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AN  
E X P E R I M E N T  
IN  
E D U C A T I O N,  
MADE AT THE  
M A L E A S Y L U M  
OF  
M A D R A S.

---

Suggesting a System by which a School or Family may teach itself under the Superintendance of the Master or Parent.

---

BY THE REVEREND  
DR. ANDREW BELL,  
Late one of the Directors, and Superintendant of that  
Establishment, Chaplain of Fort St. George,  
A. M. F. As. Soc.

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1797.

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(3)

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TO THE HONOURABLE  
THE CHAIRMAN,  
THE DEPUTY CHAIRMAN,  
AND  
THE DIRECTORS,  
OF THE  
EAST INDIA COMPANY;  
THE PRESIDENT IN COUNCIL OF  
FORT ST. GEORGE;  
AND TO  
THE DIRECTORS OF THE MALE  
ASYLUM AT MADRAS;  
THIS SCHEME  
OF THE  
MODE OF TEACHING PRACTISED  
AT THEIR ESTABLISHMENT,  
IS RESPECTFULLY INSCRIBED,  
BY THEIR MOST FAITHFUL, AND  
VERY OBEDIENT SERVANT,  
A. BELL.



## P R E F A C E.

IN the education of youth three objects presented themselves to my mind: to prevent the waste of time in school; to render the condition of pupils pleasant to themselves; and to lead the attention to proper pursuits. In other words, my purpose was to make good scholars, good men, and good Christians.

In charge of a new institution, and, by situation, free from any bias or trammel that might warp the mind or shackle exertion, I tried every method, which a long and earnest attention to the nature and disposition of youth suggested, to accomplish these ends to my own satisfaction. After many attempts, with various success, I rested in a system, surpassing, in its effect, any expectation I had formed, and "far exceeding the most sanguine hopes" of the directors of the  
a 3 institution,

institution, and others interested in the event.

The experiment, thus made at Madras, has appeared to those, who have witnessed the result, convincing and decisive in regard to charitable establishments; and the plan of education, there adopted, has, after the experience of several years, been, by those whose opinions are likely to have the greatest weight, recommended to similar establishments. How far such a system will apply to education in general, may be inferred from the tenour of the following report. That farther and similar trials may be made, and the success, in every instance, ascertained by experience, is the aim of this publication.



## INTRODUCTION.

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### COPY.

Feb. 10th, 1796.

LORD HOBART presents his compliments to Dr. Bell, and has the pleasure to acquaint him that he has read with much attention the extracts from the Reports of the Male Asylum, which he transmitted to him, and is of opinion that the system is so good, and so well calculated to promote the purposes of education in general, but more particularly in establishments similar to that which has evidently derived such important advantages from it, that he considers its promulgation to the public might be attended with the most beneficial effects.

EXTRACTS

EXTRACTS of GENERAL LETTERS *from the Government of Fort St. George to the Honourable the Court of Directors of the East India Company, in the Military Department.*

1793, Jan. 30th. Para. 77. We have the honour to send in the packet copy of a letter from the Directors of the Male Orphan Society, with the annual report of the state of the institution and its funds, a return of the boys on the foundation, and copy of the regulations of the school, as they have been lately enlarged and improved.

Para. 78. We think it due to the Rev. Dr. Bell, who superintends the education of the boys, to observe, that his unremitting zeal and attention to the objects of the trust committed to him deserve our particular approbation.

1794, Feb. 18th. Para. 110. In the 46th para. of this Address we have referred your Honourable Court to the Report transmitted from the Directors of the Male Asylum, relative

lative to the rise and progress of that institution; and, as this subject is now fully before you, we think it a justice due to the Rev. Dr. Bell to testify our approbation of the zeal, ability, and success, with which he has conducted the school belonging to this charity, for more than four years, entirely corresponding to the disinterested motives which induced him to undertake the charge, and uniformly to decline all proffered salary for the task.

1796, Aug. 16th. Para 23. In the list of persons permitted to proceed to Europe on furlough, transmitted with our last address, the name of the Rev. Dr. Bell appears, who was said to have received an advance of six months chaplain's pay. This gentleman, not being prepared to leave India at that time, drew nothing in advance, but now avails himself of the permission we then granted, under the orders of the supreme government. We have often had occasion to notice the meritorious conduct of Dr. Bell in his management of the School for Male Orphans (of  
7 which

which he has had the charge from its first institution to the present time), as well as in his general character, which has been at all times exemplarily correct. And here we must observe, that the extraordinary degree of success which has attended the mode of education introduced by him, has gone beyond all expectation, and does him the highest credit. But this will be better known by a reference to the papers, which we have the honour to send a number in the packet. And in recommending them to your consideration, and the author to your favour, we do no more than common justice exacts from us, and what we are well assured, *both* will be found most particularly to *merit*.

COPY of a LETTER to the Honourable Sir JOHN SHORE, *Bart. Governor General, in Council, at Fort William.*

Dated 6th Aug. 1796.

HONOURABLE SIR,

THE Military Male Orphan Asylum having flourished under a system of tuition altogether

gether new, we are desirous of diffusing, especially in India, the report of its progress and present state, and the mode of teaching practised there, with a view to extend any benefits which may arise from this system amongst that class of children to whom it seems peculiarly adapted.

We have therefore the honour of transmitting a copy of the Rev. Dr. Bell's last report of the school, extracted from the records of the institution, which we recommend as deserving the attention of those who interest themselves in the education and welfare of the rising generation.

We have the honour to be, with respect,

Honourable Sir,

Your most obedient, humble servants,

(Signed) HOBART,

ALURED CLARKE,

EDWARD SAUNDERS,

E. W. FALLOFIELD.

The counterpart to the government of  
Bombay.

E R R A T A.

Page 38, *dele* Appendix; and for 7 read 17  
Jan.

45, *insert at top* Appendix.



The following are the Report and Papers to  
which a reference is made above.

OF THE  
M A L E A S Y L U M  
AT  
E G M O R E,  
NEAR  
FORT ST. GEORGE, EAST INDIES.

—I know him, that he will command his children, and his household after him, and they shall keep the way of the Lord, to do justice and judgment.—GENESIS xviii. 19.

Train up a child in the way he should go, and when he is old, he will not depart from it.—PROVERBS xxii. 6.

“It was the wisdom of ancient times,” says Seneca, “to consider what is most useful as most illustrious.”

**PRESIDENT,**

**The Right Honourable the Governor of Fort  
St. George.**

**The VICE-PRESIDENTS,**

**The Members of Council, and Commander in  
Chief.**

**DIRECTORS,**

**The Chaplains,  
The two Churchwardens,  
The Military Secretary,  
The Civil Secretary,  
The Military Auditor General,  
The Commandant of Artillery,  
The Chief Engineer,  
The Adjutant General of the Army,  
The Quarter Master General of the Army,  
The Physician General,  
The Adjutant General, or Deputy Adjutant  
General, of his Majesty's Troops,  
The Commissary General of Stores,  
The Town Major.**

**DIRECTORS CHOSEN.**

**Mr. Andrew Rofs,  
Mr. William Webb,  
Mr. Cockburne,  
Mr. Kinderley,  
Mr. Sewell,  
Major General Brathwaite,  
Colonel Sydenham.**



TO THE RIGHT HONOURABLE  
LORD HOBART, PRESIDENT,  
THE  
VICE-PRESIDENTS, AND DIRECTORS,  
OF THE  
MALE ASYLUM.

IN compliance with the direction of the committee nominated to take into consideration the remarks I took the liberty to offer in regard to the revision of the code of regulations for the MALE ASYLUM, I have the honour to submit to your lordship, the vice-presidents, and directors, a short recital of the mode of teaching practised at this school. In following the instructions of the committee, it is my wish to recount, in the plainest terms, the economy of this school, that the scheme of education, which has frequently been honoured with your approbation, may be so marked out, as may enable you, in the future, to make such use of it as may be thought most conducive to the well-being of this institution.

I have taken the liberty to premise a very brief statement of the foundation of this seminary, for the sake of those who may wish to

trace it to its origin, and be informed of its chief object.

It will be noticed, that the most part, if not the whole, of the following plan is gradually developed in the several reports entered on your minutes, which I have had the honour to make to this society. In these are to be seen the origin and progress of those measures which, as often as they have been found to succeed on a fair and full trial, have been adopted, and are incorporated into the system which is now digested. In these is recorded the manner in which it has been attempted to "lay a solid foundation for this fabric, to establish such a work as may deserve to be permanent, and to give it that form and consistency which time and experience can alone produce for any human institution; and which, when attained, can only be secured by wise precautions and salutary checks." In these are to be traced "the gradual and secure steps" by which this object has been prosecuted, "according to the capacity, ability, and disposition, of the masters or ushers, and according to the assistance I could derive from the scholars acting as teachers\*."

The Honourable the Court of Directors having, "in their general letter of the 14th March,

\* Report, 1st January, 1795.

1786, been pleased to testify their approbation of the plan established at Calcutta for the education of the orphan children at that settlement, and to order that it shall be adopted at Madras," the Honourable the President, in council at Fort St. George, recommended, in a letter of 27th June, 1787, to the ministers and churchwardens to establish a similar institution for the male orphans on the coast of Coromandel. An establishment had been already formed, under the patronage of Lady CAMPBELL, for the education and maintenance of female orphans.

At a vestry, held on the 13th July 1787 for this purpose, a committee was formed to digest a plan for the education and maintenance of the orphan and distressed male children of the European military on this establishment, conformably to the recommendation of government.

The committee, having previously obtained a return of the probable number of boys who might be the objects of the proposed establishment, and having calculated the probable expense, formed upon the experience of the actual cost of supporting those seminaries already established on the coast (the charity schools at the Presidency, Trichinopoly, &c.), proposed that one half of this expense should be defrayed by the Company, and the other by the

community by voluntary subscription. The President and Council were pleased to limit this provision, for the present, to the support of an hundred orphans; and to appropriate Egmore redoubt for the use of this establishment.

The school was opened in the year 1789, when, at the request of the committee for forming the Male Asylum, I entered upon the charge of this charitable institution.

To be more particularly useful in my station, than I could otherwise be, was my motive for engaging in so laborious an employment.

Upon men advanced in years, and confirmed in their habits of thinking and of living, it is always difficult to make any great impression, so as to produce a change or work a reformation; and perhaps this difficulty is increased in foreign parts. But in the instruction of youth the case is far otherwise. Here is a field for a clergyman to animate his exertion, and encourage his diligence. Here his success is certain, and will bear proportion to the ability he shall discover, the labour he shall bestow, and the means he shall employ. It is by instilling principles of religion and morality into the minds of the young that he can best accomplish the ends of his ministry. It is by forming them to habits of diligence, industry, veracity, and honesty,

and by instructing them in useful knowledge, that he can best promote their individual interest, and serve the state to which they belong—two purposes which cannot, in sound policy, or even in reality, exist apart.

It has long been said, that the half-cast children of this country shew an evident inferiority in the talents of the head, the qualities of the mind, and the virtues of the heart. I will not enter into the question, How far government, or climate, and perhaps complexion as connected with climate, influence the character of the human race. Whatever may be the opinion on these heads, I believe that the effect of education will not be denied. All, however, will not allow the same influence to this cause as those do who have had frequent occasion to witness its effects in different situations. I think I see, in the very first maxims which the mothers of these children instil into their infant minds, the source of every corrupt practice, and an infallible mode of forming a degenerate race\*. To  
rescue

\* “ The school promises fair to present to me the sole reward I have sought of all my labours with my young pupils, by giving to society an annual crop of good and useful subjects, many of them rescued from the lowest state of depravity and wretchedness. If the spirit I have tried to infuse into the minds of our youths do not evaporate, I despair not of proving, to the observant spectator, that

rescue these boys from this condition, if possible, were an object worthy of the utmost ambition. The difficulties, which presented themselves to my mind, were sufficient to stimulate the utmost exertion. The prejudices entertained on this subject were not the least; and still more the chance that many of those youths, when reclaimed or trained in good habits, would again fall into such company as would corrupt the best morals, and keep up the notion, that the fault lay in the nature of the children, rather than the condition in which they were placed. Under all these circumstances, however, the expectation I entertained of success seemed to me to deserve the sacrifice, and to warrant the attempt, I was willing to make by way of experiment; for I did not, on the outset, foresee that I should bring myself to devote so many of my years to this work.

The history of the school of the Male Asylum,

that it is the perversion of every right principle of education which has hitherto, more than any other cause, stamp the characters of the half-cast children. Suppose only deceit and trick, taught by the parent, who has generally the charge of the infant mind, as well by example as by precept, and you will readily imagine the consequence. To correct this radical error will ever be the most difficult part of my task; and it is therefore I have bent my utmost endeavours to root out this perversity." Extract of private letter of 15th June, 1794.

from



from its first establishment, is a detail of difficulties. Among the teachers every thing was to be learnt relative to the conduct of a school. The boys were, in general, stubborn, perverse, and obstinate; much given to lying, and addicted to trick and duplicity. And those, who were somewhat advanced in age, or had made any progress in reading or writing, were, for the most part, trained in customs and habits incompatible with method and order. Among these, however, there were happily several who were industrious and attentive in a high degree; and would have taught themselves writing and arithmetic at any school at which they had happened to be placed.

I soon found that, if ever the school was to be brought into good order, taught according to that method and system which is essential to every public institution, it must be done either by instructing ushers in the economy of such a seminary, or by youths from among the pupils trained for the purpose. For a long time I kept both of these objects in view; but was in the end compelled, after the most painful efforts of perseverance, to abandon entirely the former, and adhere solely to the latter. I found it difficult beyond measure to new model the  
minds.

minds \* of men of full years; and that whenever an usher was instructed so far as to qualify him for discharging the office of a teacher of this school, I had formed a man who could earn a much higher salary than was allowed at this charity, and on far easier terms. My success, on the other hand, in training my young pupils in habits of strict discipline and prompt obedience exceeded my expectation; and every step of my progress has confirmed and rivetted in my mind the superiority of this new mode of conducting a school through the medium of the scholars themselves.

One of my first essays, for I thought nothing beneath my attention that was to promote the welfare of the rising generation, and perhaps establish a seminary of public utility for ages to

\* “ It is a more difficult task to train ushers—men grown up in different habits, and drawn from occupations widely different, to that knowledge, order, method, and inflexible but mild discipline, essential to the right conduct and just improvement of their pupils. And it is not less difficult to inspire them with that constant and earnest attention to the conduct and behaviour of the boys, which is necessary to wean their infant minds from the pernicious maxims and habits of their earliest youth, and the contagion of evil example; and to inculcate upon them, at every turn, as occasion offers, the value of truth, rectitude, honesty, morality, and religion, both as affording them the best chance of success in this life, and ensuring the certainty of happiness in the future state.” Report, 1st Jan. 1795.

come,



come, was to instruct beginners in the alphabet. I had, at first sight of a Malabar school, adopted the idea of teaching the letters in sand spread over a board or bench before the scholars, as on the ground in the schools of the natives of this country; a practice which, by the bye, will elucidate a passage \* in holy writ better than some commentators have done. But till I had trained boys whose minds I could command, and who only knew to do as they were bidden, and were not disposed to dispute or evade the orders given them, I could not fully establish this simple improvement, which has since recommended itself to every person who has seen it. The same obstacles I found in every attempt I made to give the shape and form of method to this school, to adopt such practices as were established in the best regulated seminaries, or to introduce, as I went along, such as appeared to me improvements in the usual mode of instruction.

The advantages of teaching the alphabet, by writing the letters with the fingers in sand, are many. It engages and amuses the mind, and so commands the attention, that it greatly facilitates the toil, both of the master and

\* We see here every day customs and practices illustrative of the scriptures,

scholar.

scholar. It is also a far more effectual way than that usually practised, as it prevents all learning by rote, and gives, at the instant and in the first operation, a distinct and accurate notion of the form of each letter, which in another way is often not acquired after a long period, and after a considerable progress in reading, as may be seen in those who write letters turned the wrong way, and other instances familiar to every one. It likewise enables them, at the very outset, to distinguish the letters of a similar cast, such as b, d, p, and q, the difficulty of which is known to almost every person who has taught or learnt the alphabet as it is commonly taught and learnt. While it thus removes every obstacle which at first puzzles beginners, and interrupts their progress, it at the same time teaches the scholar to write, and is the best preparation he can have for this next stage of his progress\*.

The

\* Experience has evinced here the success of these measures, and I am persuaded the experiment will never fail, when it is fairly made, and with just attention to circumstances. But I am often told it will not be believed that children are taught as is done at this school, and make a progress so far beyond what is usual in the same time. When one of our masters had his son entered last year into this school, he came, after a while, and told me, that the boy could not learn his alphabet in the manner practised in the school, and he would be obliged to me to allow his son

The same manner of writing on the sand is practised with the double letters and words of two letters. In like manner the digits and numbers are taught. Then the scholar proceeds as usual till he begins disyllables, when he is never allowed to pronounce two syllables together till he has gone through the child's first and second books, and a spelling book. The advantage is manifest; for the moment you allow the scholar, he will put the syllables together and pronounce the word at once; to which, indeed, every learner is of himself disposed. The only difficulty is, to teach them to read syllables by themselves, and words by

to be taught after the common mode. My reply was, I have long seen that all the boys educated here learn their alphabet far sooner and better in this way; but I know that your son, and most men's own sons, cannot be taught like other children; go and give your own directions as to his education, only let there be no interference with the other boys. In about a fortnight he came to me again, and requested I would allow the boy to be taught as the other boys, and along with them. My answer was, Do as you please with your son, only let there be no interference with the other scholars. It was all I wanted, that he should prove, by experiment, that no other mode, which he could try, was so easy, so pleasing, or so successful, either for the scholar or the teacher. I am particular in these points, because I am often told, by those who visit this school, that they believed it impossible to teach children to read and write as these do in the course of twelve months; and that it will not be believed if reported in Europe.

B

themselves,

themselves, and not a whole sentence at once, as many boys, who have come to this school after some progress, do. And in this case they make continual blunders, not only in the beginning and middle, and especially the termination of words; but also constantly mistaking one word for another, leaving out and introducing words at random. It is on this account that the scholar is not allowed, for some time after he reads a word at once, to join two words together, as in the usual mode of speaking and reading, but is directed to pause awhile at the end of every word; and whenever he mistakes any word, he must read it by syllables, as thus, "com-men-da-ble." So much for the first minutiae, which I have detailed as a specimen. Were I to pursue this subject through all its stages I should fill a volume.

Let me only observe, that when a boy begins to write, similar attentions are paid at the outset, and all along. For example: every scholar is made, at the first, to rule his own paper; and this he is at once taught to do as well as any master. No teacher, or other person, is ever allowed, at any time or under any pretext, to write a single letter in the scholar's copy, or cyphering, or other book, but himself. And, as soon as can be, he must make his own pen,  
and

and do every thing for himself, with the direction only of a teacher. The difficulty of preventing masters, who have had all these things done for them at school, from doing them themselves instead of teaching their pupils to do them, is wonderful to me, when I reflect upon it after the event. A detail of the obstacles, which were experienced from this quarter, to every step of the progress in improvement of this school, would display the most useful lessons of the baleful effects of that prejudice and custom, the universal law of this country, which will not allow a man to attempt any thing but what has been done before, either by his father or himself\*.

Each

\* At the establishment of the school there were appointed a schoolmaster and two ushers, the former with a salary of twenty pagodas, the latter of fifteen pagodas each a month. At this time I found every thing wanting which properly constitutes a school, except exemplary manners, and a great degree of external decency and inoffensive qualities in the teachers. The boys were not arranged into classes; or, if any of them were, it was told to me that they could not be taught to take their places in the classes, nor the beginnings and endings of their daily lessons; and that they would often do no more than say one lesson a day, and sometimes only in two or three days. I desired one of the ushers to shew me the class which he thought could be taught none of those things as I directed. And as I found their habits of education and of thinking were altogether those of the country, I told him I would convince him that what I required could be done with fa-

Each boy writes in the first page of his copy, or other book, from the largest to the smallest hand, a line of each; when the teacher, on comparing this specimen with his former book, singles out that hand which it is fittest the scholar should write. The boy then copies, in the next page, an example of that hand in these words: "This hand I am to keep to in writing throughout this book; and should I deviate from this rule wilfully and through carelessness, I am to be brought to punishment according to the regulations of this school." And in the books of cyphering this sample page contains the signs in arithmetic, instances of the different ways in which they are used, and fractional numbers expressed; so that the learner may never be at a loss for the pattern by which he is to go. Every day he puts down in his books, with a pencil or otherwise, the day of the month, at the termination of his day's task. And, on a page at the end of his book, he daily

testifies. That though there would be some difficulty in the first attempt, yet I would engage to do with these boys, in one hour, what I had required of him in one day. Accordingly I desired him to attend me with them in my room; and, placing my watch on the table, finished in one hour the task I had prescribed of five lessons for one day; and taught them, at the same time, what I had been told was impossible, to take their places in order in the class.

registers



registers the number of lessons said, pages written, sums wrought, tasks performed, &c. &c. &c. which the teacher compares with what he did the day before, and what the other boys do; and, at the end of each month, these are all added by the scholar, and compared by his teacher with the former month, and what has been done by others in school. In all this there is nothing but what is simple, easy, and beautiful. The teacher of every class, and his assistant, are answerable that one single, invariable rule be observed; and it is rendered familiar by daily practice to every boy in the school, who is made sensible of its utility and advantage. The nice sensibility among the teachers, when the least error is detected, is astonishing, and almost always supercedes the necessity of punishment.

The school is thus rendered a scene of amusement to the scholar, and a spectacle of delight to the beholder; from which I feel it will be difficult for me to wean my mind. And such is the effect, that, in a late report I had from one of the masters, it was said that the boys were now all of them so familiar with, and so instructed in, the system, and felt it so well calculated to promote their welfare, to advance their learning, and to preclude punishment, that they did not require looking after, as they of themselves habitually performed their daily

tasks. But this must be received with a grain of allowance, as I have ever observed, that the smallest inattention to the preservation of any part of the system occasions a proportional falling off.

The system of the school may be seen in the following scheme :

*Masters of the Male Asylum.*

FRANCIS JOHNSON, the schoolmaster, has a general charge.

RICHARD TAYLOR has a general charge in one of the school rooms.

JAMES BLOOD has charge out of school.

When the salary of men capable of teaching this school would not be less than 30 or 50, or even 100 pagodas a month, these masters receive only 5, 10, and 15.

None of the masters have made a progress in letters equal to the boys in the first class. Their duty is not to teach, but to look after the various departments of the institution ; to observe that the daily tasks are performed ; to take care of the boys in and out of school ; and to mark any irregularity, inattention, and neglect, among the teachers or the scholars : and I have great reason to be pleased with the fidelity, diligence, and attention, with which these offices are performed.

LIST



LIST of Boys on the Foundation of the Charity who are Teachers in the MALE ASYLUM.

Clas.	Teachers.	Age.	Time in school.	Affiliants.	Age.	Time in school.	No. of boys in each clas.	Total
1	Char. Hancock	14	6	Tho. Adamson	11	4	34	
2	Geo. Stevens	14	7				25	
3	Wm. Faulkner	12	7				25	
4	Rob. Kentish	11	3				11	95
5	John Frifkin			James Shaw	11	3	12	
6	has charge			Wm. Lantwar	11	6	3	
7	of the rest			Wm. Anchant	9	8	9	
8	of the school	12	7	Fr. Lawrence	9	5	10	
9	as follows.			Rich. Steele	7	9	6	
10				Tho. Jones	9	7	5	
11				John Gore	9	2	2	
12				T. H. Morris	8	9	2	
							17	
	Under the charge of John Frifkin							91
	Teachers							14
	Total 24th June, 1796							200

DAILY TASKS.

Enfield's Speaker, Bible, Spectator, Writing, Arithmetic vulgar and decimal, Book-keeping, Grammar, Geography, Geometry, Mensuration, Navigation, and Astronomy \*.  
 Enfield's Speaker, Bible, Spectator, Writing, Arithmetic, and Grammar.  
 Enfield's Speaker, Testament, Spectator, Writing, Arithmetic, and Grammar.  
 Select Stories, Writing, Arithmetic, and Tables.  
 Testament, Writing, and Tables.  
 Spectator, Writing, and Arithmetic.  
 Pfalter, Writing, and Catechism.  
 Spelling-book, Writing, and Catechism.  
 Child's Second Book, Stops, Marks, and Hymns.  
 Child's First Book, and Figures.  
 Monosyllables.  
 Great and Small Alphabet.

\* In regard to several of these sciences, nothing more is meant, in general, than that some of the boys, for whom it may seem eligible, are initiated in their first elements; so that if their future destination, or profession, or situation, require it, they may hereafter be able to build on the foundation which has been here laid.

A youth of seventeen years of age attended the embassy to Tippoo Sultaun, when \* the hostage princes were restored, and went through a course of experiments in natural philosophy in the presence of the Sultaun; and was detained nineteen days by the Sultaun, after the embassy had taken leave, to instruct two of his arz begs (lords of the requests) in the use of an extensive and elegant philosophical and mathematical apparatus, presented to him by the government of Madras.

Boys of twelve years of age have been instructed in arithmetic vulgar and decimal, book-keeping, grammar, geography, geometry, mensuration, navigation, and astronomy.

Several boys of twelve years of age, and only two years in school, have learnt arithmetic, as far as vulgar fractions, grammar, and geography.

Boys of nine years of age, and only two years in school, have learnt grammar and geography.

Charles Hancock, a boy of fourteen years and one month, has assisted in teaching the first class with diligence and success for a year.

\* He was just before this time bound an apprentice, as a clerk in the revenue department, for three years, with a salary of 120 pagodas (48*l.* sterling) per annum, to Captain Alexander Read.

Stevens,

Stevens, a boy of fourteen years and three months, has, for the same time, taught the second class of twenty-eight boys, who read geography, grammar, arithmetic as far as vulgar fractions, with great ability and success. This youth has the sole charge of this class, with the assistance only of the boys of the first class, who each in rotation act under him for a day.

Frikin, of twelve years and eight months, with his assistants of seven, eight, nine, and eleven years of age, has taught boys of four, five, and six years, to read the Spectator distinctly, and spell every word accurately as they go along, who were only initiated into the mysteries of their A, B, C, eight months before, and have read the Child's First and Second Books twice over, and gone through two spelling books, the Psalter, a great part of the Old Testament, and all the New; and who can make numbers with their fingers in the sand to one thousand; and who have learnt hymns, stops and marks, catechism, tables in arithmetic, and to write.

This boy has been employed in teaching the lower classes for two years; and his department in the school was first brought to that form which I had set my mind upon; and has ever since been uniformly conducted with great attention and effect.

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Many of the boys write an excellent hand, and all of them learn to write well. Their books are all fair; and some of the boys copy charts, &c. wonderfully for their age, and make globes for themselves, by which they teach one another the first principles of geography and astronomy.

There is scarce a boy, unless retained as a teacher, now left on the foundation of this school more than twelve years of age. There is a constant demand for boys grown up to a just age and size for apprentices, and a choice of masters and of employment for such boys.

Out of the complement, to which this school was heretofore restricted, of an hundred boys on the foundation, there have already been bound out no less than seventy-four boys, who, at an average, were each of them less than twelve years of age when bound out, and had been each, on an average, less than four years in school.

Every person has observed how much time is usually trifled away by children in school; and no one will doubt of the advantage which would be gained by preventing this unprofitable waste of time; nor would any one but wish that his son should be instructed in such a manner as would employ all, or the greatest part,  
of

of the time he spends in school usefully, provided this can be done, and the school not rendered more irksome to the scholar. All this I have had in view, and had formed a resolution not lightly to quit this charge until I had made every effort, within the compass of my abilities, to accomplish these points.

So many teachers, each having only the tuition of such a number of boys as he can at once have under his eye, and within his reach, command a constant and perpetual attention on the part of the scholar. In most schools, the want of this perpetual agency on the part of the master is attempted to be supplied by a system of terror. But the fear of punishment has neither so constant nor so certain an operation; and the one mode is as far superior to the other, as the prevention of evils is preferable to the punishment of crimes. Beside, the master, who has a number of classes under his sole charge, cannot always distinguish between the deficiency which arises from want of capacity and memory, and that which is owing to idleness and inattention; though the latter of these only should be treated with asperity. The business of our little teachers (and they perform it to admiration) is not to correct, but to prevent faults; not to deter from ill behaviour by the

fear of punishment, but, by preventing ill-behaviour, to preclude the use of punishment.

The utmost benefit arises from the consideration, that the teachers being so young have no means of influence by which they can deter or prevent those over them, or their schoolfellows, from noting and remarking their omissions or commissions of every kind. A single master, when employed as a teacher, by neglecting his duty interrupts the whole school in succession, and often throws the scholars back as they pass through his hands. And as the masters cannot so readily be brought to interfere with the tasks of one another, or to put one another right; so amongst them jealousies continually arise, and they often connive at the neglects of each other. Besides, an indifferent usher often remains an incumbrance upon the school, whom you cannot readily get rid of, and still less readily fill up his place when he has left you. But, amongst our pupils, there is no hesitation in degrading a teacher who fails in any of the tasks required of him, and making trial of another, till, by repeating the experiment, you find such as will best suit your purpose. After this manner the school teaches itself \*; and, as matters now stand,

\* " It will scarcely be believed how much attention, diligence, and uniform perseverance, these youths" (the teachers) " display,



stand, the schoolmaster alone is essentially necessary at this school. He has the charge of the daily disbursements and monthly expenses under the treasurer, and is to attend the school so as to maintain the observance of the rules.

The great advantage of the system is, that you have a teacher and an assistant for every class, who have not yet begun their career of pleasure, ambition, or interest; who have no other occupation, no other pursuit, nothing to employ their minds, but this single object. Add to this, that your ascendancy and dominion over the young mind is complete, and easily maintained; that these children can only do what is assigned them to do, and succeed the better in teaching others, that they themselves know no more than what is level to the capacities of their

“display, and how much readier, easier, and greater, the progress of the scholars is under the mode of tuition which they follow, and with which alone they are acquainted, than under the delays and loss of time incident to the common modes of conducting the schools which I have had occasion to see. The motives which operate upon them are more powerful than those you can employ with grown men. In boys the slightest inattention is immediately detected, and corrected as soon as detected. An order once given is carried into effect without hesitation and without difficulty. The countenance of a superior, the slightest rewards, and the fear of punishment, for punishment is seldom necessary, have a perpetual and instantaneous effect.” Report, 1st Jan. 1796.

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pupils,

pupils, and therefore lose no time in teaching what is beyond the comprehension of their scholars, which is often no small impediment and hinderance of education. Beside all this, every class is paired off into teachers and scholars; so that a boy has always an instructor at his elbow, who is, in the first instance, answerable for his progress, then the assistant, then the teacher, then the schoolmaster, and last of all the superintendant, whose scrutinising eye must pervade the whole system, whose active mind must give it energy, and whose unbiassed judgment must maintain the general order and harmony.

The rule of the school is (for such is our language), that no boy can do any thing right the first time; but that he must learn, when he first sets about it by means of his teacher, so as to be able to do it himself ever after.

When the generality of these teachers and assistants have spent a year in that character, they return to their place in the school. Their progress next year is beyond what it would have been had not they taught themselves when they taught others.

By these means a few good boys, selected for the purpose, as teachers of the respective classes, form the whole school, teach their pupils to think



think rightly, and mixing in all their little amusements and diversions, secure them against the contagion of ill example, or the force of ill habits; and, by seeing that they treat one another kindly, render their condition contented and happy.

The consequence has been, that the black book (as the boys call it), or register of offences and ill behaviour, which is regularly kept and examined once a week, is now of such a sort \*, that, for months together, it has not been found necessary to inflict a single punishment upon any of the culprits.

When a bad, lying boy comes to school, the teacher of the lower classes must find a good boy to take care of him, teach him right principles like the other boys, treat him kindly, reconcile him to the school, and render him happy, like the rest, ~~in his situation, and in his school~~ and playfellows. It is no less beneficial to the common weal, that whenever a boy behaves ill,

\* "In almost every case of ill behaviour I make the boys themselves judges of innocence or guilt, and have never had reason to think their decision partial, biased, or unjust, or to interfere with their award otherwise than to remit or mitigate the punishment, when I have thought that the formality of the trial and of the sentence were sufficient to produce the effect required—the amendment of the culprit, and the deterring of other boys from the same practice." Report, 1st Jan. 1796.

and loses his name with you, the boys to whose minds you give the lead, behave in the same manner you do to him ; and whenever he shews any degree of that obstinacy which it was so long and so difficult to eradicate from these children, they even refuse to admit him as their playfellow, and chase him down, till he is brought to his senses and to good conduct, far more successfully than the severest punishment inflicted in school, but disregarded, or even gloried in, out of school.

In all this, however, a great deal depends on every boy in the school being sensible (for every one of them has a judgment of his own) that you have in view only their good ; in filling their infant minds, by the uniform interest you take in their welfare and comfort, with a sure confidence that they will meet with your countenance, support, and favour, which is of great value to them, whenever they do right ; and with your disapprobation, displeasure, and resentment, which they greatly dread, whenever they do wrong ; in teaching them, by their daily experience of your conduct towards them, to consider you as their friend, their benefactor, their guide, and their parent.

The grand task here was to inspire into the youths a strict regard to veracity, a hatred of  
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trick and dissimulation, a respect to morality, and just principles of our holy religion. The necessity of uniform attention to this point cannot be too strongly enforced. When I had occasion to be absent, some years ago, for a month from the school, I was greatly alarmed, on my return, at a lie, on a trifling affair, being told me by upwards of fifty boys, who all said they did not do, or see done, what had just passed before their eyes. The steps I took on that occasion have prevented the repetition of any thing similar ever since.

It would perhaps be thought an omission, in this statement, if I were to overlook the particular effects of the system on the finances of this institution. I do not here speak of the very great donations which have been made to this society, especially of late years, by the liberality of the army, the public, and individuals, though it were fair to say (and equally honourable to the benefactors of this charity and to the institution), that we are indebted, in some degree, to the high favour and estimation in which this school is held, for the many acts of munificence by which the funds have been gradually raised to their present very flourishing condition; I speak only of the internal economy of the school.

Previous to the foundation of this seminary the committee calculated, on the experience of the charity schools on the coast of Coromandel, that the expense would amount, on the most economical plan, to 10 \* Arcot rupees, or (at 360 Arcot rupees for 100 pagodas) pagodas 2 : 35 a boy. Corresponding with this calculation was an estimate made by the treasurer some time after the opening of the school. And the real † expenditure did not fall short of these calculations. And, indeed, had the system then adopted been pursued, and no other was known at that time, and the precedents been followed, which alone existed at that period, such might have been the result. But by the new system the expense has been greatly reduced; and

\* —“ Two hundred and thirty boys have already been reported, the support and education of which number will require a considerable fund. Upon a calculation of the probable expense, formed upon the experience of the actual cost of supporting those seminaries already established on the coast, viz. the charity schools at the Presidency, Trichinopoly, &c. it appears, upon the most economical plan, the amount, including all charges of board, clothing, and education, cannot be safely rated at less than ten a. rupees per month for each boy.” Letter of the Committee of the Male Asylum to the Hon. Major General Sir Archibald Campbell, K. B. Governor, in Council, and Commander in Chief, dated 24th Nov. 1787.

† Treasurer's abstracts.

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the \* establishment of masters and servants at the school for 200 boys is less expensive, and far more efficient, than that made at the foundation of this charity, and continued for some time, while there was but a small proportion of our present numbers. The monthly expense for the last year, during the period that the school has been entirely taught by the boys, from 1st June, 1795, to 31st May, 1796 (including the surgeon's salary, and other collateral expenses connected with this establishment, not taken into the calculations made by the committee and the treasurer), is pagodas 1 : 31 : 41. And, as the numbers increase, this expense will continue to diminish in proportion. Call the reduction already made (the difference between pagodas 2 : 35 and pagodas 1 : 31 : 41), call it only a pagoda a boy for the present number of 200 boys, and there is an annual saving of pagodas 2400, or 960*l.* sterling. This is one of the causes to which we are indebted for the rapid progress of the funds. Add to this the superintendent's salary for the seven years past, at 100 pagodas a month, and there is another saving, which has raised the funds pagodas 8400,

\* At the commencement of the school the salary of masters amounted to 600 pagodas a year; for the last year it falls short of 400.

or 3360l. sterling, independent of the interest on the parts of these sums, as they would have fallen due.

But such advantages are, in some measure, incidental, as it was my chief object, in raising up my young teachers, to carry into effect the intentions of the Honourable Court of Directors (when they ordered this establishment to be formed) in such a manner as might be most conducive to their views, to the interests of this government, to the benefit of society, and to the good of the pupils committed to my charge; all of which objects have been, and are so blended together in my mind, that I cannot separate them even in imagination.

I am not, indeed, ignorant that a prejudice is entertained by some against such institutions. It is not for me to speak to this prejudice in this place. But it is the grand aim of this seminary to instil into these children every principle fitting for good subjects, good men, good Christians; and they are brought up in such habits as may render them most useful to their patrons and benefactors, to whom they owe such peculiar duty. And it is my decided opinion, formed upon the uniform experience I have had, that in no other way could I have served them effectually; and that in no other way can they  
ever



ever serve themselves effectually; and that if the use is made of them for which they are brought up, and by which they can most profit the public and themselves, it will be attended with the happiest effects; many of which are already as well known to members of this society as to me. Every good in life may indeed be corrupted and abused, and that too in proportion to its real advantage when uncorrupt. But to guard against such abuses will be the care of those who preside over this institution; and I have not a doubt of their success.

Even those objections, which are sometimes made to such charities in Europe, whether well or ill founded I do not inquire, will not apply to these boys in this country. Here the effect of climate on the animal spirits is obvious, and cannot be questioned. The state of society, the rank of these children, the hold you have of them by the mode of education and discipline, by the habits in which they are bred, by every principle and by every prejudice; all is calculated to render them valuable to this settlement, and subservient to the general good. They are instruments in your hands, fitted for your hands, and no other, and can in no ways fail you. But I must not enter upon a question on which you have heretofore often given your decisive judgment.

ment. With every apology for what I have said on a subject not immediately under discussion, I return to the task assigned me by your committee.

Other measures were directed solely to the purpose of economy; but I need not recount the steps I was at times compelled to take to check and prevent those abuses, so apt to creep into every establishment as it grows up, from gaining ground here, as they are detailed in my official Report of 1st July, 1795, in a letter to the Acting Secretary, Major Agnew. I shall only observe, that on no occasion, and on no account, has ever any deduction been made from the allowances of the boys. Every alteration in fare, or dress, or treatment, which has been made, has been to add to the comforts, and improve the condition, of the boys at this school. This, indeed, has been done oftener than once, and the expense at the same time reduced; And it is only by a rigid attention to such points, that the charity can be maintained on the frugal and improved footing on which it stands.

It is much to be lamented, but it is the condition of human affairs, that opposition is to be made to every beneficial work, especially if new, in proportion to the prejudice it may combat,



combat, and to the advantage with which it is attended. But it has hitherto been most fortunate for this school, that its best interests have met with the effectual support of your Lordship and the Directors of the institution; and I am confident your Lordship will not be wanting in what remains to be done for this charity.

Such is the result of the essay I have made at this school. Whether the success of these measures depends upon circumstances, peculiar to the character or condition of these children, or whether a similar attempt would be attended with equal success in every charity or free school, where the master possesses the same unqualified and unlimited powers over the scholars, so as in every case to direct their energy in the way which seems to him most subservient to the general good, I do not say; much less do I presume to say, whether the system might not be so modified as to be rendered practicable in the hands of masters of talents and industry equal to the task, and possessing the confidence of parents, in the generality of public schools and academies. But I am anxious to see the experiment made in both instances, with due attention to circumstances. If successful, I should indulge the pleasing hope, that a rational foundation were laid for forming the characters  
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of children, and implanting in the infant mind such principles as might, perhaps, continue through life, check the progress of vice and immorality, meliorate the rising generation, and improve the state of society. The effect which the Greek and Roman classics produce upon the youthful mind has been often marked; and the ancient historians, orators, and poets, are known to give a tinge to the sentiments, and a bent to the genius, of those who read them with just relish. The practice of early youth, and systematic arrangements, could scarce fail to produce habits, in advanced years, highly favourable to virtue, religion, and good government. But I must not yield to such speculations, as my object only is to detail, conformably to the instructions of the Committee, what has passed here, with a view to perpetuate this system at a school where it has proved so beneficial, and to give it the chance of that diffusion which may produce a fair trial in other situations; so that its comparative value may be ascertained by experiments fairly made, the only just criterion of every theory of science, or politics, or education; but which can only be recommended with safety when the risk of failure in success can be attended with no serious consequences.

Thus

Thus have I endeavoured to perform the part assigned to me at this school; and the farther I proceed in this task, the more I consider myself at liberty to consult for my own health and for myself. Still, however, I look upon it as a sacred duty, with which no secondary consideration can come in competition in my mind, to continue, while I may, to render my present services to this charity. When it shall be my lot to quit this office, it is a reflection I shall carry with me, that it has been my occupation, for seven years, to rear this favourite child beyond the dangers of infancy. This numerous family I have long regarded as my own. "I feel all that interest in its welfare and progressive success, which arises from my situation, from the years I have spent, and the toil I have bestowed on this favourite object\*."

These children are, indeed, now mine by a thousand ties! I have for them a parental affection, which has grown upon me every year; for them I have made such sacrifices as parents have not always occasion to make to their children. And the nearer the period approaches when I must, for a while at least, separate myself from them, the more I feel the pang I shall suffer in tearing myself from this charge, and the anxious thoughts I shall throw back

\* Report, 1st July, 1795.

upon these children, when I shall cease to be their protector, their guide, and their instructor.

With these sentiments I commend them to **ALMIGHTY GOD**, and to your fatherly protection and care.

28th June, 1796. (Signed) A. BELL.

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## A P P E N D I X.

To the Rev. Dr. BELL, Egmore.

S I R,

I HAVE much pleasure in transmitting to you the inclosed copy of resolutions passed at the General Meeting of the President, Vice-Presidents, and Directors, of the Male Orphan Asylum, on Wednesday last the 13th instant; and, in consequence of the latter resolution, request to be favoured with the requisite information of the ship on which it may be your wish to proceed to Europe.

I have the pleasure to be, SIR,

Your very obedient servant,

(Signed) F. PIERCE, Acting Sec. Male  
Orphan Asylum.

Madras, 7 Jan. 1796.

Egmore, 13th January, 1795.

THE President, Vice-Presidents, and Directors, of the Male Orphan Asylum, taking into consideration the intimation received from the Rev. Dr. Bell of his intended departure for Europe, by which the institution will be deprived of the further benefit of his immediate care and superintendance, do come to the following resolutions :

I. That, under the immediate care and superintendance of the Rev. Dr. Bell, and the wise and judicious regulations which he has established for the education of the boys, this institution has been brought to a degree of perfection and promising utility far exceeding what the most sanguine hopes could have suggested at the time of its establishment: and

That, therefore, the Rev. Dr. Bell is entitled to the fullest approbation of this meeting for his zealous and disinterested conduct in the execution of so difficult a charge since the commencement of the school ; and that he be accordingly requested to accept their best thanks, which the Secretary is desired to communicate to the Rev. Dr. Bell.

II. Resolved, That the Directors of this charity take it upon themselves to provide a

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convenient passage for Dr. Bell to Europe, on any ship he may wish to go on. By order,

(Signed.) FREDERIC PIERCE, Acting Sec.  
M. O. Asylum.

To Captain PIERCE, Act. Sec. M. O. Asylum.

SIR,

THE obliging manner in which you have transmitted to me the resolutions of the President, Vice-Presidents, and Directors, of the Male Asylum, at the General Meeting of 13th Jan. 1796, has my warmest acknowledgments; and I request you will in reply lay before them the accompanying letter.

I shall have no occasion to trouble you in the affair of my passage to Europe, as, with the deepest sense of the honour done me, I do not conceive myself at liberty to accept this very honourable testimony, which has been awarded to me, of the approval of my conduct in the charge of this charity. I am, SIR,

Egmore, Your most obedient servant,  
18th Jan. 1796. (Signed) A. BELL.

To the Right Hon. the President, Vice-Presidents, and Directors, of the Male Asylum.

My Lord and Gentlemen,

YOUR sentiments of the services I have been enabled to render in charge of the  
Male



Male Asylum, as expressed at the General Meeting after the annual examination of the school, in your Resolutions of 13th Jan. 1756, and conveyed to me by the Acting Secretary, Captain Pierce, are pleasing and grateful to me beyond expression. A testimony of such high authority, and in such flattering terms, supplies whatever was wanting to fill up the measure of my satisfaction in the office I have so long discharged.

When I have contemplated the uniform progress of the school, and seen the vices incident to the former situations of these youths gradually vanishing, their morals and conduct approaching nearer and nearer every year to what I would have them to be, and the character of a race of children in a manner changed; I could not help imagining, at times, that I regarded the work, in which I had so earnestly engaged, with the fond partiality of a parent, who beholds in a favourite child beauties and qualities which escape every other eye. The opinion, now solemnly announced to me, of those who have the best access to know, and are the best qualified to judge, removes from my mind all distrust of this kind, and leaves my gratification unallayed by any other consideration than the necessity of separating myself for a while from this happy scene.

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But it is not the feelings, of the heart which alone speak on this occasion. My sincere acknowledgments extend to the most important interests of the school under your patronage. The attention you have shewn to every proposal for improving the health, the morals, and the right education, of these youths; and the countenance and support you have given to my unequal exertions, have enabled me to overcome difficulties, under which I might otherwise have sunk; to surmount obstacles which often impeded my progress; and to reach that goal, of which I was at times afraid I should be constrained to stop short—the completion of that system which, with your consent and approbation, I endeavoured to establish.

The tender made to me, on the part of the Directors, of their good offices “in providing a convenient passage for me to Europe on any ship I may wish to go on,” I esteem as a substantial proof of their good wishes, and I should, if at liberty, be proud to accept this kind offer.

When on the foundation of this institution, you conferred on me the honour of superintending this seminary, I entered upon the charge with the stipulation, which you then granted to my request, of declining the salary you had proposed to annex to the office; and as I have never changed my opinion on that subject, I hope for

your further indulgence on this occasion, when, with the deepest sense of the delicate and obliging manner in which you have awarded to me a remuneration under another shape, I continue to decline the acceptance, from this charity, of whatever I could construe into a pecuniary emolument. The state of the school, the flourishing condition of its funds, and the sanction of your approbation, are the rewards of which alone I am ambitious to boast.

May ALMIGHTY GOD long prosper your endeavours, and render this seminary a public blessing, by training up the rising generation to integrity and industry, veracity and temperance, and by instilling into the infant mind the purest principles of our holy religion, the best friend of our happy constitution, and of the good order, the peace, and the welfare of society. I have the honour to be,

My Lord and Gentlemen,

With the greatest respect and consideration,

Egmore, your most obedient servant,  
18th Jan. 1796. (Signed) A. BELL.

To the Rev. Dr. BELL.

Reverend Sir,

WE, the Masters of the Asylum, who have had the honour of being under your direction during the time we have been employed as teachers, being apprised of the loss we must shortly sustain by your declining the arduous  
task

task of the tuition of this school, which you so long upheld by your indefatigable attention in establishing the gentle and pious order which now subsists throughout the whole; we therefore most humbly request, Reverend Sir, you will be pleased to accept our most grateful acknowledgments for your unexampled assiduity in promoting our welfare, as well as that of the whole school.

We have the honour to be, Reverend Sir,  
your most obedient, humble servants,  
(Signed) F. JOHNSON, J. MACKAY,  
Mal: Asylum, R. TAYLOR, and J. BLOOD.  
22d Jan. 1796.

To Messrs. F. JOHNSON, J. MACKAY, R.  
TAYLOR, and J. BLOOD.

THIS free-will offering of the Masters of the Male Asylum is the more welcome to Dr. Bell, as it affords him a proof that they consider their interest and happiness intimately blended with the progress of the school in good morals, good conduct, and right education; and they may be assured that the continuance of such sentiments, and acting upon them, will, with the blessing of God, which they will never cease to implore, ensure the happiest consequences to this infant establishment, and recommend themselves to the Directors of this institution, and the future Superintendant, better than any words he may be able to employ.

Egmore, 22d Jan. 1796.

EXTRACTS

EXTRACTS of LETTERS from WM. SMITH  
to Dr. BELL. (See page 20th.)

Reverend Sir, Devanelli Fort, 8th April, 1794.

I TAKE the liberty to inform you that we arrived here the 28th ultimo, without any particular occurrence in the way. The day after our arrival we made our first visit to the Sultaun, and he entertained us at his court for upwards of three hours.

On the 1st instant Captain Doveton sent me an order to open the boxes, and lay out the machines, to shew them to the Sultaun. Accordingly on the 3d I was sent for, and I exhibited the following experiments, viz. head and wig, dancing images, electric stool, cotton fired, small receiver and stand, hemispheres, Archimedes's screw, syphon, Tantalus's cup, water-pump, condensing engine, &c. Captain Doveton was present, and explained, as I went on, to the Sultaun, who has given us an instance of his being acquainted with some of these experiments. He has shewn us a condensing engine made by himself, which spouted water higher than ours. He desired me to teach two men, his aruz-begs.

On the 7th I was again sent for, and the following were exhibited: tumbler and balls, sealing-wax, twelve men shocked, among whom were several khans and vakeels—electric stool; a man of eminent rank stood, and the Sultaun applied his hand about the man to receive shocks. Inflammable air fired; at which he was astonished at first, and afterwards greatly pleased. Bladder burst; after which he applied his hand upon the receiver; bladder and weight. Pneumatic bell; microscope; mechanical powers. At his own request the following were exhibited: Syphon, Archimedes's screw, water pump, Tantalus's cup, and condensing engine. Captain Doveton was not present. The Sultaun walked round the instruments, and handled several apparatus. He desired me more than once to teach a man, who professed several mechanic arts, the doctrine of the syphon, Archimedes's screw, and the water-pump.

After the experiments were over, the Sultaun requested me to stay eight or ten days, and promised to send with me a couple  
of

of hircarrahs to Kistnagherry, the place I told him where is my employment as a writer.

I am now removed into the fort, where a very good place is provided for me and the machines. Tippoo Sultaun was pleased to present me with a hundred rupees, which, except thirty, I have delivered to Captain Doveton, in order to have it conveyed to Captain Read. I am, Reverend Sir,

With the most sincere gratitude and respect,

your very humble servant,

(Signed) WILLIAM SMITH.

Kistnagherry, May 4th, 1794.—I was nineteen days detained in the fort of Devanelli, at which interval of time I taught the aruz-begs every experiment that the apparatus can admit of being performed. The Sultaun was pleased to send me with an hircarah and two sepoy to conduct me out of his country, whom I dismissed at Ryacotah, with a receipt from Lieut. Macgregor, of the 4th bat. of nat. inf. commanding Ryacotah.—

Tripatore, 12th May, 1794.—I have the honour to inform you that I arrived here the 6th instant, and commenced writing for Captain Read, and to superintend the boys. Of some particulars that occurred while I remained at Devanelli, after I wrote the letter dated 8th April, I now take the liberty to write you.—

—It would, I believe, be otherwise, if I were to handle those instruments. But the case was thus: the aruz-begs were to perform what experiments they wanted to learn, while I, at the distance of three or four yards, was only to inform them when they were wrong.

The object I had in view, before I began to make out directions how to perform experiments, was, that if the Sultaun wanted his men to be taught, I might have the directions translated into their language. Accordingly I asked those men if they wanted written directions; but they answered me, that they have no names to give to the apparatus, else they would set about translating it.

May 28th. I most heartily thank you for this last kind favour (which I received the 20th instant), among many other very strong proofs of your attention and interest towards my welfare;

and

and I hope I will always have it in the best of my power to deserve such.

I will, with the greatest pleasure, inform you whatever else happened during my residence in the Sultaun's country.

I can assure you that Tippoo Sultaun was mightily pleased with the electric machine and the air pump, especially the electric machine. He was prepared for every experiment I exhibited, except the firing of the inflammable air.

I was greatly surprised when he called out to those who were just preparing hand in hand, in order to receive a shock, to stand without emotion, and that they will presently feel something suddenly pass through them; and when it was done he laughed much at their staring at one another without speech.

When a man stood on the stool, I gave him the large metallic knob into his hand; but the Sultaun desired me to take it back from him, telling me, at the same time, that it is of no use, and that the man's fist is sufficient.

It did cost me several minutes before the firing of the inflammable air proved successful (having never understood that, by the point of the discharger applied to the knob of the pistol, I could more effectually discharge it than by the knob), during which interim he was in a very impatient emotion; and when that was done, it did indeed surprise him. He desired me to go over it three times.

— I take the liberty to write for your information the familiar discourse Tippoo Sultaun was pleased to enter into with me, that took place at the close of the experiments.

There were some silver trumpets newly made brought in to him for his inspection, and which he desired the trumpeters to sound *haurw* and *jaurw*, i. e. come and go. After which he asked me if they were like those I saw at Madras. I answered, "Yes; but those at Madras are made of copper." He asked me again, whether the tune were any thing like what I have ever heard. I answered, No. "How then," says he, and presently ordering the instrument to be put into my hands, desired me to blow. I told him very civilly, that I could not blow. "No," says he, "you could; what are you afraid of?" I told him again, that I spoke truth,



truth, and that I was brought up in a school where my master informed me what lying was, and always punished those boys that spoke untruths. He began again, in asking if I knew how the trumpets were used for speaking on board of ships. I told him that I never was on board of ships. "Why," says he, "did you never take a walk on the sea-shore to see such things?"

"Yes, Sir," answered I, "I have been several times on the sea-shore, but the ships are at a great distance from me; I can hardly discern a man on the mast or deck of a ship."

Question: Whether only one sort of music, or more, are used at Madras?

Ans. Many of each sort, and they are distinguished by these names, viz. drums, fifes, flutes, clarinets, French-horn, and bazon. Question: On what occasion do they use these musics?

Ans. For soldiers to march, to salute, to retreat, and such like.

The subject on music he ended, and the next was to this effect.

He asked me whether I am an Englishman. I answered, Yes; but that I am a native of India. Question: What employment are those Englishmen and natives of India put into? Ans. First they are put into a school instituted by the sirkar, and, at the age of twelve or fourteen years, they are put out in order to learn trade or business—as a mechanic, merchant, sailor, writer, and such like. Quest. Whether they are enlisted as soldiers? Ans. No.

June 11th. After this the Sultaun arose (five hours being elapsed) to quit the court, and desired the present (of a hundred rupees) to be delivered into my hands, with these words: "This is given you as a present for the trouble you took in performing those experiments, which verily pleased me:" and a command, that I am to stay in the fort ten days: "After which," he continued, "I will send you to Kistnagherry with two hircarrahs, in order to conduct you safely through my country." I returned the compliment with a salam, in the manner I was instructed, saying, that I thankfully accept his present, and am willing to obey his commands. The language which the Sultaun used was the Carnatic Malabar. Mine very little differed from his. Poornhia was the interpreter of such terms as the Sultaun did not understand, and Capt. Doveton favoured me with his butler (who understood and spoke the Moor language to perfection) to help me in going through the experiments.

T H E E N D.



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