

The Project Gutenberg eBook of An account of the manner of inoculating for the small  
pox in the East Indies, by J. Z. Holwell

This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at [www.gutenberg.org](http://www.gutenberg.org). If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: An account of the manner of inoculating for the small pox in the East Indies

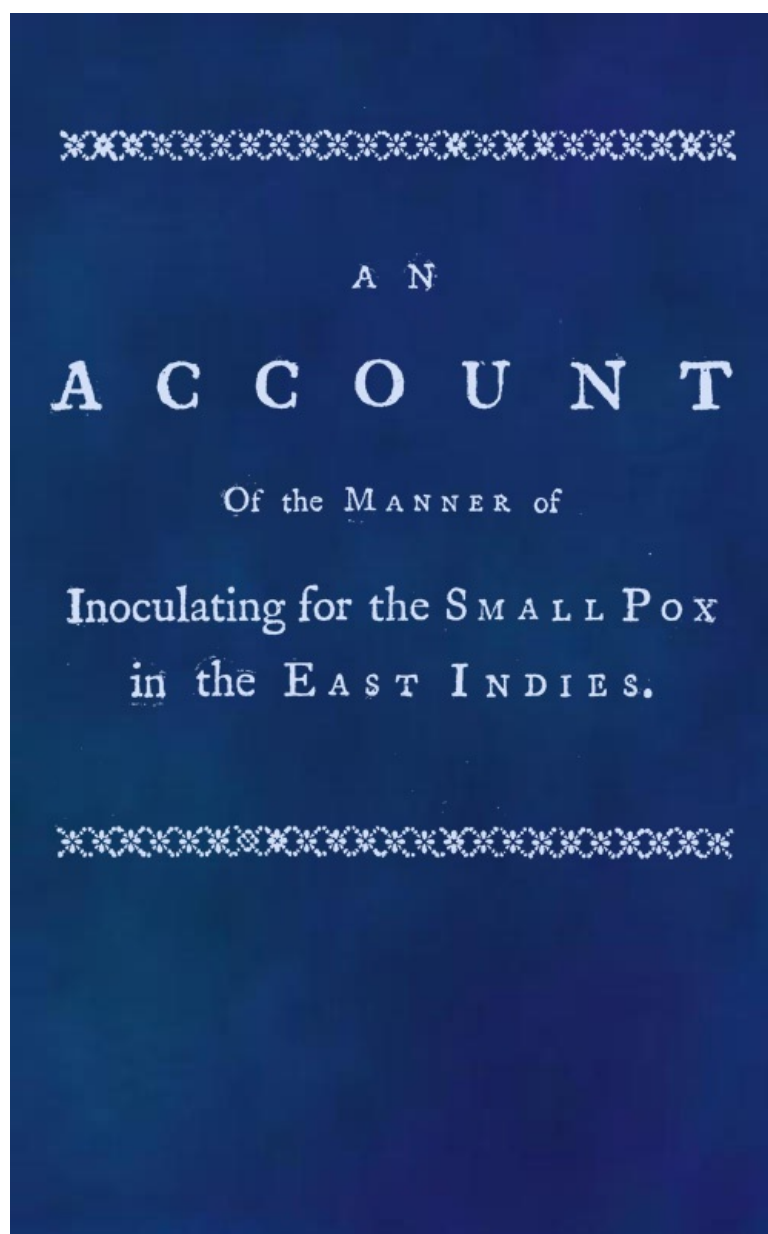
Author: J. Z. Holwell

Release date: August 4, 2016 [EBook #52722]

Language: English

Credits: Produced by readbueno and the Online Distributed Proofreading Team at <http://www.pgdp.net> (This file was produced from images generously made available by The Internet Archive)

\*\*\* START OF THE PROJECT GUTENBERG EBOOK AN ACCOUNT OF THE MANNER OF  
INOCULATING FOR THE SMALL POX IN THE EAST INDIES \*\*\*



This cover was produced by the Transcriber  
and is in the public domain.

# ACCOUNT

Of the MANNER of  
Inoculating for the SMALL POX  
in the EAST INDIES.

[Price One Shilling.]

AN  
ACCOUNT  
Of the MANNER of  
Inoculating for the SMALL POX  
in the EAST INDIES.

WITH SOME  
OBSERVATIONS

ON

The PRACTICE and MODE of Treating  
that DISEASE in those Parts.

Inscribed to the Learned

The PRESIDENT, and MEMBERS of the  
COLLEGE of PHYSICIANS in LONDON.

By J. Z. HOLWELL, F. R. S.

LONDON:

Printed for T. BECKET, and P. A. DE HONDT,  
near Surry Street, in the Strand.

MDCCLXVII.

## ACCOUNT

Of the MANNER of

Inoculating for the SMALL POX  
in the EAST INDIES.

On perusing lately some tracts upon the subject of Inoculation, I determined to put together a few notes relative to the manner of Inoculation, practised, time out of mind, by *the Bramins of Indostan*; to this I was chiefly instigated, by considering the great benefit that may arise to mankind from a knowledge of this foreign method, which so remarkably tends to support the practice now generally followed with such marvellous success.

By Dr. SCHULTZ's account of Inoculation, page 65, note (9), it should seem, that the world has been already obliged with a performance of the kind which I have now undertaken, by a Dutch author, a friend of Mr. CHAIS; but as this is all I know of that work, it shall not discourage my proceeding with my own, the more especially as that performance is in a foreign language, and may not much benefit my country.

As many years are elapsed, since a theme of this nature has employed my thoughts and attention; I will hope for every favorable indulgence from the candor of that learned and respectable Body, to whose judgment I most readily submit the following history and observations.

It has been lately remarked by a learned and judicious ornament of the College of Physicians, "That the Art of Medicine has, in several instances, been greatly indebted to Accident; and that some of its most valuable improvements have been received from the hands of Ignorance and Barbarism; a Truth, remarkably exemplified in the practice of INOCULATION of the SMALL POX."—However just *in general* this learned Gentleman's remark may be, he will, as to his *particular reference*, be surprized to find, that nearly the same salutary method, now so happily pursued in England, (howsoever it has been seemingly blundered upon) has the sanction of remotest antiquity; but indeed with some variations, that will rather illustrate the propriety of the present Practice, and promote the obvious very laudable intention, with which that Gentleman published his late Essay on this interesting subject.

The general state of this distemper in the Provinces of Bengall (to which these observations are limited) is such, that for five and sometimes six years together, it passes in a manner unnoticed, from the few that are attacked with it; for the complexion of it in these years is generally so benign as to cause very little alarm; and notwithstanding the multitudes that are every year inoculated in the usual season, it adds no malignity to the disease taken in the natural way, nor spreads the infection, as is commonly imagined in Europe. Every seventh year, with scarcely any exception, the Small Pox rages epidemically in these Provinces, during the months of March, April, and May; and sometimes until the annual returning rains, about the middle of June, put a stop to its fury. On these periodical returns (to four of which I have been a witness) the disease proves universally of the most malignant confluent kind, from which few either of the natives or Europeans escaped, that took the distemper in the natural way, commonly dying on the first, second, or third day of the eruption; and yet, Inoculation in the East, has *natural fears* and *superstitious prejudices* to encounter, as well as in the West. The usual resource of the Europeans is to fly from the settlements, and retire into the country before the return of the Small Pox season.

It is singularly worth remarking, that there hardly ever was an instance of a native of the Island of St. Helena, man or woman, that was seized with this distemper in the natural way (when resident in Bengall,) who escaped with life; altho' it is a known fact the disease never yet got footing upon that Island. Clearly to account for this, is not an easy matter; I will venture, however, a few conjectures on the occasion. These people rarely migrate from the Island before they arrive at years of maturity; the basis of their diet there, from their infancy, is a root called *yam*, of a *skranshee kind*, a term they use to express its acrid, unwholesome qualities, which frequently subjects them to epidemic and dangerous dysenteries, and sometimes epidemic putrid sore throats. The blood thus charged, must necessarily constitute a most unlucky habit of body to combat with any acute inflammatory disease whatsoever, but more especially of the kind under consideration (so frequently attended with a high degree of putrefaction,) always fatal to these people, even in those seasons when the disease is mild and favorable to others: But indeed it is a general remark, that a St. Helenian rarely escapes when seized with the Small Pox in whatsoever part of the Globe he happens to reside. The same has been observed of the African Coffries, altho' I know not what cause to ascribe it to, unless we suppose one similar to that above mentioned, to wit, some fundamental aggravating principle in their chief diet. Be this as it may, that these two portions of the human species seem peculiarly marked as victims to this disease, is a fact indisputable, let the cause be what it will.

Having thus far premised touching the general state of this distemper in the Provinces of Bengall, (which I believe is nearly applicable to every other part of the Empire) I will only add a few words respecting the duration of it in Indostan, and then hasten to the principal intention of this short Essay.

The learned Doctor FREIND in his History of Physic from the time of GALEN, has this remarkable

7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000

passage: "By the earliest account we have of the Small Pox, we find it first appeared in *Ægypt* in the time of *Omar*, successor to *Mahomet*: though no doubt, since the *Greeks* knew nothing of it, the *Arabians* brought it from their own country, and might derive it originally from some of the more distant regions of the *East*." The sagacity of this conclusion, later times and discoveries has fully verified; at the period in which the *Aughtorrah Bhade* scriptures of the Gentoos were promulged, (according to the Bramins three thousand three hundred and sixty six years ago;) this disease must then have been of some standing, as those scriptures institute a form of divine worship, with *Poojahs*, or offerings, to a female Divinity, stiled by the common people *Gootee ka Tagooran* (the Goddess of Spots,) whose aid and patronage are invoked during the continuance of the Small Pox season, also in the Measles, and every cutaneous Eruption that is in the smallest degree epidemical. Due weight being given to this circumstance, the long duration of the Disease in Indostan will manifestly appear; and we may add to the sagacious conjecture just quoted, that not only the *Arabians*, but the *Ægyptians* also, by their early commerce with India through the Red Sea and Gulf of Mocha, most certainly derived originally the Small Pox (and probably the Measles likewise) from that country, where those diseases have reigned from the earliest known times.

Inoculation is performed in Indostan by a particular tribe of Bramins, who are delegated annually for this service from the different Colleges of Bindoobund, Eleabas, Banaras, &c. over all the distant Provinces; dividing themselves into small parties, of three or four each, they plan their travelling circuits in such wise as to arrive at the places of their respective destination some weeks before the usual return of the disease; they arrive commonly in the Bengali Provinces early in February, although they some years do not begin to inoculate before March, deferring it until they consider the state of the season, and acquire information of the state of the distemper.

The year in Bengall can properly be divided into three seasons only, of four months each; from the middle of June to the middle of October is the rainy season; from the middle of October to the middle of February is the cold season, which never rises to a degree of freezing; the whole globe does not yield a more desirable or delightful climate than Bengall during these four months; but the freedom of living, which the Europeans fall into at this season, sow the seeds of those diseases which spring up in all the succeeding months of the year. From the middle of February to the middle of June is the hot, windy, dry season; during which no rain falls but what comes in storms of fierce winds and tremendous thunder and lightning, called North Westers, the quarter they always rise from; and the Provinces, particularly Bengall, is more or less healthy, in proportion to the number of these storms; when in this season the air is frequently agitated and refreshed with these North Westers, accompanied with rain, (for they are often dry,) and the inhabitants do not expose themselves to the intense sun and violent hot winds that blow in March, April, and May, it is generally found to be the most healthy of the year; otherwise (as in the year 1744, when we had no rain from the twentieth of October to the twentieth of June) this season produces high inflammatory disorders of the liver, breast, pleura, and intestines, with dysenteries, and a deplorable species of the Small-Pox.

From the middle of July (the second month of the rainy season) there is little or no wind, a stagnation of air follows, and during the remainder of this month, and the months of August and September, the atmosphere is loaded with suffocating heat and moisture, the parents of putrefaction; and nervous putrid fevers (approaching sometimes to pestilential) take the lead, and mark the dangerous season; from these fevers the Natives frequently recover, but the Europeans seldom, especially if they in the preceding May and June indulged too freely in those two *bewitching delicacies*, *Mangos* and *Mango Fish*, indiscriminately with the free use of *flesh* and *wine*; for these (*all together*) load the whole habit with impurities, and never fail of yielding Death a plentiful harvest, in the three last months of this putrid season: If any are seized with the Small-Pox in these months, it is ever of the most malignant kind, and usually fatal. It will not, I hope, be deemed a useless digression, if I bestow a few remarks on the nature of this *Bengall Fever*.

A day or two before the seizure, the patient finds his appetite fall off, feels an unaccountable lassitude, and failure in the natural moisture of the mouth, is low spirited without any apparent cause, and cannot sleep as usual; but having no acute complaint whatsoever, nor preternatural heat, that should indicate a fever, he attributes the whole to the heat of the season, is satisfied with fasting and confinement to his house, or goes abroad amongst his friends to "shake it off," as the common phrase is; but on the third day, finding every one of these symptoms increase, he begins to think something is really the matter with him, and the Physician is called in: thus the only period is lost wherein art might be of any use; for in the course of eighteen years practice I never knew an instance of recovery from this genuine fever, where the first three days had elapsed without assistance, and the patient in this case dyed on the fifth or seventh day. In some, this fever is attended with a full, equal, undisturbed pulse, but obviously greatly *oppressed*; in others, with a low and *depressed* one, but equal and undisturbed also, and yet both required the same treatment. New comers in the profession, have been often fatally misled by the full pulse, which they thought indicated the loss of blood; they followed the suggestion, the pulse suddenly fell, and when that happens from this cause, the art of man can never raise it again, the patient dies on the fifth or seventh day; and the consequence was exactly the same, if Nature, being overloaded, attempted to free herself of part of the burden by a natural hæmorrhage, or by the intestines, on the second or third day, (which I have often seen) they proved equally fatal as the lancet. Until the close of the sixth day the skin and urine preserved a natural state; but if at this period of the fever the skin suddenly acquired an intense heat, and the urine grew crude and limpid, it was a sure presage of death on the seventh. The natural crisis of this fever, when attacked in the very beginning, and treated judiciously, was regularly on the eleventh day, and appeared in a multitude of small boils, chiefly upon the head, or in small watery bladders thrown out upon the surface of the skin, but in the greatest abundance on the breast, neck, throat, and forehead; both of these critical

appearances are constantly preceded, on the tenth day, by a copious sediment and separation in the urine. If by any inadvertent exposure to the cold air, these critical eruptions were struck in, the repelled matter instantly fell upon the brain, and convulsions and death followed in a few hours, and small purple spots remained in the places of the eruptions. Such is the *genuine putrid nervous fever of Bengall*, which never gave way properly to any treatment but that of blisters applied universally, supported by the strongest alexipharmics: sometimes I have seen the crisis (by unskilful management) spun out to the twenty-first day, but it has been ever imperfect, and the patient is harrassed with intermittents or diarrhœas, and commonly dies in the beginning of the cold season; but if he is of a strong constitution, he lingers on, in a dying way, until the month of February, which usually gives some turn in his favor, but his health is hardly ever re-established before the salutary *mango season*, which fruit, eaten with *milk*, proves an effectual and never-failing restorative. But to resume our subject.

14

The inhabitants of Bengall, knowing the usual time when the Inoculating Bramins annually return, observe strictly the regimen enjoined, whether they determine to be inoculated or not; this preparation consists only in abstaining for a month from fish, milk, and ghee, (a kind of butter made generally of buffalo's milk;) the prohibition of fish respects only the native Portuguese and Mahomedans, who abound in every Province of the Empire.

15

When the Bramins begin to Inoculate, they pass from house to house and operate at the door, refusing to inoculate any who have not, on a strict scrutiny, duly observed the preparatory course enjoined them. It is no uncommon thing for them to ask the Parents how many Pocks they chuse their Children should have: Vanity, we should think, urged a question on a matter seemingly so uncertain in the issue; but true it is, that they hardly ever exceed, or are deficient, in the number required.

They inoculate indifferently on any part, but if left to their choice, they prefer the outside of the arm, mid-way between the wrist and the elbow, for the males; and the same between the elbow and the shoulder for the females. Previous to the operation the Operator takes a piece of cloth in his hand, (which becomes his perquisite if the family is opulent,) and with it gives a dry friction upon the part intended for Inoculation, for the space of eight or ten minutes, then with a small instrument he wounds, by many slight touches, about the compass of a silver groat<sup>[1]</sup>, just making the smallest appearance of blood, then opening a linen double rag (which he always keeps in a cloth round his waist) takes from thence a small pledgit of cotton charged with the variolous matter, which he moistens with two or three drops of the *Ganges* water, and applies it to the wound, fixing it on with a slight bandage, and ordering it to remain on for six hours without being moved, then the bandage to be taken off, and the pledget to remain until it falls off itself; sometimes (but rarely) he squeezes a drop from the pledget, upon the part, before he applies it; from the time he begins the dry-friction, to the tying the knot of the bandage, he never ceases reciting some portions of the worship appointed, by the *Aughtorrah Bhade*, to be paid to the female Divinity before-mentioned, nor quits the most solemn countenance all the while. The cotton, which he preserves in a double callico rag, is saturated with matter from the inoculated pustules of the preceding year, for they never inoculate with fresh matter, nor with matter from the disease caught in the natural way, however distinct and mild the species. He then proceeds to give instructions for the treatment of the patient through the course of the process, which are most religiously observed; these are as follow:

16

17

He extends the prohibition of fish, milk, and ghee, for one month from the day of Inoculation; early on the morning succeeding the operation, four collons (an earthen pot containing about two gallons) of cold water are ordered to be thrown over the patient, from the head downwards, and to be repeated every morning and evening until the fever comes on, (which usually is about the close of the sixth day from the Inoculation,) then to desist until the appearance of the eruptions, (which commonly happens at the close of the third complete day from the commencement of the fever,) and then to pursue the cold bathing as before, through the course of the disease, and until the scabs of the pustules drop off. They are ordered to open all the pustules with a fine sharp pointed thorn, as soon as they begin to change their colour, and whilst the matter continues in a fluid state. Confinement to the house is absolutely forbid, and the inoculated are ordered to be exposed to every air that blows; and the utmost indulgence they are allowed when the fever comes on, is to be laid on a mat at the door; but, in fact, the eruptive fever is generally so inconsiderable and trifling, as very seldom to require this indulgence. Their regimen is ordered to consist of all the refrigerating things the climate and season produces, as plantains, sugar-canes, water-melons, rice, gruel made of white poppy-seeds, and cold water, or thin rice gruel for their ordinary drink. These instructions being given, and an injunction laid on the patients to make a thanksgiving *Poojah*, or Offering, to the Goddess on their recovery, the Operator takes his fee, which from the poor is a *pund of cowries*, equal to about a penny sterling, and goes on to another door, down one side of the street and up on the other, and is thus employed from morning until night, inoculating sometimes eight or ten in a house. The regimen they order, when they are called to attend the disease taken in the natural way, is uniformly the same. There usually begins to be a discharge from the scarification a day before the eruption, which continues through the disease, and sometimes after the scabs of the Pock fall off, and a few pustules generally appear round the edge of the wound; when these two circumstances appear only, without a single eruption on any other part of the body, the patient is deemed as secure from future infection, as if the eruption had been general.

19

20

When the before recited treatment of the Inoculated is strictly followed, it is next to a miracle to hear, that one in a million fails of receiving the infection, or of one that miscarries under it; of the multitudes I have seen inoculated in that country, the number of pustules have been seldom less than fifty, and hardly ever exceeded two hundred. Since, therefore, this practice of the East has

been followed without variation, and with uniform success from the remotest known times, it is but justice to conclude, it must have been originally founded on the basis of rational principles and experiment.

Although I was very early prejudiced in preference of the cool regimen and free admission of air, in the treatment of this disease, yet, on my arrival in Bengall, I thought the practice of the Bramins carried *both* to a bold, rash, and dangerous extreme; but a few years experience gave me full conviction of the propriety of their method: this influenced my practice, and the success was adequate; and I will venture to say, that every gentleman in the Profession who did not adopt the same mode, (making a necessary distinction and allowance between the constitutions of the Natives and Europeans,) have lost many a patient, which might otherwise have been saved; as I could prove in many instances, where I have been called in too late to be of any assistance. But to form a judgment of the propriety of this Eastern practice with more precision, it will be best to analyze it, from the period of the enjoined preparation, to the end of the process; as thereby an opportunity presents itself of displaying the principles on which the Bramins act, and by which they justify their singular method of practice.

It has been already said, that the preparative course consists only in abstaining from fish, milk, and ghee; respecting the first, it is known to be a viscid and inflammatory diet, tending to foul and obstruct the cutaneous glands and excretory ducts, and to create in the stomach and first passages a tough, slimy phlegm, highly injurious to the human constitution; as these are the generally supposed qualities of this diet, it seems forbid upon the justest grounds.

Touching milk, which is the basis (next to rice) of all the natives food, I confess I was surprized to find it one of the forbidden articles, until I was made acquainted with their reasoning on the subject. They say that milk becomes highly nutritious, not only from its natural qualities, but principally from its ready admission into the blood, and quick assimilation with it; and that it consequently is a warm heating diet, and must have a remote tendency to inflammation, whenever the blood is thrown into any preternatural ferment, and therefore, that milk is a food highly improper, at a season when the preternatural fermentation that produces the Small Pox ought to be feared, and guarded against by every person who knows himself liable to the disease, or determined to prepare himself for receiving it, either from nature or art. Upon this principle and reasoning it is, that their women, during the course of their periodical visitations, are strictly forbid, and religiously abstain from, the use of milk, lest it should, upon any accidental cold, dispose the uterus to inflammation and ulceration; and from the same apprehension, the use of it is as strictly prohibited during the flow of the lochia, and is avoided as so much poison; our European women, resident in India, have adopted the same precaution from experience of the effect, and will not, on any consideration, at those times, mix the smallest quantity with their tea, a lesson they derive from their Midwives, who are all natives, and generally are instructed in their calling by the Bramins, and other Practitioners in Physic.

Concerning the third interdicted article, they allege, that under *that* is implied a prohibition of all fat and oily substances, as their qualities are nearly similar with those of fish, and similar in their effects of fouling the first passages in a high degree above any other aliment that is taken into them; that they soon acquire an acrimony in the course of digestion, and convey the same into the blood and juices; these premises being granted, which I think can hardly be denied, there appears sufficient cause for prohibiting the use of the whole tribe; the more especially, as ghee and oil are the essential ingredients used in cooking their vegetable diet.

Thus far the system of practice pursued by the Bramins will, I imagine, appear rational enough, and well founded; but they have other reasons for particularly prohibiting the use of these three articles, which to some may appear purely speculative, if not chimerical. They lay it down as a *principle*, that the *immediate* (or instant) cause of the Small Pox exists in the mortal part of every human and *animal* form<sup>[2]</sup>; that the *mediate* (or second) *acting* cause, which stirs up the *first*, and throws it into a state of fermentation, is multitudes of *imperceptible animalculæ* floating in the atmosphere; that these are the cause of all epidemical diseases, but more particularly of the Small Pox; that they return at particular seasons in greater or lesser numbers; that these bodies, imperceptible as they are to the human organs of vision, imprison the most malignant tribes of the *fallen angelic Spirits*: That these animalculæ touch and adhere to every thing, in greater or lesser proportions, according to the nature of the surfaces which they encounter; that they pass and repass in and out of the bodies of all animals in the act of respiration, without injury to themselves, or the bodies they pass through; that such is not the case with those that are taken in with the food, which, by mastication, and the digestive faculties of the stomach and intestines, are crushed and assimilated with the chyle, and conveyed into the blood, where, in a certain time, their malignant juices excite a fermentation peculiar to the *immediate* (or *instant*) cause, which ends in an eruption on the skin. That they adhere more closely, and in greater numbers, to glutinous, fat, and oily substances, by which they are in a manner taken prisoners; that *fish*, *milk*, and *ghee*, have these qualities in a more eminent and dangerous degree, and attach the animalculæ, and convey them in greater quantities into the blood; and for these reasons, added to those before assigned, they are forbid to be taken in food during the preparative course. They add, that the Small Pox is more or less epidemical, more mild or malignant, in proportion as the air is charged with these animalculæ, and the quantity of them received with the food. That though we all receive, with our aliment, a portion of them, yet it is not always sufficient in quantity to raise this peculiar ferment, and yet may be equal to setting the seeds of other diseases in motion; hence the reason why any epidemical disorder seldom appears alone. That when once this *peculiar* ferment, which produces the Small Pox, is raised in the blood, the *immediate* (*instant*) cause of the disease is totally expelled in the eruptions, or by other channels; and hence it is, that the blood is not susceptible of a second

fermentation of the same kind. That Inoculating for this disease was originally hinted by the *Divinity* presiding over the *immediate (instant) cause*, the thought being much above the reach of human wisdom and foresight. That the great and obvious benefit accruing from it, consists in this, that the fermentation being excited by the action of a small portion of matter (similar to the *immediate cause*) which *had already passed through* a state of fermentation, the effects must be moderate and benign; whereas the fermentation raised by the malignant juices of the animalculæ received into the blood with the aliment, gives necessarily additional force and strength to the first efficient cause of the disease.

28

That noxious animalculæ, floating in the atmosphere, are the cause of all pestilential, and other epidemical disorders, is a doctrine the Bramins are not singular in; however, some of the conclusions drawn from it, are purely their own. A speculative genius may amuse itself by assigning this or that efficient cause, or first principle of this disease; but the best conjecture which the wisdom of man can frame, will appear vague and uncertain; nor is it of much moment, in the present case, to puzzle the imagination, by a minute enquiry into the essence of a cause hidden from us, when the effects are so visible, and chiefly call for our regard: but if we must assign a *cause*, why every part of the globe, *at particular seasons*, is more liable to peculiar malignant epidemical diseases, than *at others*, (which experience manifests) I see no one that so much wears the complexion of probability, as that of pestilent animalculæ, driven by stated winds, or generated on the spot by water and air in a state of stagnation, (and consequently in a state of putrefaction favourable to their propagation,) and received into the habit with our food and respiration. We yearly see, in a greater or lesser degree, the baneful effects of these insects in blights, although at their first seizure of a plant they are invisible, even with the assistance of the best glasses; and I hope I shall not be thought to refine too much on the argument, if I give it as my opinion, that epidemical blights, and epidemical diseases of one kind or other, may be observed to go often hand in hand with each other, from the same identical cause. But to proceed in our analysis.

29

The mode by which the Eastern Inoculators convey the variolous taint into the blood, has nothing uncommon in it, unless we except the preceding friction upon the part intended for Inoculation, and moistening the saturated pledget, before the application of it; for this practice they alledge the following reasons; that by *friction* the circulation in the small sanguinary vessels is accelerated, and the matter being *diluted* by a small portion of *Ganges water*, is, from both causes, more readily and eagerly received, and the operation at the same time sanctified. The friction and dilution of the matter, has certainly the sanction of very good common sense; and the Ganges water, I doubt not, may have as much efficacy as any other *holy water* whatsoever. This last circumstance, however, keeps up the piety and solemnity with which the operation is conducted from the beginning to the end of it; it tends also to give confidence to the patient, and so far is very laudable. The reasons they assign for giving the preference to matter of the *preceding year*, are singular and judicious; they urge, it is more certain in its effects; that necessity first pointed out the fact, (the variolous matter some years not being procurable,) and experience confirmed it: they add, that when the matter is effectually secured from the air, it undergoes at the return of the season an *imperceptible fermentation*, which gives fresh vigour to its action. It is no uncommon thing to inoculate with matter four or five years old, but they generally prefer that of a year old, conceiving that the fermentation which constitutes its superiority over fresh matter, is yearly lessened, and consequently the essential spirit of action weakened, after the first year.

30

31

The next article of the Eastern practice, which offers in the course of our discussion, is their sluicing their patients over head and ears, morning and evening, with cold water, until the fever comes on; in which the inoculating Bramins are, beyond controversy, singular: but before we can penetrate the grounds and reasons for this practice, it becomes necessary to bestow a few words on the usual manner of cold bathing in the East, when medically applied, which is simply this; the water is taken up over night, in three, four, or five vessels, before described, (according to the strength of the patient,) and left in the open air, to receive the dews of the night, which gives it an intense coldness; then in the morning, before the sun rises, the water is poured without intermission, by two servants, over the body, from the distance of six or twelve inches above the head. This mode of cold bathing has been adopted from the Eastern professors of Physic, by all the European practitioners, and by constant experience found abundantly more efficacious than that by immersion, in all cases where that very capital remedy was indicated; notwithstanding it has been ever the received opinion, that the success of cold bathing, is as much, or rather more, owing to the weight and pressure of the circumambient body of water, than *the shock*. The remarkable superior efficacy of this Eastern method of cold bathing, can only be accounted for, from *the shock* being infinitely greater, and of longer continuance, than that received by immersion; which is a fact indisputable, as will be acknowledged by every one who goes through a course of both methods; the severity of the one being nothing comparable to the other: this I assert from my own personal feelings; and I never had a patient that did not aver the same, who had undergone both trials: indeed, the shock of this Eastern method is so great, that, in many cases, when the subject was deeply exhausted and relaxed, I have found it absolutely necessary to begin the course only with a *quart* of water.

32

33

If the known effects of cold bathing are attended to, and its sovereign virtues duly considered, in the very different circumstances of Palsies, Rheumatisms, general relaxation of the solids, and particular relaxation of the stomach and intestines, we shall not be long at a loss to account for this part of the Eastern practice in the course of Inoculation: They allege in defence of it, that by the sudden shock of the cold water, and consequent increased motion of the blood, all offensive principles are forcibly driven from the heart, brain, and other interior parts of the body, towards the extremities and surface, and at the same time the intended fermentation is thereby more speedily and certainly promoted; (hence it probably is, that the fever generally commences so early as about



the close of the sixth day.) When the fever appears, they desist from the use of the cold water, because when the fermentation is once begun, the blood should not, they say, receive any additional commotion until the eruption appears, when they again resume the cold water, and continue it to the end of the disease; asserting, that the use of it alone, by the daily fresh *impetus* it gives to the blood, enables it utterly to expel and drive out the remainder of the *immediate* cause of the disease into the pustules. I have been myself an eye-witness to many instances of its marvelous effect, where the pustules have sunk, and the patient appeared in imminent danger, but almost instantly restored by the application of three or four collans of cold water, which never fails of filling the Pock, as it were by enchantment; and so great is the stress laid by the Eastern Practitioners on this preparative, (for as the three interdicted articles in food is preparative to the Inoculation, so this may be deemed preparative to the eruption,) that when they are called in, and find, upon enquiry, that circumstance (and opening the pustules) has not been attended to, they refuse any further attendance.

The next and last article of the Eastern practice, which falls under our consideration, is that just abovementioned, viz. the opening of the Pustules, whilst the matter continues in a fluid state. That a circumstance so important, so self-evidently rational and essential, should have been so long unthought of, appears most wonderful! and if my memory fails me not, HELVETIUS is the only writer upon the subject of the Small Pox, that hinted it in practice before Doctor TISSOT; this accurate and benevolent Physician has enforced it with such strength of judgment and argument, that he leaves little room (except facts) to add to his pathetic persuasive; in this he is supported by his learned and elegant Commentator and Translator Doctor KIRKPATRICK, (page 226 and 227,) and I am not without hopes it will, contrary to Doctor TISSOT's expectation, "become a general practice;" the more especially, when it is found to have invariable success, and venerable antiquity, for its sanction.

So great is the dependence which the Eastern Practitioners have on opening the Pustules, in every malignant kind of the disease, that where the fluid state of the matter has been suffered to elapse without being evacuated, they pronounce the issue fatal, and it generally proves so; they order it in every kind, even the most distinct; for although in these it should seem scarcely necessary, yet they conceive it effectually prevents inflammation and weakness of the eyes, biles, and other eruptions and disorders, which so commonly succeed the disease, however benign; in very critical cases, they will not trust the operation of opening the Pustules to the nurses or relations, but engage in it themselves, with amazing patience and solicitude; and I have frequently known them thus employed for many hours together; and when it has been zealously persevered in, I hardly ever knew it fail, of either intirely preventing the *second fever*, or mitigating it in such sort, as to render it of no consequence; in various instances, which I have been a witness to, in my own, and others practice, I have seen the Pustules in the *contiguous* kind, upon being successively opened, fill again to the fourth and fifth, and in the *confluent*, to the sixth, seventh, and eighth time; in the very distinct sort they will not fill again more than once or twice, and sometimes not at all, which was a plain indication, that the whole virus of the disease was excelled in the first eruption.

The Eastern Practitioners, with great modesty, arraign the European practice of Phlebotomy and Cathartics in any stage of the disease, but more particularly when designed to prevent, or mitigate the second fever; alledging, that the *first* weakens the natural powers, and that the *latter* counteracts the regular course of *nature*, which in this disease invariably tends to throw out the offending cause *upon the skin*; that she often proves unequal to the intire expulsion of the enemy, in which case, her wise purposes are to be assisted by art, in that track, which she herself points out, and not by a diversion of the usual crisis into another chanel; that this assistance can only be attempted with propriety, by emptying the Pustules, as thereby fresh room is given in them for the reception of the circulating matter still remaining in the blood, and which could not be contained in the first eruption; by which means every end and purpose of averting, or subduing the *second fever* is obtained, with a moral certainty; whilst Phlebotomy and Cathartics, administered with this view, are both irrational and precarious; as being opposite to the constant operation of Nature in her management of this dreadful disease.

It remains only that I add a word or two upon the Eastern manner of opening the Pustules, which (as before mentioned) is directed to be done with a very fine sharp pointed thorn: Experience has established the use of this natural instrument in preference to either the scissars, lancet, or needle; the Practitioners perforate the most prominent part of the Pustule, and with the sides of the thorn press out the pus; and having opened about a dozen, they absorb the matter with a callico rag, dipt in warm water and milk; and proceed thus until the whole are discharged: the orifice made by the thorn is so extremely small, that it closes immediately after the matter is pressed out, so that there is no admission of the external air into the Pustule, which would suddenly contract the mouths of the excretory vessels, and consequently the further secretion of the variolous matter from the blood would be thereby obstructed; for this consideration, the method recommended by Doctor TISSOT, of clipping the Pustules with sharp pointed scissars, is certainly liable to objection, as the aperture would be too large; when in the true confluent kind, no distinct Pustules present, they perforate the most prominent and promising parts, in many places, at the distance of a tenth of an inch, usually beginning at the extremities; and I have often seen the Pustules in the *contiguous*, and the perforated parts in the *confluent* kind, fill again before the operation has been half over; yet they do not repeat the opening until a few hours elapse, conceiving it proper that the matter should receive some degree of concoction in the Pustules before it is again discharged.

If the foregoing Essay on the Eastern mode of treating the Small Pox, throws any new and beneficial lights upon this cruel and destructive disease, or leads to support and confirm the present successful and happy method of Inoculation, in such wise as to introduce, into *regular and universal practice, the cool regimen and free admission of Air*, (the contrary having proved the bane

of millions,) I shall, in either case, think the small time and trouble bestowed in putting these facts together most amply recompensed.

*Chilton Lodge, Wilts,  
September 1, 1767.*

FINIS.

## FOOTNOTES:

1. The instrument they make use of, is of iron, about four inches and a half long, and of the size of a large crow quill, the middle is twisted, and the one end is steeled and flattened about an inch from the extremity, and the eighth of an inch broad; this extremity is brought to a very keen edge, and two sharp corners; the other end of the instrument is an ear-picker, and the instrument is precisely the same as the Barbers of Indostan use to cut the nails, and depurate the ears of their customers, (for in that country, we are above performing either or these operations ourselves.) The Operator of Inoculation holds the instrument as we hold a pen, and with dextrous expedition gives about fifteen or sixteen minute scarifications (within the compass abovementioned) with one of the sharp corners of the instrument, and to these various little wounds, I believe may be ascribed the discharge which almost constantly flows from the part in the progress of the disease. I cannot help thinking that too much has been said (pro and con) about nothing, respecting the different methods preferred by different Practitioners of performing the operation; provided the matter is thrown into the blood, it is certainly a consideration of most trivial import by what means it is effected; if any claims a preference, I should conclude it should be that method which bids fairest for securing a plentiful discharge from the ulcer.
2. In an epidemic season of the confluent Small Pox, Turkeys, Chittygong Fowls, Madrass Capons, and other poultry, are carried off by the disease in great numbers; and have the symptoms usually accompanying every stage of the distemper. I had a favourite Parrot that died of it in the year 1744; in him I had a fair opportunity of observing the regular progress of the disorder; he sickened, and had an ardent fever full two days before the eruption, and died on the seventh day of the eruption; on opening him, we found his throat, stomach, and whole channel of the first passages, lined as thick with the pustules as the surface of his body, where, for the most part, they rose contiguous, but in other places they ran together.

### Transcriber's Notes.

This Book is 300 years old and the advice given has been superceded by more modern methods and is of historical value only.

The original spellings and punctuation have been retained.

\*\*\* END OF THE PROJECT GUTENBERG EBOOK AN ACCOUNT OF THE MANNER OF  
INOCULATING FOR THE SMALL POX IN THE EAST INDIES \*\*\*

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

START: FULL LICENSE  
THE FULL PROJECT GUTENBERG LICENSE  
PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg™ License available with this file or online at [www.gutenberg.org/license](http://www.gutenberg.org/license).

### **Section 1. General Terms of Use and Redistributing Project Gutenberg™ electronic works**

1.A. By reading or using any part of this Project Gutenberg™ electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg™ electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg™ electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg™ electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg™ electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg™ electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg™ electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg™ mission of promoting free access to electronic works by freely sharing Project Gutenberg™ works in compliance with the terms of this agreement for keeping the Project Gutenberg™ name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg™ License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg™ work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg™ License must appear prominently whenever any copy of a Project Gutenberg™ work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at [www.gutenberg.org](http://www.gutenberg.org). If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg™ electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg™ trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg™ electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg™ License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg™ License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg™.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg™ License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up,

nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg™ work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg™ website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg™ License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg™ works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg™ electronic works provided that:

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg™ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, “Information about donations to the Project Gutenberg Literary Archive Foundation.”
- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.
- You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain “Defects,” such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the “Right of Replacement or Refund” described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you ‘AS-IS’, WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg™ work, (b) alteration, modification, or additions or deletions to any Project Gutenberg™ work, and (c) any Defect you cause.

## **Section 2. Information about the Mission of Project Gutenberg™**

Project Gutenberg™ is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg™'s goals and ensuring that the Project Gutenberg™ collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg™ and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at [www.gutenberg.org](http://www.gutenberg.org).

## **Section 3. Information about the Project Gutenberg Literary Archive Foundation**

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at [www.gutenberg.org/contact](http://www.gutenberg.org/contact)

## **Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation**

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations (\$1 to \$5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit [www.gutenberg.org/donate](http://www.gutenberg.org/donate).

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: [www.gutenberg.org/donate](http://www.gutenberg.org/donate)

## **Section 5. General Information About Project Gutenberg™ electronic works**

Professor Michael S. Hart was the originator of the Project Gutenberg™ concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg™ eBooks with only a loose network of volunteer support.

Project Gutenberg™ eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: [www.gutenberg.org](http://www.gutenberg.org).

This website includes information about Project Gutenberg™, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.