeeding writer, who has incidentally touched on the subject.*"

M. Portal, like his predecessors, refers us to Hippocrates, Galen, Pliny, Fernelius, Ingrassias, Bailon, Lazarus Riverius, Mead, Boerhaave, Morgagni, Stahl, Lieutaud, Haller, Zeller, Van Swieten, Sennertus, Etmuller, Hoffman, and other great physicians. All the above, whom I have had opportunity to examine, only introduce the question as connected with different diseases, and most of them refer to the same authorities. Mercatus, who alone wrote a distinct Treatise on the subject, is overlooked by all. In a note, M. Portal mentions a work of great merit, by M. Forestier, *De morbis aut noxis puerorum in vitiatis depravatisque parentibus*. I regret much not being able to meet with this, and that M. Portal never quotes a passage from it. It is surprising, that Mercatus is never quoted by the industrious Haller, in his article "*Similitudo Parentum*." M. Portal's communication is very valuable, on account of the number of facts and references which it con-

tains; and also, on account of the extreme candour which pervades the whole. But it is deficient in that cautious rejection of undefined terms, which distinguishes the true disciples of the Hunterian School.

He begins with attempting to trace the causes of hereditary diseases, to diseases *contracted by the parents before marriage*, or to events which happen to the mother during pregnancy, urging, after Ferrius, that the older people are when they have children, the more likely they are to have acquired imbecility or disease, and to transmit the same to their children, from whom they may become hereditary; he concludes this part, by ascribing some of these effects to wet-nurses, admitting, at the same time, the impossibility of a satisfactory explanation, and urging, with much propriety, that it cannot be necessary always, to know the cause before we admit the effect.

Several paragraphs follow, on the external peculiarities of form, which are hereditary in different families; this leads to some remarks on organic affections, particularly such as are connected with an unnatural form of the heart, discovered after death. Mention is made of some other hereditary, and one family complaint; which last, we are informed, occurred to a brother and four sisters, all at about the same age. After enumerating a few other facts, M. Portal asks, "Do these hereditary diseases arise from various causes, or are they to be ascribed, in most, to one alone?" This leads him to some remarks on tumours in different parts of the body, and to rickets, with other diseases of the bones; from the frequency of which, and their connection with *scrofula*, he sug-

gests the probability, that all, or most hereditary diseases, may be ascribed to that source.

In the instances of epilepsy, mania, and apoplexy, it is admitted, that one and the same cause cannot, with propriety, be suspected of producing effects so various. We are, however, soon led again to scrofula, which is kept in view as a cause throughout the remaining part of the paper.

At length, the author conceives it right to ask, What is the nature of the scrofulous taint which occasions so many and various hereditary or family diseases? After a variety of surmises, he concludes, by deriving the whole from the *lues venerea*, and conceives, by the application of proper remedies, that the venereal taint may be destroyed, and the hereditary or family disease with it.

I have given this abstract of M. Portal's Treatise, as the only one since Mercatus's, which has come to my hand. It is contained in the last Vol. of the French National Institute, and a Translation of it in the 21st Vol. of the Medical and Physical Journal. Several parts of it will come under consideration in the subsequent notes; I shall, therefore, say but little in this place.

The first chain of causes assigned, are diseases contracted by the parents before marriage; children produced by parents at an advanced period of life; and events which occur to women during pregnancy.

The first and second of these will be considered in their place. On the last, I shall here offer a few words.

At one time, the apprehension from such a cause was carried to an absurd length; and perhaps, it may

be so at present, by one class of people. But I am not ashamed of saying, that, in my opinion, the question has been too generally consigned to ridicule by medical men. There is, however, no reason to believe, that any such effects are transmitted beyond the individual in *utero*. I shall, therefore, offer only one remark on this occasion, viz. that women who are habitual drunkards, generally produce immature or idiot children. Let it not be understood by this, that such is often the cause of those unhappy events. Female ebriety, especially at the age of conception, is very rare; nor does it often happen, that there are many idiot children from the same parents. Even when all the offspring are in this unfortunate state, it is by no means a proof, that the failings of the mother has been in any degree the cause.

A poor woman has three idiot children, to whose comfort she is not less attentive, than many are to their quadruped pets. By those who are unacquainted with her, it is often asked, Why she does not send them to the parish work-house, as it must be a matter of indifference to such objects, who may have the charge of them?—Her answer is, “It is painful enough for me to be constantly watching them, therefore I cannot expect it of a stranger!” Can such a mother be suspected of causing such a calamity, by such a failing? and would not such a failing unfit her for so praise-worthy a charge?

NOTE 7, Page 13. — “*The first only can with propriety be called hereditary or family diseases.*”

This involves a most important question, namely, the transmission of *contagious* diseases to posterity.

That a child may be born with the small-pox, was first shown by Mr. Hunter, in a paper published in the Philosophical Transactions. The belief, that the venereal disease may be transmitted to posterity, was at one time almost universal, and is still maintained by some writers, in most formidable language. Whoever considers the intimate connection between the mother and child, must at once admit the probability that a disease may be conveyed from one to the other. But, in these instances, we ought rather to speak of communication by contagion, than transmission by inheritance; and in all such cases, the various morbid poisons will be governed, in the time of their appearance, by their customary laws. Such we find the case with every history of connate small-pox. The appearance on the child has been at, or very nearly, the same period, after receiving the infection, as we might have calculated in the ordinary way.

I am aware, that in syphilis, no limits are admitted by some to the period at which that disease may appear on the offspring of a person once infected. It has even been asserted, that the father having been cured any number of years before marriage, is no security. These opinions are gradually dying away, since Mr. Hunter taught us the true pathology of this disease. It is, however, still maintained, by those who have not made themselves masters of Mr. Hunter's doctrine, and consequently, very generally on the continent, where it cannot be expected that he should be so well understood. Having, in another place, very fully discussed this subject, I shall only remark here, that in a populous and wealthy island, in which I was for many years consulting physician,

cases out of number of this kind were brought to me, and the result in all served to confirm me in Mr. Hunter's doctrine.

Dr. Ferguson has some very ingenious remarks on this subject, at the conclusion of his paper in the last volume of the *Medico-Chirurgical Transactions*. After this just tribute to his merits, I trust the author will not be offended, if I regret that he did not apply Mr. Hunter's mode of reasoning to the cases in the preceding part of his valuable communication.

Diseases from nurses are of two kinds. It sometimes happens, that the milk of a healthy nurse, even of the mother, will so far disagree with a child, as to induce a cutaneous disease, which is readily cured by a change of nurse. But, more commonly, a child, even apparently healthy, will produce ulceration on the nipples of its nurse. At other times, a cutaneous disease about the nurse, will be communicated to the child, and assume, on some occasions, a form different from that on the nurse. All this will be obvious to the senses. But the stories of permanent future injury to the distant parts of the body, by what is taken into the stomach, to say the best of them, have not hitherto furnished such an uniformity of facts, as can be reduced to pathological reasoning.

The stomach is a very sensitive organ, and soon shows us the effect of any thing injurious received into it. If the skin, as is often the case, is made to sympathize with it, such an effect only continues as long as the cause remains.

NOTE

NOTE 8, Page 17.—“ *It may be asked, Why this attempt at discrimination, where the differences seem almost to meet.*”

The want of accurate distinctions is the great impediment to the progress of knowledge; and in disease, is not only the source of erroneous practice, but of unfounded terror or dangerous security. By confounding hereditary with family diseases, we excite an unnecessary apprehension in the rising generation; I shall quote the following passage from M. Portal, to show the manner in which he has confused this part of the subject. “ To these hereditary diseases, may we not add cancer and cataract, with deafness and dumbness from the birth? Morgagni saw three sisters who were dumb from their infancy. Other authors have mentioned similar instances; and many such have come under our own observation.” In the notes to this passage, we are referred to Morgagni, Woolhouse, and other authorities mentioned also by Haller. In turning to all these, it will be found, that the disease was not derived from the parents, nor is there any authority that it was transmitted to the offspring. Woolhouse expressly says, that the parents were free from the complaint; Morgagni makes the same remark. Haller seems aware, that these diseases were not necessarily hereditary, but he confuses the subject greatly, by confounding connate diseases or privations with peculiarities of form or structure, and even with hereditary dispositions and artificial mutilations. Hence, after remarking, with much propriety, “ *Cæci certe fere bene videntes pueros generant,*” he adds, “ *Cum matre sana leprosus sanos generat.*”

"Catella cui lien excisus erat peperit catellas liene præditos, &c."

Mr. Stevenson, in his valuable "Treatise on Cataract," speaks of hereditary disposition as among the causes. But such is his accuracy in all the cases given as his own, that it is easy to see, the congenital cataracts were all confined to a single generation, as that gentleman has since explained to me. Let me add, that some few histories of this kind, which I have been able to trace, confirm the above law.

I shall conclude this part of the subject, by transcribing the result of a correspondence I have been favoured with, through the kindness and liberality of the officers of one of the most interesting charities with which this metropolis abounds. "Of 148 scholars upon the foundation of this Institution, one is of a family where there are five deaf and dumb, (himself included); one, where there are 4; eleven, where there are 3; and nineteen, where there are 2. Of the scholars, 57 are girls, and the rest boys; none of them of deaf and dumb parents." At this time there are 72 candidates; in thirteen of these, the privation extends to brothers and sisters; but as no mention is made of a similar misfortune in the parents, we may presume, it does not exist in any of them, since the mention of such an event might have been urged as a higher claim to charity.

The gentleman who superintends the manufactories, and who consequently has the best opportunity of tracing the subsequent history of his scholars, informs me, that some of them are married and have children, all of whom are perfect in the organ of hear-

ing. One instance has occurred, in which both parents were born deaf, yet their children hear.*

The uniformity of these events will, I trust, be sufficient to reduce the whole into a law; but I cannot help remarking, that we should be extremely cautious, in drawing too close analogies between man and the less complicated animals. I have been told, from an authority which, though not strictly philosophical, I cannot question, that there is a race of white cats, called the Persian breed, in which deafness is hereditary, though not universally so. How far it may depend on their transplantation to this climate, is a question which will occur hereafter.

NOTE 9, Page 18. — “*Connate or congenital diseases are rarely hereditary, which is the more remarkable, because peculiarities of form in less important parts are often hereditary.*”

M. Portal, among many other instances of the transmission of family features, mentions the following, which has since been confirmed by Dr. Pritchard in his valuable “*Researches into the Physical History of Man.*” “*Dr. Gregory, one of our old pupils, now the distinguished Professor of the Theory and Practice of Medicine at Edinburgh, related to his numerous students, in order to convince them of the resemblance between children and parents, both with respect to external and internal structure, that having been once called to a distant part of Scotland, to visit a rich nobleman, he discovered in the configu-*

* Correspondence with Dr. Wilson and Mr. Sandwich. See also the printed List of Candidates for admission into the Asylum for Deaf and Dumb,

ration of his nose, an exact resemblance to that of the Grand Chancellor of Scotland, in the reign of Charles I. as represented in his portraits. On taking a walk through the village after dinner, the Doctor recognized the same nose in several individuals, among the country people; and the nobleman's steward, who accompanied him, informed him that all the persons he had seen were descended from the bastards of the Grand Chancellor. How many similar examples might we not adduce, if we were to pay attention to the subject?"

These family likenesses are matters of such notoriety, that they need no confirmation, but peculiarities bordering on monstrosity, in unimportant parts, come nearer to disease, or organic privation; yet the former, we shall see, are hereditary, though the latter are not. Not to mention what has been said by Aristotle and Pliny on this subject, we have later authorities for the hereditary transmission of supernumerary fingers and toes. Dr. Pritchard has collected several well ascertained facts on the subject. Haller quotes from Stahl the hereditary transmission of a web between the toes. I know myself an instance of a gentleman, who inherits a similar membrane from his father. Sometime ago, an Irish mendicant scholar introduced himself with a Latin letter, describing a deformity in his hand, which he showed me, and said was an exact resemblance of his father's. I admit these transmissions are uncommon, and I believe, rarely extend, like the mere peculiarities of features, through many generations; still, however, they ought to be distinguished from connate diseases or priva-

tions, which always cease with those in whom they first appear.

NOTE 10, Page 21.—“ *When the hereditary or family susceptibility is such, that the disease is induced without any external cause, we can have little hopes of preventing it; and if the disease has arisen during the changes about the age of puberty, we are to expect a cure more from a proper direction of the effects of Nature during that period, than from remedies which may be useful in the same disease, when excited by external causes, or induced at a more advanced age.*”

We are too apt to confound, in our prognostic, diseases which occur before puberty, with those which are excited by the changes induced in the constitution about that age. The late Dr. Heberden, in the invaluable legacy he has left us, very justly remarks, “ It has been an old observation among physicians, that epilepsies beginning in childhood, often terminate about the age of puberty, which has by no means been verified by any experience which has fallen in my way.” Nothing can be more just than this remark. The error seems to me to have arisen from confounding epilepsies which commenced in infancy, with those which commence about the age of puberty. The former remain unabated, and frequently increase by the changes which take place in the constitution; the latter, on the contrary, usually cease as the change is completed. The same observations are applicable to many other diseases, indeed, to most of those anomalous complaints which occur at that critical age; and which, though they sometimes appear very formidable, for the most part, cease

within the space of a twelvemonth. We shall hereafter have occasion to take notice of diseases arising at the more advanced climacterics.

NOTE 11, Page 22.—“ *This remark is still more applicable to that kind of consumption, &c.* ”

This passage at once shows the impropriety of expecting benefit from the same remedies in all diseases of the same organs, and accounts for the contradictory reports of Dr. Beddoes, who, though he at one time, it must be admitted, trusted to solitary cases and fallacious amendments; was always candid enough to acknowledge his disappointments. These recantations were, however, often attended with the announcing of a new remedy, which was, in its turn, abandoned. It is true, to his persevering diligence and readiness of communication, we are indebted for a spirit of inquiry among us; nor can we fail to regret, that he was so soon cut off after he had begun with such earnestness to correct his theories, by a due attention to practical morbid anatomy. On this occasion too, I cannot help remarking the impropriety of sending consumptive patients of every description to warm countries, or of undervaluing the efficacy of such change of climate, because it is not universally successful. The consumption I have described at page 21, is indigenous in every climate, and fatal in all; and, as far as I have been able to judge, runs through its courses with greater rapidity, in proportion to the mildness and purity of the climate. See a paper in the *Med. and Phys. Journal*, Vol. v. page 307.—1801.