A Thesis on

Overpressure in Elementary Schools

by Peter Baillie

Bank House
Whitworth
Lancashire April 1887.
That the present is an age of high-presure is a statement the truth of which will, I think, hardly be denied; and I believe it to be as true, that the tendency is toward the development of the nervous, at the expense of the otheriences of the organism. In that particular form of high pressure on which I aim about to write, those, this of late years, have been much discussed. In 1804, Dr. Crichton Browne, at the request of Mr. Parneville, wrote a report on the subject of overpressure in Elementary Schools, and the conclusion to which he came from his own observation, and the examination of some of the London Schools have been, and are enclosed by, I believe, the majority of medical men in the country. I have asked the opinion of a considerable number of my friends in the medical profession, practicing in Lancashire and Yorkshire, and, though I shall relate their replies in more detail as I proceed, I may say now that they all, with one exception, were decidedly of opinion that overpressure exists, and the single exception could not say that he took a decidedly contrary view. The subject is one of very great importance to future
generations, and if it is capable of proof that young children are being physically injured in their growth, both mental and physical, through overexertion, it is obvious that much more attention than has hitherto been given to the subject is necessary in order to arrive at the most satisfactory method of obviating the evil. I shall consider, first, what indications there are of the existence of overexertion and surely the fact that, as I believe, the opinion of medical practitioners generally in clinics as well as in one clinic, is of itself a proof that at least some amount of harm is being done. It is often said that medical men are too much inclined to attend to the physical well being of people, to the neglect of their mental development, and that this bias accounts for their inability to recognize, but I hold that pressing on the development of the mental faculties at the expense of the physical well being is calculated to bring about a breakdown, or cause a failure of growth as well as the mental and the physical organism. And this is more especially likely to be the result, if the overexertion be applied at an age
when the physical structure is, or ought to be under going rapid change of growth, and is, therefore, very apt to be easily disarranged or even per

manently damaged.

Secondly, if overpressure can be proved to exist, another question to be considered is whether the requirements of the Code of Education of them- selves demand more than the average child can wisely accomplish without overwork, or whether it is due to the wrong methods used by teachers to meet these requirements.

Finally, I would consider that it would be possible to abate the evils without doing away with the blessings of an universal, and therefore compulsory, elementary education. I am not one of those who think that the evil can only be done away with by the abo-

lation of compulsory education; indeed if I thought that, I should be inclined to say that the evil must be borne, for it is becoming more evident every day that without the

training and restraining effect of some system of education, our workmen must go to the wall and be supplanted by men of other nations who have had the benefit of an early
education. It is, however, with Dr. Chisholm-Brown, that the education should only be carried to the extent of stimulating the nervous system, not pushed as far as to paralyse it. I also think that in order rightly to estimate the amount of mental work which can fairly be demanded from the children of English work-people, it ought to be taken into consideration that the children of uneducated parents - who are themselves descendants of a long line of uneducated ancestors (uneducated especially as far as book learning goes) can not be expected in one generation or even in two or three to learn as much, as the children of parents who are themselves educated and who know the value of education; and that, too, under common greater disadvantages. The relevance of this remark may be clearer if I mention the fact that very few of the old working people in this district can either read or write - very few, that is, compared with those of almost any county district in Scotland.

As regards the first question (The Evidence of Overpopulation) I propose first to give some of my own personal experience, and then to bring forward in support & amplification of that, case I observa.
tion of other medical men whose opinion I have asked. In the district over which my practice extends there are seven schools, with altogether an average attendance of 1100-1200 scholars. I may say at the outset that cases of undrugged children and, if not absolutely wanting, at any rate of use in occurrence, should not need not be taken into considera-
tion; certainly none of the cases I have observed, and put down in the present, could have been due to this cause, or could even have been aggravated by it. My practice is not a large one as practices go in Lancashire, and I have only been in practice a little over three years, so that all the cases I have seen have come under my notice in that short time. I may also say that when I first came here, I was of opinion that the outcry against overpressure was unjustifiable by facts. I do not think that the evil is on show, perhaps it is not even chiefly shown, by diseases of the brain, although I have seen several cases of constant headache, which came on regularly for a month or two, and went off if the child was kept from school for even a few days. Almost the first case in which I blamed overpressure was of this kind,—the headache had kept-
coming and going for some years, but finally
either the child was not kept away soon
enough, or the process was repeated once too
often, for mental brain disturbance set in and the
result was fatal. In this case I could get no
bad family history; the parents were ordinari-
ly healthy and well to see operative.
Lancashire operatives are, I think, as a rule
inclined to be of a nervous constitution—this
physique is not well developed, but in this
case there was no special nervous tendency,
and no Phthisical history. I have at present
occasionally, almost periodically, under my
care a girl, eleven years of age, in whom the
dreaded kind of headache is the most-prominent
symptom, and it is really painful to see
how regularly and certainly it comes or after
a few weeks, constant attendance at school.
Since the last illness I have forbidden all home
lessons, and the mother tells me that the head-
nail has not returned as soon. The dealer
above mentioned is the only one I have had which
I could fairly ascribe to overpressure, but I have
had many cases in which children have had
to leave off going to school for some time, and.
These cases came especially from amongst the children who attend two of the schools in my district; which two schools have generally the best reports from the inspector, and certainly have the best name for getting the children through their examinations.

Chorea is a disease which I believe to be decidedly on the increase amongst school children. Slight choreic movements, not sufficiently marked to attract the attention of an ordinary observer, are visible in a large proportion of children in a class, especially on the time for examination approaches.

I believe epileptiform convulsions in children of an age five years of age to be becoming more common. I have noticed one or two cases of children of about ten, in which these came on towards an examination and passed away completely after a rest.

But, as I have said, what I have been oftenest an actual mental illness is, that children get into more delicate health after attending school for some time, and are most liable to take cold, which is often in children with a chronic history is often the exciting cause of Pneumonia; they are also, I believe, rendered more
liable to be attacked by epidemic diseases. Another
thing which I have noticed is that the delirium
of school children in acute diseases of any kind, is almost invariably, about their
lessons. Very often there is a great terror because
they cannot get their arms right. Of course
I should not say that this was necessarily caused
by overpressure, but, when one finds that children
attending school hardly ever talk of their games
in their delirium, and moreover, when the
delirium is so often a fearful one, one cannot
help thinking that too much of the child's
attention is given to its work to the exclusion
of its amusements. This, of course, is specially
noticeable in queer children, as all delirium
is. In fact, I think that the queer nervous
children, not very strong physically, are
those who suffer most from overpressure both
as regards nervous and other diseases. Dull
children require to be more driven, and
one way in which I have seen this driving
tell specially on them is that, as the exami-
nation approaches they get more and more stu-
rpid, so that they are often duller at the
end of their school life than at its com-

-mencement, and acquire a hatred of
books which lasts their lifetime, getting
no good whatever from the few facts they
have learned. In cases where small children
are willing to try their best, they too, often
get pulled down in health before examina-
tion.

I am quite sure that in the short time I
have had for observation I have noticed
that myopia is increasing in children-
young people. Though I have not-men ex-
perience amongst pupil teachers, I do not
know one teacher who does not wear spectacles;
I thought I said until, a few days ago,
the single exception I had in my mind
appeared in a pair. I believe that in one
training college for pupil teachers in London,
37% of the inmates are short-sighted.

Of late years capriline has been exten-
sively applied to the prevention of children's
being worked too many hours a day in the
factories: I believe it to be a fact that chil-
dren get stronger and healthier when they
leave school, and go to work in the mills
full time (ten hours a day). I have noticed
that the lads and girls who are coming out of the mill at meal times, or in the evening, are generally more inclined for food, and drunk about more than the children, younger than they, who are coming out of school. Besides, children who have left school, or who go to work half time, and school the other half, almost always prefer the working half of the day—prefer, that is to say, being in a close factory and kept busy at work, to being in school. If this be true it speaks very plainly,—nobody can suppose that working all day in a cotton factory can be likely to freshen a boy or make him frolicsome; and if working in school does as still less, it must be taken as evidence of overwork. Of course being all day in the mill takes the fresh colour out of children's cheeks more than being in the school room. But as I say, I believe the children get the benefit after they begin to work full time.

As I have said the opinion of all the medical men I have asked, with an exception, was that overpressure does exist, and is exercising an evil
influence on the health of children. The one exception was the one who, having the least practice, had, probably, the least opportunity of knowing; moreover, even he was not decided few of them could common stress an acute brain disease, though one described a case very much like that I described first; and several spoke of cases in which they thought that overexposure was the exciting cause of acute brain, and other nervous diseases in children with bad family histories. What most of them dwelt upon was the general ill health caused by excessive school work; and some of them believed that, even when the children did not altogether break down, the sleeplessness and the anxiety about their lessons and their earnings, so lowered their vitality, that they entered into life maimed and half, instead of with their faculties quickened, and with their brain subdued and enervated instead of strengthened by their "education." Several said that it is their experience that chronic dyscephalus, in children above five years of age, chorea and
Epilepsy are on the increase. Dr. Ravaglioli of Bradford reported three cases of Epilepsy apparently bought on by overwork in school, and said, in a paper read by him to the National Union of Elementary Teachers, in 1864, that he believed there was a general concurrence of medical opinion as to the prevalence of overpressure. Dr. Longmanson of Aberdeen read a paper, before the Scotch Educational Institute in 1863, in which he strongly maintained this opinion, and in this was supported by Dr. Beveridge. I am sorry that it is not possible to get at statistics of the death-rate in town districts, but the reports of the Registrar General, as far as they can be made to speak, bear testimony to the evils resulting from overpressure, in children's nervous systems. It has been pointed out that, whilst the general mortality of children and young people under twenty, has been much decreased in the last few years, the mortality from nervous diseases has been, if not increasing, at least stationary; and, moreover, that the ratio of the nervous mortality between the age of
five to twenty to thirty below five has been increasing. In the three years 1868-69-70 the ratio of deaths from sickness diseases of children under five, to those of children between five and fifteen was 12.5:1; whereas in the three years 1873-80-81, it was only 10.7:1; In the years 1884-85-86 it was 8.3:1. The decrease in the ratio of deaths from sickness among children occurring is not an uncommon one. The decrease in the ratio of deaths occurring below five to those between five and twenty in England seems very large. In the ten years 1861-70 it was 15:1; In the ten years 1871-80 it was only 5.7:1. I believe this can partly be accounted for by the influence of improved sanitation. As in prolonging the lives of healthy children, and carrying some of them beyond the age of five, only to die of the clubfeet before they are twenty, but I do not believe that will account for it all, and I am inclined to think that increasingly our work in school has much to do with it. In my opinion, however, I am supported by nearly all the medical men I have consulted. So much for statistics, they show the fatal disease which cause the deaths of a certain number of children, but they cannot show what is more imp
important, the slight, or apparently slight, ailments contracted in childhood, which unfit the young men and women for their work in life, and, more important still, which are a cause of the degeneration of the physique of the race, by being transmitted through them to their children. Man's life and work in this present age than, it seems to me, a great tendency to force on the development of the nervous organs at the expense of the other end organs; and I fear that, if this process is allowed to be begun in early childhood, the say Corpus Sarcinum will too soon be almost a thing of the past.

Besides medical men, I have consulted on the subject several elementary school teachers, and here again I have got a very unanimous expression of opinion that over-pressure is rampant. They have told me that they have seen the children get more and more nervous, and even more and more stupid as the coming of examinations approaches, their children's moods become bad, and headaches become very frequent; in fact
the following is a very general remark of parents when I am called to see a child who talks in his sleep, "You know, Doctor, the examination is coming on soon in school, and we thought that might be it." I invariably give a certificate to say that the child need not go up for examination; and even though the child loses a year thereby, and the chance of getting to work is postponed for a year, still working people are always anxious to get such a certificate. Some of the teachers are positive that the evil is growing; one said, "Every year I have harder work, and worse results," and another said the same thing in different words; thus showing that the children who have been overworked in the early years get more stupid, and their brains become less, instead of more powerful, as their school life goes on. Teachers are also very positive as to the increase of shortsightedness in their scholars—positive both that the children get more and more shortsighted in the course of their school life, and also that the number of shortsighted children is increasing; and the school rooms, there are
and badly lighted.

Besides the overwhelming of children, that of the school teachers seems to me to have a very important bearing on my subject, both because of the evil effects on the men and women themselves (and more especially on the women, many of them young girls, at the most critical period of their lives) and also because it must hinder them from pursuing their work in that equable temper which is compatible only with health, and which is so very necessary in the training of young children. Overworked, and therefore irritable, teachers cannot be expected to give a good moral training to children; they may get them to learn the Multiplication Table as to be able to say it to the inspector, but to teach them to command themselves, to restrain their tempers, they are unable, because they cannot set the example. Within the last few months I have had teachers from three of the schools under my care, suffering from the effects of overwork—call of them after the school examinations. Two of them are young women, both have had
their energy disturbed, and both complained of headache as frequent as to be almost constant. The third was a young man who complained simply of nervous irritability and general ill health, and was soon put to rights by a short rest and a tonic. The case of the females were more serious. They both say that the headache began first in the evening after their day's work. Strangely, by no means after all their work was done. Then sleeplessness came on; at first they woke up several times in the early part of the night, and say they always felt the headache when they first awoke. After a week or two the headache became constant, being as bad in the morning as at night. They confess to irritability. One of them is very easily Phthisic as a secondary result, she tells me she has had to stop work on a previous occasion after an examination, because she was warned that if she worked on, the consequence would be consumption. She is the head teacher of a small school, and had to get the registers and schedule written up before the examination, and
I know that for some weeks she found it absolutely necessary to sit up till two o'clock getting them done, at the same time that she had all her school work to do. The other is an assistant in a larger school. She went to bed at twelve and rose at five for a month or two, in order to cut out and get ready the evening for the children. This girl complained of constant headache, lasting two or three days at a time, of flashes of light before her eyes, giddiness, nervousness, nightmare, palpitation and disordered menstruation. She has no bad history, was very healthy when young, but has been gradually getting thinner and into worse health for the four years she has been teaching. She can not get a holiday till midsummer, and then only a fortnight.

As to the second question — whether the fault, if fault there be, is due to too great that the standards are fixed too high for the average scholar, or to the culpable way in which the provisions of the act are carried out. My opinion is that the standards are
bota too high, and of too fiend a nature, though of course I think that many teachers are men to blame for their methods of bringing the children up to these standards. The standards, especially the lower ones, would require in order to be passed, at least quite as much knowledge as an upper class child of the same age would have reached in a high class school; and, as I said, I think that this cannot be done by working men's children with overpressure. Again I do not think that young children of five ought to be compelled to attend school for five and a half hours from four days in the week. If they went for half the time at first, it seems to me they would have quite enough.

Then, here in Lancashire, children of ten years of age, who have passed the second standard, are allowed to be "half timers"—that is to say, they work in the mill for half the day and attend school the other half. Three reading books are required to be gone through in each standard above the second, in the course of the year; and these must not only be read through, but
Sufficiently stretched for the child to be able to answer questions on their subject matter and to pass any sentence. If this work be all done in school it necessitates a child who is a half time, reading a book of 250 pages in nineteen hours as to remember.

It is required by the Code that every child who has been on the school register for the twenty-two weeks preceding the examination shall go up to it, no matter how often, or for what reason, it may have been absent, unless a doctor's certificate can be produced saying that the child is not fit at the time. The teachers or managers of the school cannot keep back any on their own responsibility; they can, with the consent of the inspector, if the child is "obviously ill," but I have heard of an inspector refusing to receive any such exceptions, unless for the first standard, saying that the fact that the child had passed that was proof that it could not be of obviously defective intellect; so that a teacher is positively bound to force a child, a child that has been often absent from ill-

ness in order to make it keep up.

Another thing which seems to me objectionable is the mechanical process by which children must rise through the standard. Every child must be presented in the standard above that which it has last passed; so that the clever children and the stupid ones, the strong and the delicate, must get through just the same amount of work in the year the child that has attended every day in the year, and the child that only got enrolled six months before the examination, and may not have attended half that time, are both supposed to be equally ready by the day of examination. Again if a child is quick at one subject—say Arithmetic—and slow at passing spelling, he must be kept back in the good subject, going over the same work wearily, uselessly, until he can attain the necessary proficiency in that other. This either entirely prevents his using that talent he has, to the best advantage, or causes him to be overburdened— or does both.

Too much, also, depends on the passing of individual children, especially in the
optimal subjects; - a grant is made for each
child that is passed, and besides this, all
the teachers audible one that the merit
grant, under which most of the money is
awarded, is almost wholly decided ac-

The amount of home lesson depends very much
on the teacher, but they are allowed by the
Edmonton act, and the teachers allow me
that they cannot get through the work without
them. There is not a school in this district in
which they are not given to a greater or less
extent, sometimes they are proportionate. The
child whose case I have mentioned as having
suffered for some time from intermittent head-
aches, has often got access to do which take
her an hour and a half to work out; - that
is to say, she is at school for six hours and
a half and at work at home for an hour
and a half - seven hours of the day at her
lessons. Very many children have to work
for an hour at home for at least four nights
a week. This in the bad light in the cot-
tages, amidst all the noise consequent on
the whole family's being in the one room, an
with all the distractions to which such a child must be subject, it needs hardly say
very deleterious to the child's health. These home lessons press still more heavily on half
times. It is recommended by the fact that
done lessons should only be used for prior almost
learned taught lessons in the child's brain;
but this is by no means the case, and I think
it not such a powerful instrument for evil
should not be entrusted to men who are
paid as if they were careful only of their
salaries.

Keeping in mind I was at school used to
be an alternative to the same, here it is the
rule to keep the whole school in for it may
be two, or three, or even four extra hours in
the day for several weeks before the examine-
tion. I have known children ordered to be
at school at a quarter past eight o'clock,
who, instead of being home for dinner as usual
at half past twelve, did not get back till
after one; they went in school again at two,
and did not get home till nearly six in the
evening. I have known a mother send food to
the children at school, because it was long
after their tea time, and she thought they would be found. I have known a father having come home from his own work at half past five, start for school to see what had become of his children. This of course is illegal, but inspectors pass it by, and teachers say they cannot get the work done without it. Besides the keeping in, some schools have evening meetings from six to eight o'clock, so that the children are only leaving school, when many of them ought to be in bed, asleep after a good tiring game, instead of coming home with aching heads to tell restlessly all night, or dream in their fitful sleep of inspectors and exams. In a speech at Liverpool Mr. Mundella instanced a school at Burnley as having passed a very large percentage (97%) of its scholars—proving by this that the standard could not be too high for the average child. Whilst he was speaking the children in that school were having their tooth meeting for the day—a striking commentary on his remarks. Of course all this may be laid to the charge of the teachers, but they must get a very high percentage of passes, or they know by
experience that their merit, grant goes down, let the discipline and tone of the school be what it may; moreover their reputation suffers, for their certificates are marked by the inspectors, and, even if the managers of a school were content to be cooters, the teacher cannot turn away the chance of future advancement.

No holidays are actually required by the Education Act, they only say that four half-week meetings of the school are necessary in a year. The holidays usually given seem to me very short—only five weeks in the course of the whole year; and I know of one school where the children have a few days at Christmas, a day or two at Easter, and no midsummer holidays at all.

And now on to the last question—What m-

Some things may be suggested to combat the evil.

First, I think the Standard, and especially the junior junior ones, ought to be lowered very considerably, at least for some years to come.

Second, Children under seven years of age should only be allowed to attend half time.

Third, there should be some difference made in the amount of work required from those
children was work half time in the mills.

Fourth, some latitude might, I think, with advantage be allowed to teachers as in the pro-
portion of scholars to be presented for exami-
nation. If they were allowed to keep back pay
the per cent of their scholars on their own res-
ponsibility, I do not believe that the privilege
would be abused. At present they have no pow-
to listen a child's work even if they see that he
is breaking down. Unless he gets as ill treat a
medical certificate of ill health relieve him,
the teacher must send him up for exami-
nation; if he fails the work and the child
fails his humanity costs him part of his
hardly earned income.

Fifth, if possible, some method of giving the
teacher more latitude in classifying the child-
ren according to their capabilities, should be
adopted—such, for instance as allowing a
child to pass a standard, and go on to the
next, in those subjects in which he is profi-
cient, without the being compelled to pass
in all at the same time.

Sixth, I should strongly advise the com-
plete abolition of home lessons, at least for
children under ten years of age, and for all 
times of whatever age, and the standard 
ought to be lowered until children can pass 
them without home work.

Seventh. Keeping children at school longer 
than the authorized time ought also to be 
prevented. At present it is not legal, but the 
inspectors are careful to take no notice even 
if the facts are known to them. I have no doubt 
it could soon be prevented if inspectors believed 
that it was objected to cut head quarters.

Eighth. Holidays for a certain number of weeks in 
the year ought surely to be made compulsory for 
the sake both of children & teachers. I should think 
six weeks at any rate would not be too much.

Ninth. The Grant ought to be given actual- 
ly, as it is ostensibly, with regard to the general 
excellence and discipline of the school, and not 
to as great a degree at any rate, merely accord-
ing to the number of pupils. Teachers ought 
also to be paid not so much in proportion to their 
results. Managers of schools at present almost 
uniformly pay their teachers in that way, and 
this being so, a teacher cannot be expected 
not to push children irrespective of their
capacity or length of attendance, number of

thems being taken into consideration by the

code. Moreover those results of a schoolmaster's

work visible to an inspector, who is in contact

with the children for two hours and a half

in the year—shall be to say the percentage

of passers, or not by any means show the

amount of labour expended by the master.

A man who wants a good report and a

good salary, has simply to teach the child-

ren certain cut and dry facts, whereas he

who tries to educate them in the higher

sense of the word may expend twice the

labour and yet fail to have as good results

at the examination; for these reasons I

think it would be better if the act made

it compulsory that the teacher should be

paid a fixed salary according to the size of the

school.

Tenta. Some systematic physical training

might also, I think, be introduced into the

course. Drilling, gymnastics, or even games,

like cricket or rounders, might be taught to

both boys and girls, and inspected as

well as the brain work. It seems to me
It seems to me that by such a training, much might be done to stop the certain advancing degeneration of the physique of the factory hands, and that the time so spent would be of quite as much use as the same time in the school room.

Eleventh. Medical inspections of schools, both periodic and unexpected, would, I believe, be a great boon, and need not add to the public burden, as the medical officer of health could have the office added to his. Frequent visits by a medical officer would enable him to judge whether any children were suffering the effects of overwork; besides that any defects of lighting or ventilation would attract his attention.

I have now come to the end of my subject, and I have only to add my hope that by these, or some other alterations in the law, what I fear is now a great evil may be done away with, so that our working classes may enjoy the blessings of a thorough education in the best and truest sense of the word.

P. Bailie.