

**[Review of] The history of small-pox : [and] The history and practice of vaccination / by James Moore.**

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*Arnold P. Kleb*

' plicity; it was to be easy, obvious, and familiar; with nothing  
 ' in it strained or far-fetched; no affected scheme or airy fancies,  
 ' above the reach or relish of an ordinary apprehension; no, no-  
 ' thing of all this; but their grand subject was Truth, and con-  
 ' sequently above all these petit arts, and poor additions; as  
 ' not being capable of any greater lustre or advantage, than to  
 ' appear just as it is. For there is a certain majesty in plainness,  
 ' as the proclamation of a prince never frisks it in tropes, or  
 ' fine conceits, in numerous and well turned periods, but *com-*  
 ' *mands* in sober, natural expressions. A substantial beauty,  
 ' as it comes out of the hands of nature, needs neither paint nor  
 ' patch; things never made to adorn, but to cover something  
 ' that would be hid. It is with expression, and the clothing of  
 ' a man's conceptions, as with the clothing of a man's body.  
 ' All dress and ornament supposes imperfection, as designed only  
 ' to supply the body with something from without which it  
 ' wanted, but had not of its own. Gaudery is a pitiful and a  
 ' mean thing, not extending farther than the surface of the body.  
 ' . . . . And thus also it is with the most necessary and im-  
 ' portant truths; to adorn and clothe them is to cover them, and  
 ' that to obscure them. The eternal salvation and damnation of  
 ' souls, are not things to be treated of with jests and witticisms.  
 ' And he who thinks to furnish himself out of plays and ro-  
 ' mances with language for the pulpit, shews himself much fitter  
 ' to act a part in the Revels than for a cure of souls.

' " *I speak the words of soberness*, said St. Paul, Acts  
 ' xxvi. 25. And I preach the gospel not with the *enticing words*  
 ' *of man's wisdom*, 1 Cor. ii. 4. This was the way of the  
 ' Apostles' discoursing of things sacred. Nothing here of *the*  
 ' *fringes of the North-star*; nothing of *nature's becoming un-*  
 ' *natural*; nothing of the *down of angels' wings*, or the *beau-*  
 ' *tiful locks of cherubims*; no starched similitudes introduced  
 ' with a *thus have I seen a cloud rolling in its airy mansion*,  
 ' and the like. No, these were sublimities above the rise of the  
 ' apostolic spirit. For the Apostles, poor mortals, were content  
 ' to take lower steps, and to tell the world in plain terms, *that*  
 ' *he who believed should be saved, and that he who believed*  
 ' *not should be damned.*'

The criticism of this passage is perfectly sound, and very for-  
 cibly expressed; but we strongly suspect that the last para-  
 graph, though undeniably correct in principle, was dictated by  
 a feeling less laudable than anxiety for the observance of deco-  
 rum and simplicity in pulpit exercises. The sarcasm is plainly  
 levelled at Jeremy Taylor, and is a just exposure of his de-  
 fects; but it is neither a fair nor an honourable representation  
 of his general manner. It is not character, but caricature;  
 the expressions themselves are singled out in malice, without

any regard to the redeeming beauties of Taylor's language and conception. There can be no question that these fantastic phrases and 'starched similitudes' were really offensive to the sounder taste and finer ear of South; but we are persuaded that the real *gravamen* was to be found in the greater reputation of his illustrious rival. It is an aggravation of the case, that Taylor died the year before this sermon was preached, and if it was meant as a cautionary rebuke to the servile and insipid imitators of that great man's worst peculiarities, right feeling would also have dictated a fervid eulogium on his higher and inimitable excellences.

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Art. IV. *The History of Small-Pox*. By James Moore, Member of the Royal College of Surgeons of London. Surgeon to the Second Regiment of Life Guards, and Director of the National Vaccine Establishment. pp. 312. Price 12s. London. 1815.

*The History and Practice of Vaccination*. By James Moore. pp. 300. Price 9s. London. 1817.

**W**HETHER the recently proposed substitute for Small-Pox, be an actual and safe security against its influence, is a question of decidedly paramount interest; and it is a question, the discussion of which is in entire consonance with the declared design of our Journal, of limiting its medical disquisitions to points that are not of merely professional concern. How numerous are the individuals, who at this very moment are anxious to have their doubts resolved, and their apprehensions done away, by the satisfactory resolution of this momentous question! We shall endeavour to effect all that is within the compass of our ability, towards the accomplishment of this most desirable object.

In the prosecution of this undertaking, we shall present our readers an abstract of the books, the title-pages of which have been just transcribed, incorporating our own opinions on the evidence thus placed before us, and conclude by making one or two remarks on the manner in which Mr. Moore has acquitted himself, both as an umpire and an author.

Our readers will recollect, that when treating on the subject of contagious and infectious diseases,\* we noticed that there is a certain class of complaints, the absolute origin of which is involved in considerable obscurity, and the identity of which we do not recognise in any of the most accurate descriptions of diseases that have been handed down to us by the Greek and Roman Fathers of medicine. Upon the overthrow of the Romish power, and during the subsequent prevalence of the

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\* See Eclectic Review, Vol. VI. page 456.

Papal superstition in Europe, it is well known to all who are conversant with the history of medicine, that Arabia became the theatre of medical learning; and it is in the writings of that country and of that period, that we meet with the first authentic records of the symptoms and peculiarities of Small-Pox, as a distinct and specific distemper. But, did this distemper arise spontaneously in that part of the world, or did the Arabians receive it with the other contagions, from distant quarters? And if this was the case, whence did contagions come to them? At what period, too, and in what manner, did this visitation take place? And by what channel, and when, did the contagions find their way into Europe? Whence originated the practice of inoculating or artificially communicating the small-pox virus? In what state was Europe, as it regards the small-pox, after inoculation had become general? In other words, has inoculation, upon the whole, proved a benefit or an injury to mankind? The discussion of the above points of inquiry, will bring us to the conclusion of Mr. Moore's first volume, and thus a way will be opened for considering the still more momentous question above propounded, Whether the Cow-Pox be a certain and safe preventive of Small-Pox?—a question which, as we shall see, involves in its determination the lives of between thirty-five and thirty-six thousands of individuals annually, in the British empire alone, and which, of course, must have a corresponding relation to the whole mass of society, at least in every part of the world where inoculation for small-pox has found an entrance, and where its present substitute, if proved to be efficient, and otherwise unobjectionable, may be had recourse to.

Against the supposition that the Grecian writers were acquainted with the small-pox, and that what are conceived to be accounts of other diseases, are, in fact, descriptions of this, Mr. Moore very pertinently, and, in our opinion, justly places the superiority of these writers, against the Arabians; and he then states, that even in the comparatively confused, and certainly far less accurate works of the Arabians, we meet with delineations of a disease, the nature of which cannot be for a moment disputed, but will be immediately recognised as small-pox, while none of the most careful and elaborate accounts of the ancient *classics* in medicine, convey any thing of this nature.

‘ Let any of the early writers on the small-pox, Isaac or Rhazes (Arabian authors) for example, be examined; it will be found, that they describe the breaking out of the eruption, its advancement to maturity, the different kinds of pustules, which spread over the whole body, mouth and throat: their occasioning scars in the skin, and sometimes opacities in the eyes. They also recommend a number of remedies, though quite inadequate, to smooth the skin and to clear

the eyes of opaque spots: an account like this cannot be misunderstood; but it is fruitless to examine the Grecian [or early Roman] authors for any thing that is at all similar. Erysipelas, erythema, lepra, herpes, and scrophula, are fully described by them: pimples, vesicles, and pustules are also spoken of; but there is no account of a distemper clearly characterized, like the small-pox, by the Arabians, though they were far inferior writers to Celsus, Galen, or Arctæus. There is also another disease (syphilis) which it is pretended that these accomplished physicians had seen and described; though the hints are so obscure as to be comprehended only by a few, and to be of use to nobody. But these immortal authors require no defence. Their most useful and conspicuous works completely refute all such accusations.'

Taking then for granted, what indeed we have ourselves already assumed, that small-pox was unknown to the ancients, and that our first accounts of it are to be met with in the writings of the Arabians, the question immediately to be considered is, Did the distemper originate in this part of the world, or was it imported? The first supposition has its advocates; but, besides that this notion is irreconcilable with other facts, it is not easy to conceive the spontaneous origin of a disease, at a given time, from alleged sources, when such sources must have been in existence and consequently in operation from the origin of time. 'The putrid waters of the Nile', to which the malady in question has been attributed, would, as Mr. Moore very properly remarks, if at all equal to the production of the distempers, have engendered it thousands of years previously to its actual appearance. Dismissing then from our minds, the notion of Egypt having been the *nidus*, so to say, of small-pox, let us pursue our Author in his researches as to the *quo modo* and time of its introduction into Arabia. The Chinese, it is well known, lay claim to traditionary records, which, as to their date, set all belief at defiance; but there are several historical works handed down to us by the earliest Christian Missionaries into the East, which make it more than probable, that the small-pox, and, as we shall afterwards see, even inoculation itself were known in China long before they existed in Arabia and Europe.

" There is a memoir upon this disease in the collection written by the Missionaries at Pekin\*; the substance of which is extracted from Chinese Medical Books, and especially from a work published by the imperial College of Medicine, for the instruction of the Physicians of the Empire. This book entitled, Teou-tchin-fa, or a Treatise from the heart on small-pox; which states that this disease was known in the very early ages, and did not appear till the dynasty of Tcheou,

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\* Mémoires concernant l'Histoire, les Sciences, &c. des Chinoises, par les Missionnaires de Pekin. Tom. IV. p. 392.

which was about 1122 years before Christ. The Chinese name for the malady, is a singular one, Tai-tou, or venom from the Mother's breast; and a description is given of the fever, the eruption of pustules, their increase, suppuration, flattening, and crusting.

By some of the Missionaries, we are also told, that the Chinese worship a Deity, under the notion of his having a special control over the small-pox, which it is remarked by Mr. Moore, 'is a strong confirmation of the antiquity of that malady in China.' That the virus was long known also in Hindostan prior to its existence in Arabia, seems to be sufficiently authenticated by some historical records, the authority of which is indisputable; and our Author infers its ready communication from China to Japan, by the vicinity of the two countries. It does not appear very clearly made out, in what way the transfer of the distemper was first effected; that is, whether the Chinese, or the Indians, were the first to feel its power. Let the fact, however, be admitted, that the disease was extremely prevalent in the East, from the earliest periods, and that the ancient writers of Greece had never seen it, a further question arises, How it happened that the infection did not extend into Persia, and thence into Greece, long before the time of Hippocrates. It is well known to every one who is at all acquainted with history, that the communication between these parts of the world commenced, so to say, from the west, and pursued its course eastwardly. It was, moreover, not by irruption, but by invasion, that the Western Conquerors established a footing in the eastern countries; and of the invaders who were attacked by the diseases of the countries which they successively laid waste, comparatively very few returned to their native homes, and these probably free from any disorder at the time. It is natural enough to suppose, that the infected would be left behind by the returning victors, and the distances between the countries in question would be likely to destroy any seeds of contagion that might have been sown among the Persian and Grecian armies. As it regards the commercial intercourse that was eventually established between the western and oriental nations, the distance and difficulty of the journey at these early periods, either by land or sea, were so considerable, as to afford a probable explanation of the assumed exemption.

'We may safely conjecture, that no person known to be infected with small-pox would be suffered to join a Caravan, and if from accident that ever occurred, there can be little doubt that the infected would be abandoned to their destiny. The horror entertained of the small-pox, would also excite attention, not to admit the infected into ships which in the earlier ages were small in size, requiring but few mariners to navigate them; while the tediousness of the coasting voyage gave ample time for the extinction of infection.

The ships of King Solomon were three years in accomplishing their voyage to Tarshish and Ophir, which some have believed to be ports on the Coast of Hindostan, though it appears to be established by late authors (Robertson and Bruce) that these towns were situated on the Southern Coast of Africa.

When, after the lapse of some time, commercial intercourse was attended with greater facilities, and when the Persians had been at length induced to overcome their original reluctance to maritime undertakings, and to use the advantages afforded them by their vicinity to India, the danger of importing the contagious poisons became proportionately increased, 'and as ships coming from India, both in their passage to the Persian Gulph, and to the Red Sea, frequently touched at the Arabian ports, that country was peculiarly exposed, and there accordingly it was first observed.'

Having thus at length found its way into Arabia, at a period propitious for its propagation, that is, when the fanatic and frantic followers of Mahomet were about to extend their conquest far and wide, the small-pox, as may be easily conceived, accompanied every where the track of these ravagers; spread itself not only over the southern provinces of Egypt, but also on the other side through Persia and Syria. It was still however prevented from entering Europe by this course, in consequence of the successful opposition to the Saracens made by Constantinople. The siege of this city being raised, the Mahometan empire was bounded by the Hellespont, 'and that entrance for the small-pox into Europe was barred up.' Thus, it was not until the commencement of the eighth century, when the Moors and the Saracens invaded first Spain, and afterwards Sicily and Italy, that Europe was visited with this dreadful plague, which, aided by that intercourse of nations and people which the progress of civilization insures, diffused itself by degrees through the different divisions of the European Continent, entered the British Islands, according to the testimony of the best writers, about the ninth or tenth Century, and lastly, made its way into America by the Conquerors of Mexico, and soon 'extended itself over that hemisphere also.'

What we have hitherto advanced, refers altogether to the malady of small-pox, as being engendered and propagated in the natural way; and in this account of the origin and progress of the contagion we have followed Mr. Moore, since we conceive that whatever difficulties may attend the suggestions of our Author, as to European immunity for so long a period, there is certainly no other more satisfactory way of accounting for what appears to us to be a sufficiently established fact, that the Greek and Roman physicians of antiquity, never saw the disease.

Our next head of inquiry, is concerning the practice of inoculating, or artificially communicating the disease.

To the discovery of inoculation, medical science cannot prefer any claim. Into Britain the practice was first imported from Constantinople, and it has therefore been called by some the Byzantine operation. It was not however, in this part of the world, that the suggestion of thus communicating the virus of small pox, was made and acted upon. 'According to medical authorities 'in China, the custom of sowing the small-pox, which is in some 'degree analagous to inoculation, had long been in use.' In the "*Memoires concernant l'Histoire, les Sciences, &c. des Chinoises,*" (a work above referred to,) we are told, 'that the practice was 'invented in the tenth century, and there is a tradition that it 'began as early as the Dynasty of Song, which was in the year 'of Christ 590.'" The mode, it is said, in which the communication of the malady was first made, was, by taking a few dried crusts of small pox, as if they were seeds, and planting them in the nose; 'a bit of musk was added in order to correct 'the virulence of the poison, and perhaps to perfume the crusts, 'and the whole was wrapped in a bit of cotton to prevent its 'falling out of the nostril.' Respecting the manner in which inoculation was practised in Hindostan, our Author extracts the following account, from a work entitled, '*On the Manner of 'inoculating in the East Indies, by Holwell;*' which work was published in London in 1767.

'In Hindostan, if tradition may be relied on, inoculation has been practised from remote antiquity. This practice was in the hands of a particular tribe of Bramins, who were delegated from various religious colleges, and who travelled through the provinces for that purpose. The natives were strictly enjoined to abstain during a month preparatory to the operation, from milk and butter, and when the Arabians and Portuguese appeared in that country, they were prohibited from taking animal food also. Men were commonly inoculated on the arm, but the girls not liking to have their arms disfigured chose that it should be done low on the shoulders. But whatever part was fixed upon was well rubbed with a piece of cloth, which afterwards became a perquisite of the Bramin: he then made a few slight scratches on the skin, and took a little bit of cotton which had been soaked the preceding year in variolous matter, moistened it with a drop or two of the holy water of the Ganges, and bound it upon the punctures. During the whole of this ceremony the Bramin always preserved a solemn countenance, and recited the prayer appointed in the Attharva Veda to propitiate the Goddess who superintends the Small-Pox. The Bramin then gave his instructions, which were religiously observed. In six hours the bandage was to be taken off, and the pledget to be allowed to drop spontaneously. Early the next morning cold water was to be poured on the patient's head and shoulders, and this was to be repeated till the fever came on.

The ablution was then to be omitted; but as soon as the eruption appeared, it was to be resumed and persevered in every morning and evening till the crusts came off. Whenever the pustules should begin to change their colour, they were all to be opened with a fine pointed thorn. Confinement to the house was absolutely forbidden. The inoculated were freely to be exposed to every air that blew; but when the fever was on them, they were sometimes permitted to lie on a mat at the door. Their regimen was to consist of the most refrigerating productions of the climate, as plantains, water melons, their gruel made of rice or poppy seeds, cold water and rice.'

We are informed by Shaw, and other oriental travellers, that inoculation had long been practised in Persia, Armenia, Georgia, and Greece, without its origin having been known; but in the opinion of many, the Arabians were the first who employed it; and it is a remarkable fact, that the practice had made its way from the East, along the coast of Africa into Europe, and had even been adopted in parts of this island, especially in Wales and in Scotland, where being used only by the common people, it was vulgarly called *buying* the small-pox. Still, however, the faculty of medicine either remained totally ignorant of the subject, or indolently disinclined to investigate its claims to attention, until, in the year, 1703, the great success of inoculation first attracted the notice Dr. Emanuel Timoni, a Greek, who had graduated at Oxford, and was now residing in Constantinople, his native city. This physician corresponded with Dr. Woodward in Britain, and wrote an account of the new mode of preventing the dangers of small-pox. This account was published in the *Philosophical Transactions* of 1714—16. In 1715 a Mr. Kennedy, an English surgeon, who had visited Constantinople, wrote a pamphlet on the practice of what he calls ingrafting the small-pox. These several incidents failed, however, to excite interest on the part of the profession, until it happened that Lady Mary Wortley Montague, 'then blooming in health and beauty,' accompanied her husband, as ambassador to the Ottoman Court, and was struck with observing that in Constantinople there was a general ingrafting of children with the small-pox, by a set of old women, which took place every autumn; and that the disease thus communicated, was, in the majority of instances, extremely mild, so much so, that she had witnessed no single instance of death from it. In consequence of this observation, Lady W. courageously determined upon the ingraftment of her own son, which in every way so entirely succeeded, that upon her return to England she determined to subject her daughter to the same process; a determination which was put into effect, and which again completely answered her hopes. Still, however, the medical men of the time, shewed a disinclination to adopt the practice; until two princesses of the Royal Household were

subjected to the operation, and in these instances also the communicated disease proved mild and benignant. The progress of inoculation was nevertheless exceedingly slow; to medical were now added moral and religious objections against the project. It was denounced, both by writers and preachers, as interfering with the ordinances of Providence, and proclaimed to be sinful, even allowing it to be efficient, which was all along doubted. So great and so successful was the outcry against the new method of imparting small-pox, that we are told, in spite of the writings and recommendations of some able physicians, and in defiance of the example even of the Court, the practice, instead of becoming popular, declined to such a degree, that from the year 1730 to 1740, it was almost disused in England. Indeed throughout Europe the plan was almost entirely relinquished, 'and there seemed little reason to imagine it would be revived,'

'when in this dormant state news was brought that multitudes of Indians in South America had been inoculated with much success by Carmelite Friars, as the Asiatics had been by the Greek old women. A physician and surgeon also began in the year 1738 to inoculate in South Carolina, and only lost eight persons out of eight hundred. But a planter inoculated three hundred persons without the loss of one. For it is singular that in those days all inoculations performed by private gentlemen, monks, and old women, were uniformly successful: and empirics afterwards were equally fortunate; none lost patients from inoculation excepting the regular members of the faculty.'

This statement reminds us of a well authenticated occurrence which happened in Sussex, a few years since, and which, though a little from the purpose of the present paper, we shall be excused for relating. A party of children 'just let loose from school,' were playing about the fields, and one of them suggested the *game of inoculation*. Accordingly, a thorn was taken from the hedge, and carried to one of the neighbouring children, who was under inoculation for small-pox. With this thorn, the little self-constituted inoculator punctured one of the child's pustules, carried the infected instrument to his playmates, pierced all their arms in succession, and every recipient went through the disease in a mild and favourable manner.

The practice of inoculation thus having become so general, and having proved so successful in America, a new sensation came now to be excited in Britain, and in the year 1746, the small-pox hospital was erected in St. Pancras.

In 1754, the question of inoculation was taken up by the London College of Physicians; and this learned body stated, by the medium of one of their annual orators, 'that experience had refuted the arguments which had been urged against this practice, which was now held in greater esteem, and was more

‘ extensively employed by the English than ever ; and the  
 ‘ College considered it highly beneficial to mankind ; *atque*  
 ‘ *humano generi valde salutarem esse se existimare.*’ In-  
 oculation even now, however, made but comparatively tardy  
 progress, being confined mainly to the families of the nobility and  
 gentry, until the celebrated inoculator Sutton began to operate  
 a most extensive influence upon its success and advancement.

‘ The circumstances (says Mr. Moore) which attended the  
 progress of inoculation through Great Britain are not flattering to the  
 philosophical character of the nation.’ ‘ ’Twas first rumoured as a  
 practice followed by some poor old Turkish and Arabian women.  
 A lady of quality then introduced it into the Royal Family, and  
 among the higher circles of England, and now it will be shewn that it  
 finally acquired popularity by the artifices of an empiric. For  
 Daniel Sutton, with his secret nostrums, propagated inoculation more  
 in half a dozen years, than both the faculty of medicine and surgery,  
 with the aid of the Church, and the example of the Court, had been  
 able to do in half a century.—It appears however that the Suttons,  
 father and son, although they most materially improved the practice, in  
 fact invented nothing. Sydenham had discovered the great utility of  
 cold air in small-pox, and of allowing his patients to drink cold water,  
 but he did not venture to deviate so much from ordinary rules as to  
 prescribe purgatives. He on the contrary was profuse in exhibiting  
 opiates.”—“ Subsequent physicians had ascertained that great bene-  
 fit arose from opening medicines, and particularly from mercurial  
 purges ; but in conformity with old theories they at the same time  
 confined their patients to bed, covered them warmly, and promoted  
 perspiration. But Daniel Sutton had the sagacity to extract what  
 was beneficial in both these plans, and to reject what was injurious, for  
 he exposed his patients to the air, directed for them cooling drinks and  
 diet, and prescribed purging and refrigerating medicines, by which  
 combination the treatment was rendered consistent. This system seems  
 not to have been the result of deep study, for Sutton was no great  
 reader, and his plan was repugnant to received theories. But every  
 English medical man knew Sydenham’s practice, and Lady Mary  
 Wortley Montague had written that the Turkish children were suf-  
 fered to play about in the open air during the variolous eruption.  
 Almost every modern essay at that time likewise recommended pur-  
 gatives, and Sutton only made choice of the prescription which was  
 still in vogue.”

Inoculation thus improved, now made rapid and triumphant  
 progress. But Sutton’s plan of permitting the inoculated to run  
 about indiscriminately, could not fail to sow the seeds of the  
 disease more profusely, and to multiply to a considerable  
 number the chances of small-pox infection among those who  
 from apprehension, prejudice, or principle, still held out against  
 the artificial mode of its reception. The increased prevalence and  
 the extraordinary success of inoculation, as now practised, soon  
 excited the attention of the Continent, and the practice at length,

having encountered and pretty nearly vanquished every discription of opponents, became almost universal.

‘ Spain, however, which is so much behind the rest of Europe in all mental acquirements, benefited on this occasion by its sluggishness. One surgeon introduced the practice into the town of Jadrique in Andalusia, where it was continued during forty two years without extending beyond that district. In the year 1772, Dr. Don Miguel Guzman made the exertion of coming to London, to collect some information on the subject: When he returned to Madrid he was encouraged by the Court, and practised upon a few of the nobility. Some inoculations were also effected in a few trading cities which had communication with England. But these efforts were of short duration, and from the distinguished inaction of the Spaniards, inoculation was soon relinquished; *and no other country has suffered so little from small-pox.*”

The fact indeed is indisputable, that the mortality from small pox progressively increased with the improvement and progress of inoculation. During the last thirty years of the last century, in spite of the meliorated treatment both of the natural and artificially-acquired distemper, deaths from this source had augmented by ten to one; and the result of careful calculations on this head instituted by Sir Gilbert Blane and Dr. Lettsome made the average numbers annually falling victims to small-pox in the British Islands, to be between 35 and 36,000

‘ But this immense and increasing consumption of human lives (says Mr. Moore) was not the sole evil produced by this distemper; for a considerable portion of the survivors were pitted and disfigured; some lost one of their eyes, a few became totally blind, and others had their constitution impaired, and predisposed to a variety of complaints, which were productive of future distress and sometimes of death. These additional calamities cannot be reduced to calculation, but as the mortality from small-pox was continually on the increase, these concomitant evils must have been so likewise.’

Such, then, was the state of things, when the proposed substitute for small-pox preferred its claims to professional and popular notice. And what are these claims? Such, if they can be substantiated, as bid defiance, in the way of comparison, to every other project and scheme that has ever been invented or proposed for the physical improvement of society. Vaccination does no less than promise the overthrow and final extinction of the greatest evil that ever afflicted the human race; and we are now candidly called upon to inquire, whether these magnificent promises are likely to be eventually fulfilled. In canvassing the pretensions of vaccination, as a substitute for small-pox inoculation, it will be right, in the first place, briefly to trace its origin, and describe its early progress. Scarcely is it necessary to mention the name of Jenner, as the individual with whom decidedly originated the first fair avowal of the proposed scheme

of prevention. This gentleman, while practising surgery in a district of Gloucestershire, was surprised to find that some individuals, whom he inoculated for small-pox, refused every attempt that was made to impregnate their frames with the virus. Upon a further investigation of this striking fact, he found that those individuals, in whom the immunity existed, had previously contracted a disease, when they had chapped hands by the act of milking cows, that had a particular kind of eruption on their teats.

‘It appeared (says Jenner) that this disease had been known among the dairy maids from time immemorial, and that a vague opinion prevailed that it was a preventive of small-pox. This opinion, I found, was comparatively new among them; for all the old farmers declared they had no such ideas in their early days; a circumstance which seemed easily accounted for, from my knowing the common people were very rarely inoculated for the small-pox, till that practice was rendered general, by the improved methods introduced by the Suttons. So that working people in the dairies were very seldom put to the test of the preventive power of the cow-pox.’

In the prosecution of his inquiries, Dr. Jenner, however, soon found that the notion by no means universally obtained of the vaccine infection being a security against small-pox. The medical practitioners in the neighbourhood all expressed their unbelief on the subject; and besides these, there were many of the farmers and other people in the neighbourhood, who agreed in deciding upon its insecurity. Many individuals were indeed met with, who asserted that they had actually contracted the small-pox after having had the cow-pox. All this was certainly calculated to damp the ardour of Dr. Jenner; and so it did; but he was engaged in too momentous an inquiry, to abandon it very readily; and he was soon very well pleased to ascertain that the cow was subject to a variety of eruptions on the teat, each of which produced eruptions on the milker's hands, but the several eruptions were not all security against the small-pox infection. This very important discovery appeared to be the removal of one great obstacle to the research in question, and Dr. Jenner was the first person who made any distinction of kind between these eruptive diseases on the teat of the cow. But our experimenter was again mortified to find, that even among those who had contracted the genuine virus, some were subsequently subject to the small-pox contagion, and this difference of susceptibility was even observed among individuals, who had actually been infected by the same animal. The perseverance of Dr. Jenner was now indeed put to a powerful test, and it may very easily be admitted, that few would have thought of continuing the research, after this seemingly insurmountable obstacle to success. Dr. Jenner, however, still persisted. It occurred to him that the specific qualities of the virus might vary with the progres-

sive changes it underwent, after being secreted, and one may easily form some estimate of the satisfaction with which he found his conjecture realized by experiment. Thus was the second great impediment removed; since it was ascertained by repeated trials, that the true preventive cow-pox was only capable of being produced by the matter in its earlier stages, and that when it had become subject to certain decompositions, it had no further power of engendering the real disease, than the spurious eruptions of which we have just spoken. With these exceptions, Dr. Jenner found that the immunity from the variolous disease, occasioned by the vaccine infection, was for life; at least individuals were exposed, without effect, to the former, after the lapse of fifteen, twenty-seven, and even fifty years, from the latter infection. During this very curious investigation, it occurred to Dr. Jenner, that the preventive which he had discovered, might be propagated in the manner of small-pox inoculation. This suggestion was publicly proposed and acted up to; a general interest became excited to investigate the grounds upon which it was made, and thus grew out of the whole this most interesting question—Is vaccination an actual and safe security against small-pox?

To the discussion of this question we should now immediately proceed; but as it is a possible case that the alleged security against the variolous infection might exist, and yet that the use of this preventive might be objectionable on other grounds than its want of safety, it may be proper to discuss, in the first instance, the minor charge which has been adduced against the practice of cow-pox inoculation.

The vaccine virus has been asserted by many of those gentlemen who have stood forward as opponents to its introduction into the body, to be a means of engendering foul and loathsome humours. Now, either for or against this objection, no appeal can, with propriety, be made to any thing but actual facts; or at least, if such facts oppose themselves to *à priori* conceits and prejudices, founded on the dislike to receiving any thing of an animal nature into the human body, they ought, in all fairness, to be abandoned as destitute of any real foundation. There is, however, one kind of reasoning which might, with more colour of justice, be brought to bear upon the question, namely, that founded upon the more or less mild or malignant nature of one or the other poison. The small-pox virus is allowed, on all hands, to excite more commotion in the system than the vaccine matter. Now, that which is the most powerful irritant, might *à priori* be imagined to be the most likely means of exciting into action and effect latent disorders of the constitution; and this indeed we believe to be verily the case. Scrophulous and other affections of children, have been developed by inoculation, much

more frequently and forcibly, according to our observation, than has been the case with vaccination. But what, as we have just said, is more to the purpose in favour of vaccination, when placed in competition with artificial small-pox, as it refers to the specific effects now alluded to of the one or the other, is, that we do actually find, by medical documents, instituted without any intended reference to the question now in dispute, that since vaccination has become generally practised, there has been, to say the very least, not the smallest increase in the number, or augmentation in the virulence, of that class of complaints which vaccination has been accused of engendering. The following is a statement of diseases, by a physician who enjoyed very extensive opportunities, both publicly and privately, of observing the condition of the metropolis, or at least of a very large district of it, as it relates especially to maladies of the skin; privately, we say, as well as publicly, since, as he gave a more than ordinary share of attention to cutaneous disorders, it is of course fair to infer that his practice in this branch of the profession, was proportionably above the ordinary routine of observation. In the year 1797, says Dr. Willan, before the publication of Dr. Jenner's inquiry, the total number of diseases, which came under my notice, were 1730: the number of chronic cutaneous eruptions, 85. In 1798, total number of diseases, 1664; chronic cutaneous eruptions, 82. In 1804, the proportions were found to be 1915—89. In 1805, 1974—94. Whoever will take the trouble to cast his eye over these proportions, will directly see that vaccination had added nothing to the mass of cutaneous malady, as scanned by the proverbially accurate and unprejudiced observations of the late Dr. Willan.

But it may give the negation of the charge against the cow-pow on this head more force still, if we extract the following account from Mr. Frye, Surgeon to the Gloucester Infirmary. This gentlemen states that 'a more healthy description of human beings does not exist, nor one more free from chronic cutaneous impurities, than that which suffers most from cow-pox, by reason of their being employed in dairies.' And further, 'the Gloucester Infirmary, one of the largest provincial Hospitals, is situated in a county in which accidental cow-pox has been prevalent from time immemorial; many hundreds among the labouring people have had the cow-pox since the establishment of that institution, and that more severely than is generally the case in artificial vaccination; and yet not a single patient has applied to the Infirmary in half a century for the relief of any disease local or constitutional, which he or she imputed or pretended to trace to the cow-pox. And let it be repeated and remembered, that the artificial in no respect

'differs from the accidental cow-pox, except in being generally less virulent.'

These facts and observations we conceive to be quite sufficient answers to the question, which we allow to be a natural and very important one—Does the cow-pox inoculation leave any bad humours behind it? And this is now the great problem that remains for investigation—Is vaccination as absolute a preventive of the natural small-pox, as variolous inoculation? When we admit that there are some reasons to doubt of this being the case, we shall hope to be absolved from any imputation of partiality, that may hitherto have appeared to characterize the present paper. It does, we confess, seem to us still problematical, whether the vaccinated stands precisely upon the same footing with the inoculated child, as to small-pox immunity. Should, however, the antivaccine reader take courage from this admission, and conceive that all we have hitherto advanced, has been for the purpose of antithetically as it were arguing for the inefficiency of the new practice; we must at once overthrow such anticipations, by explicitly stating it as our opinion, that should it be even *proved*—and this is very far from being the case—that the preventive efficacy of the vaccine virus, is in any measure less than the variolous, we think that its positive virtues have been evinced upon too large a scale to permit the possibility of comparative effect to have any weight.

'In making the estimate (says Mr. Moore) of the comparative failures of inoculation and vaccination, an error has been committed by comparing the results of the *primary* practice of vaccination, with those of the most improved state of variolous inoculation; forgetting that when the latter operation was introduced, failures of every kind were far more frequent than of late, and that even the deaths amounted in early practice to one in fifty. In like manner, vaccination on its first introduction, was sometimes so misconducted, that two children in a workhouse were actually destroyed by it; although, when skilfully practised, it is really less dangerous than opening a vein, or even cutting a corn. A multitude of lesser mistakes were then committed by the ablest men in the profession, who, deceived by analogy imitated too nearly the plan of the small-pox inoculation: and many were not sufficiently aware, either of the deterioration to which vaccine lymph is subject, or of the mischiefs which arise even when the lymph is pure from the vaccine process being interrupted or disturbed by violence or by disease.

'The number of failures (continues our Author) from all these sources of error, in early practice has been considerable. It is therefore too soon at present to compute and compare the number of cases in which small-pox has occurred after inoculation and vaccination.'

Now, convinced as we are ready to avow ourselves, of the merits of vaccination, we are nevertheless free to confess that

there appear to us to be two objectionable points in the extract which we have just made from Mr. Moore's volume. Failures, he says, of all kinds, were common in the early periods of inoculation, as they have been in the present early stages of vaccination. These failures, however, at least in the majority of cases, referred, we believe, rather to the management of the induced complaint, than to any preventive efficiency in the complaint itself. If deaths from inoculation were, when the practice was first established, one in fifty, it was not because natural small-pox succeeded to the artificial, and thus cut off its victims; but because an erroneous treatment was adopted of the patient after he had been subjected to the inoculating process. It does therefore, we confess, appear to us, a kind of *ruse de guerre* on the part of Mr. Moore, thus to confound the two questions of the comparative virulence of the two diseases, with their comparatively preventive power. But we have a still further objection to the practice of apologizing for cow-pox failures, by referring to the oversight and mistakes of early vaccinators, and that is, that while such an appeal may serve the particular purpose of the vaccine partisan, it is calculated to create unnecessary apprehensions, on the part of the relatives and friends of those children who have been subjected to the process, while it was practised in all this condition of alleged uncertainty.

Vaccination does not seem to us to have any thing to fear from the most open conduct on the part of its friends. Let the following extracts from Mr. Moore's book, which are registers and records of facts, have their due weight with such as have any doubts on the subject of the cow-pox matter being sufficiently efficacious to authorize their acquiescence in the practice, or to enable them to look with confident satisfaction upon such of their children as have been subjected to vaccine inoculation.

' In the year 1813, a Report was published by the imperial Institution of France, stating that 2,671,662 subjects had been properly vaccinated in France, of whom only *seven* cases had afterward taken the small-pox; and it was added that the well authenticated instances of persons taking the small-pox after variolous inoculation, are proportionably far more numerous.'

Mr. Moore very candidly admits, that the French medical reporters had not however sufficient grounds for this conclusion, especially as more of the vaccinated might afterwards contract the small-pox.

' In England (adds our Author) no registers have been kept of so vast a number; but the success of some charitable institutions proves that when vaccination is properly conducted, there will be very few failures. In the Foundling Hospital of London, this practice was introduced in the year 1801, and though the children are sometimes inten-

tionally exposed to the infection of small-pox, yet in sixteen years only one slight case has occurred in which a variolous eruption was suspected. In the York Military Asylum there has been the same success. The National Vaccine establishment was founded by Government in the year 1809; and in eight years to January 1817, there had been vaccinated by the surgeons of that institution in London and its vicinity, 34,369 persons. And although the small-pox had been constantly prevalent, yet at that period only four of the above number were known to have contracted the small-pox, which is about *one* in 8592 cases, and in those four the disease appeared in a mitigated form, and without danger\*. From these authenticated facts it is quite certain, (continues Mr. Moore) that failures of vaccination, when the process is regular, and the constitution fully influenced, are exceedingly uncommon; and as the vaccine and variolous infection coincide in so many points, it is perhaps safe to conclude, that the former will never fail to prevent the small-pox, except in those very rare and peculiar habits which are susceptible of contracting the small-pox oftener than once.'

This inference of Mr. Moore may be, and very probably is, a just one. But we repeat, that even allowing the possibility of a *grade* of difference between the preventive efficacy of the two inoculations, we contend that the facts simply of the case are, when viewed in an impartial manner, beyond all measure in favour of the vaccine practice. Against the suggestion, that genuine vaccination may perhaps only prove preventive of small-pox influence for a certain time, and that after this period the individual becomes less safe, we may adduce the Gloucestershire rustics, who have been shewn to be insusceptible of the small-pox, even after the lapse of fifty years, from their having been naturally vaccinated; and in reply to the suggestion of others, that although the natural cow-pox may secure against variolous influence for life, the artificial infection may be without this power, we think it fair to allege, that in both instances the virus is received into the system by a species of inoculation, and that therefore on the ground of analogy alone, we should infer, that if inoculated variola proves a preventive of the natural small-pox, the inoculated vaccine matter would be likely to display equally preventive efficacy with that which should be conceded to the matter less artificially introduced.

Upon the whole then, our conclusion is, after the most careful calculation and balancing of the pro and con of the argument, that vaccination ought to be thankfully seized hold of and

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\* The fact of the mild and mitigated forms in which small-pox subsequent to vaccination almost without exception appears, is not we think in general sufficiently insisted on. For our own parts we should have next to no apprehension as to the result, were we to see at this moment small-pox break out among the vaccinated children of our own families, or the families of our friends.

universally adopted, as a sufficiently safe preservative against one of the most noxious and fearful of all the maladies to which the human frame is incident, and that even the extinction of this pest might be fairly anticipated, could the public be brought to an unanimity of sentiment on this most interesting subject.

We extract the following hints from Mr. Moore, without committing ourselves to the approval of arbitrary and coercive measures on the part of Government, even in cases where such extensive good might be effected by the exercise of legislative authority. The extract forms the conclusion of Mr. Moore's volumes.

'In ancient Rome, parents possessed the barbarous power of inflicting death upon their children. British parents only claim that of inflicting on them a disease which kills a portion, *and spreads infection to those around*, that till lately destroyed one-tenth of the human race. Since we have lost the privilege of Roman parents, surely that of indirectly committing infanticide is not worth retaining. This is for the consideration of legislators, who, by a moderate exertion of those powers delegated to them for the public good, might in a very short time totally extinguish the small-pox. And when this shall have been effected, not only the Vaccine, by becoming useless will be neglected, but even this book, alas! upon the Vaccine will sink into oblivion. Perhaps, however, some fortunate tracts may be preserved on the dusty shelves of curious libraries, to unfold to future antiquaries, the honours, then hardly credible, of the variolous pestilence, and to reveal to them the discovery of Jenner; whose name, or, in strange tongues, a sound imitating his name, is now articulated through the world, in huts, houses, and palaces, as a household word.'

On the merits and demerits of Mr. Moore as an author, and as an arbitrator in the vaccine cause, our limits compel us to be brief. Considering the two volumes before us in the light of literary productions, we do not hesitate to say that the first is far more creditable to the writer than the second. A certain charm and interest pervaded, indeed, the *Treatise on Small-Pox* which we in vain look for in the *Essay on Dr. Jenner's* invaluable discovery. And what we consider still more remarkable is, that the volume on vaccination presents several instances of false taste, and even of faulty grammar, which could not have been expected from an individual so demonstrably erudite as is Mr. Moore. We notice these defects, not we hope in the spirit and temper of critical cavil, but from a feeling of respect for the talents and learning of the Author, and with a feeling of regret, that volumes, which in every way lay claim to a character far beyond the ephemeral productions of the day, should not have been made as perfect as it appears to have been in the power of the writer to render them. But we think it further our duty to point out one or two still

more objectionable features in the second of the volumes now under notice. Mr. Moore appears to us to have erred both in propriety and policy, by endeavouring to excite afresh, that spirit of animosity with which the vaccine cause was agitated in the earlier periods of the dispute. As an historian, it behoved him to be sure to particularize all the circumstances, by which the controversy was marked; but it ought to have been his constant endeavour to confine himself strictly and simply to the facts of the case, and not to impute motives or to sound charges of interested views against his opponents. To talk for instance of an individual starting up as an opponent of vaccination, because he was fretting in obscurity, and wanted wherewith to make himself noticed, is surely not the way to defend the cause he has espoused, or to silence the adversaries of that cause. The principal personage, too, who figures in the pages before us, as having been according to Mr. Moore's representation throughout, actuated by a principle of malignant hostility to Dr. Jenner, and desire to found his own reputation at the expense of others, is spoken of by our Author, in terms which, to say the best, argue a temporary forgetfulness of the common demands of courtesy. But on defects or rather blemishes like these, it is painful to enlarge, and we desist. Conscious we feel, that enough has been said by us in the course of the preceding pages, to convince the reader of its being our sincere opinion, that although there is much which is objectionable both in matter and manner, in especially the last of Mr. Moore's two volumes, the good is the preponderating quality of each, and both are highly worthy the attention, as well of the public, as of the medical profession.

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Art. V. *The Domestic Altar*; or a Six Weeks' Course of Morning and Evening Prayers for the Use of Families; to which are added a few on Particular Occasions. By the Rev. W. Smith, A. M. 8vo. Price 8s. 1817.

**P**RAYER is unquestionably the most sublime, and perhaps we might add, the most profitable religious duty in which we are permitted and invited to engage. The reasons of this are so obvious, its obligations so generally confessed, and the impulse to it so natural and so direct, that even heathens, unaided by revelation, have gone far in perceiving its propriety and its utility. The Stoics have said, "*Orabit sapiens ac vota faciet, bona à diis postulans.*"

If prayer, as a private exercise, is admitted to have its foundation as well in natural as in revealed principles, the propriety of it, as a social and family engagement, will not be long denied. 'How reasonable a thing is it that God should be honoured in that community which derives all its comforts

' from him. In a family there are mercies received from God  
 ' of which all the members are equal partakers. How fit and  
 ' becoming a thing is it then, that all the members should join  
 ' in acts of devout homage to their common protector and be-  
 ' nefactor. The assembling every day to worship the Supreme  
 ' Being has a tendency to produce the happiest effects in form-  
 ' ing the conduct of domestics. To recall the attention of a  
 ' family frequently to God, tends to impress the members of it  
 ' with an idea of his authority, and of their dependence upon  
 ' his providence. It holds forth religion to them as a duty  
 ' not of occasional, but daily obligation. The constant reading  
 ' of the Holy Scriptures, the frequent imploring of the pardon  
 ' of sin, and petitioning for grace to act aright towards God  
 ' and man, imperceptibly convey into their minds, a knowledge  
 ' of the duties which they owe to God, to themselves, and to  
 ' each other. Accordingly we find that when religious order  
 ' prevails in families, there a knowledge of right and wrong  
 ' obtain; and although evil passions occasionally discover them-  
 ' selves, we do not see their *unrestrained* violence: the good  
 ' effects of daily instruction and daily worship, are manifest in  
 ' the tempers and conduct of the domestics, amidst all their  
 ' imperfections.—If therefore we consult merely our own com-  
 ' fort, the best course we can pursue is to tread in the steps of  
 ' those godly men, whose houses were consecrated by the  
 ' daily performance of family worship. The comfort of families  
 ' is so effectually destroyed by careless, idle, unfaithful and dis-  
 ' solute servants, that a remedy for this serious and increasing  
 ' evil would be generally accounted a very great benefit to the  
 ' public. But there is reason to believe that no radical cure  
 ' will be obtained, till the almost exploded piety of former times  
 ' is revived, by making religious instruction and worship a  
 ' stated observance in our houses.' *Bean's Family Worship*.

If the duty of Prayer consists essentially in a devout ac-  
 knowledgement of dependence on the Supreme Being, in ear-  
 nest supplication for his "mercy to pardon and grace to help,"  
 in the return of cordial thanksgiving for benefits already re-  
 ceived, then, the obligations which lead to such an exercise,  
 arise naturally out of our domestic circumstances, and are as  
 applicable to our family relations as to any other; and conse-  
 quently the duty becomes as imperative upon heads of families,  
 in their relative, as in their individual capacity. In perfect ac-  
 cordance with these remarks, it will be found from the historic  
 records of Scripture, that the patriarchal families were early  
 habituated to religious worship, and that among the many vir-  
 tues which distinguished the saints under the old dispensation,  
 their attention to the religious instruction of their families held  
 a conspicuous place, and is recorded by the Holy Spirit to their

Accession no.

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Author

Moore, J.

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Call no.

**INOCULATION**  
**VACCINATION**

