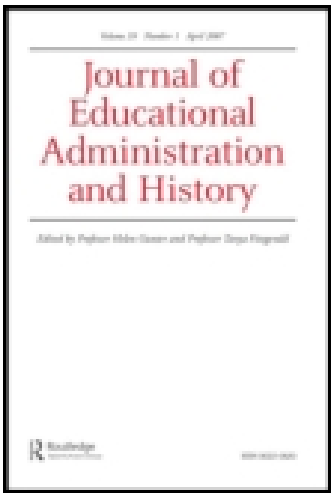

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FACTORIES, MONITORIAL SCHOOLS AND JEREMY BENTHAM: THE ORIGINS OF THE 'MANAGEMENT SYNDROME' IN POPULAR EDUCATION

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FACTORIES, MONITORIAL SCHOOLS AND JEREMY BENTHAM: THE ORIGINS OF THE 'MANAGEMENT SYNDROME' IN POPULAR EDUCATION

It is frequently asserted that contemporary public school administration is conditioned by what may be termed 'a business management syndrome'. Usually the assertion is made with some distaste, the educational administrator's use of industrial management techniques being treated as a kind of cancerous growth in a previously healthy body of school administration. Callahan, for example, in his assiduously investigated study of the influence of business ideas upon schooling in the United States, found that their conscious and deliberate adoption began about 1900.[1] The increasing extent of their influence disturbed him. For after all, he points out, 'Education is not a business. The school is not a factory'.[2]

Such puzzlement about the pervasiveness of 'business ideas' in public education is in large part due to a failure to penetrate to the source of such an outlook. For in fact the 'business management syndrome' in popular education is not a recent importation: it has been there from the beginning, a kind of innate characteristic or psychological trait which has helped form not only the procedures of the public school but, perhaps more importantly, a characteristic approach to the problems of public school administration. The origins of this particular attitude of mind are varied and complex. Principally, however, they lie in two distinct yet not unrelated developments of the early 19th century; the widely hailed success and consequent prestige of the early factory system, the principles of which seemed equally applicable to the operation of schools, and the growing acceptance in the English speaking world of utilitarian ethical theory as it related to the solution of social and institutional problems.

An illustration, and to some extent an explanation, of the early and close affinity perceived between the worlds of industry and education is provided by an examination of the basic similarities between the problems faced by managers of factories and monitorial schools, and of the approaches used in their solution. The way in which utilitarian ethical theory introduced a 'business-like' element into the perception and treatment of educational problems is most clearly evident in the analysis made of the principles of monitorial school management by that archetypical analytic and administrative mind, *Jeremy Bentham*. Indeed, in his Chrestomathia (1816)[3] are to be found an outlook on and psychology of school administration that were early and deeply imbedded in English popular education.

The similarity in outlook bred in the managers of factories and schools arose not so much as a result of any deliberate or slavish imitation but rather *because* of the affinity of the problems facing them. For example, the initial difficulty faced by any would-be capitalist or manufacturing entrepreneur in the early days of the industrial revolution was the raising of capital. Similarly, particularly in the days before any deep state involvment in popular education, this was the most serious problem facing those public minded citizens who sought to provide proper moral, religious and intellectual training for the lower orders of society.

By the middle of the 18th century, the use of the joint-stock company principle had begun to effect important changes in the world of commerce and industry. It was to affect education just as profoundly. 'Power, it was found, could be multiplied indefinitely at any one point, if a number of persons put together their small sums of money and handed the

management over to a chosen few.'[4] The establishment and successful operation of subscription charity schools, Sunday schools and monitorial schools depended at bottom upon the application of this commercial idea to education.

School managers, like factory managers, were made well aware that they were dealing with the allocation of limited resources, and consequently that it was essential to effect economies in time, labour and expense. Indeed it was this concern which led directly to the discovery of and enthusiastic reception accorded to the monitorial system of instruction. As Andrew Bell, one of its 'inventors', complained,[5]

> Machinery has been contrived for spinning twenty skeins of silk, and twenty hanks of cotton, where one was spun before; but no contrivance has been sought for, or devised, that twenty children may be educated in moral and religious principles with the same facility and expense, as one was taught before.

The great strength of the monitorial system was that it seemed to do just this.

Indeed, so powerful and persuasive were the metaphors of 'mechanism' and 'industry' that even Samuel Taylor Coleridge could not resist its appeal. For him, as for everyone, the monitorial system was 'an incomparable machine', a 'vast moral steam engine'.[6] Cheap, apparently efficient, and above all mechanical, the system effected considerable economies in time and labour. Thus, Joseph Lancaster, the other 'inventor' of monitorial instruction, proclaimed of his system, that it was a 'new plan',[7]

> by means of which, one master alone can educate one thousand boys, in Reading, Writing, and Arithmetic, as effectually, and with as little Trouble, as Twenty or Thirty have ever been instructed by the usual modes of Tuition.

Perhaps the most widely representative view of the system was that of Thomas Bernard who glowingly reported:[8]

> The grand principle of Dr. Bell's system is the division of labour applied to intellectual purposes ... It is the division of labour in his schools that leaves the master the easy task of directing the movements of the whole machine, instead of toiling ineffectually at a single part. The principle in manufactories, and in schools is the same.

Bernard was not engaging in fantasy. The division of labour, or to use the terminology of current educational discourse, differentiated staffing, was an innovation both of factories and monitorial schools. Breaking down the productive (or instructional) process into its constituent elements and allocating to individuals those tasks which they could perform easily and competently not only speeded up the process; it made possible differentiated pay scales and effected economies in wages. Such various and esoteric functions and occupations in a wool factory as sorters, pickers, winnowers, scribblers, scourers, and glossers had their counterparts in the monitorial schools. Lancaster, for example, differentiated clearly between the tasks and payments of himself as master and such various monitors as the monitor of ruling books, the monitor of absentees, inspecting monitors, teaching monitors, monitors of slates, and the monitor general.

Central to the idea of the joint-stock company, and indeed to any efficient business, is the concept of accountability. In much the same way that managers of factories were responsible to owners or investors for the outcomes of their industrial or commercial operations, so too were the executives of various societies for the education of the poor accountable to their subscribers.

The acceptance of the principle of accountability and the consequent need to justify expenditures required, of course, that outputs be measured and, in some sense, quantified and standardized. That such was the case with the monitorial schools is again well illustrated by Joseph Lancaster, who in 1803 reported to his patrons that, due to his reorganization of the system and the introduction of new methods of tuition in spelling and arithmetic, 'proficiency' in these areas had been 'more than doubled' with 'individual scholars spelling 20,000 words and working 2,000 sums ... per annum; whereas, the same space of time, in the common modes of tuition, would have been ... irretrievably lost in idleness'.[9]

By far the most intimate connection between industrial and school management concerned the vital question of personnel supervision and control. Both schools and factories housed inmates who, in one way or another, felt obliged to attend. And while in the beginning the complexity of the problem was to some extent due to the 'newness' of industrialism and popular education, it was also inherent in the nature of the institutions of factories and schools.[10]

Men used to working at home were generally not inclined to go to the factory. In the early days factory labour consisted of the most ill-assorted elements: ... All these unskilled men, unused to collective work, had to be taught, trained, and above all disciplined by the manufacturer. He had so to speak to turn them into a human machine, as regular in its working, as accurate in its movements, and as exactly combined for a single purpose as the mechanism of wood and metal to which they became accessory.

To devise ways of ensuring regular attendance at prescribed hours, to get all individuals to work steadily - to do exactly what they were told, no more and no less - and above all to impose order and discipline, these were to be the most persistent and intractable problems faced by the managers of factories and schools. Jedediah Strutt, for example, in his detailed analysis of the 'offences' committed in his factory between 1805 and 1813, lists such typical school misdemeanours as going home without leave, absence without leave, idleness, looking through the windows, riotous behaviour, riding on each other's back, dancing, fighting, playing tricks, swearing, insolence, telling lies, teasing animals, and refusal to carry out orders.[11] For such offences, forfeits or fines were deducted from worker's wages, and although corporal punishment was forbidden in Strutt's mill, it was often brutally used by lesser overseers in other factories to 'discipline' women and children. Registers recording attendance, absenteeism and tardiness, 'black books' noting various delinquencies, records detailing the allocation of rewards, prizes and punishments, coloured blocks which placed beside a workman or student denoted his worth at that particular time, all were freely used in the schools and factories of the period. So important was the problem of control that Andrew Ure, in his famous panegyric on the factory system, written in 1835, recognized the major contribution of Arkwright to industry to be not his inventions but the devising and administering of 'a successful code of factory discipline, suited to the necessities of factory diligence'.[12]

Not surprisingly, in an age beginning to be dominated by utilitarian ethical theory, the system of control and discipline employed in factories and schools was heavily dependent upon rewards and punishments. Joseph Lancaster, for example, in his Borough Road Free School established in 1798, had 250 students and a total budget in 1801 of £118 10s, of which £84 15s went on his salary and a surprising £18 13s or 16 per cent on prizes and rewards. Three years later the school had over 500 students and a total budget of £223 7s, of which £49 8s or 22 per cent was expended on prizes and rewards.[13]

That the dispensing or withholding of rewards and punishments was seen as the most effective means of control and discipline in factories and schools meant, of course, that the notion of extrinsic motivation was relied upon completely to effect the purposes of both institutions. And while there may be some point to the criticisms of 'humanists' that it was primarily this reliance which effected the alienation of worker from his work, student from his learning, the fact remains that the concept itself was early entrenched in the pyschology of factory and school management.

Both Lancaster and Bell were well aware of, and indeed took great pride in, the obvious similarities between the operations of their monitorial schools and those of industry. But while they were as conscious of the overriding importance of organizational and administrative matters as any industrialist, neither was possessed of a sufficiently analytic mind (or, of course, sufficient leisure) to tackle the task of explicitly formulating the managerial principles upon which their schools were conducted. This assignment, however, was willingly undertaken and most capably executed by Jeremy Bentham, perhaps the most highly analytic mind of the early 19th century.

Jeremy Bentham's personal involvement with the monitorial system began in 1815. For some time, he and his friends had been impressed by the practical, mechanical and efficient nature of the system. There seemed to be no reason why it should be confined to the instruction of the lower orders of society in reading, writing and arithmetic.[14] Why not, they argued, apply it to all branches of useful knowledge? Why not make a comprehensive analysis of such knowledge and prepare it for systematic presentation to the middle and higher ranks of society? Why not, in fact, establish an experimental and profitable private school designed specifically for such a purpose?

Support for the project was readily forthcoming: contributions were pledged while Bentham offered his garden as the site for the school and volunteered to take a major part in its management. The scheme under way, he was free to begin work on the fascinating tasks of drawing up plans for the school; constructing an 'encyclopedical table' of all those arts and sciences which were 'conducive to well being'; translating these 'arts and sciences' into a school curriculum; analysing the principles of learning and teaching; devising a six-year school programme covering all branches of useful knowledge; and, finally, formulating the principles of the school's management.

Although the inevitable controversy over whether religious instruction should be given in the school eventually resulted in the scheme being abandoned, Bentham completed these various tasks and in 1818 Chrestomathia, his only major work on education, appeared. Despite the fact that it was little read by the general public, Chrestomathia must rank as one of the more important educational works of the 19th century. For as J. S. Mill

remarked of Bentham (and Coleridge), although they 'have never been read by the multitude ..., they have been the teachers of teachers'.[15] While Chrestomathia may not have greatly influenced public opinion, there can be little doubt that it affected powerfully the thinking of philosophical radicals like Brougham, Romilly, Chadwick and Lowe who were to dominate so many commissions of enquiry, royal commissions and government departments. Moreover, and equally important to the historian of education, in Chrestomathia one is confronted by attitudes to childhood, curricula and instruction that were typical of a large and increasingly important segment of the English middle classes. Certainly, many of the principles of school management enunciated by Bentham were to exercise a lasting influence upon English popular education.

There are discussed in Chrestomathia no less than thirty-eight principles of school management which are applicable to all branches of intellectual instruction.[16] Fortunately, for purposes of generalization, they are arranged in five categories, concerning respectively; the most effective placement and utilization of teaching personnel; 'the preservation of discipline' or 'the exclusion of disorder'; securing 'the forthcomingness of evidence ... in the most correct, complete, durable and easily accessible shape' on all matters to do with the purposes of the school; 'securing perfection ... in the performance of every exercise ... in the instance of every scholar'; and, finally, the achievement of 'the union of the maximum of despatch with the maximum of uniformity'.[17]

Category I contains six principles, each concerning 'the quality and functions of the Persons, by whom the performance of the several exercises is to be directed'. Central to them all is the first, the 'Scholar - Teacher employment maximizing principle', which consists 'in employing, as teachers to the rest, some of the most advanced ... among the scholars themselves ...'[18] To an essentially practical mind such as Bentham, the advantages of the principle were obvious. As he succinctly and bluntly put it:[19]

> Advantages gained, I. Saving in money. Every professional teacher would need to be paid; no such scholar-teacher needs to be paid; or is paid. II. Saving in time. Under the inspection of one professional General Master, the whole number of Scholars may be cast into as many classes as there are different branches of instruction, and different degrees of proficiency in each: each such class under the direction of its Scholar - Teacher; the instruction of all these classes going on at the same time.

The next four principles follow from the first, and deal with the efficient placement of monitors and the precise definition of their and the master's responsibilities. They are designed, in effect, to make possible a 'rational' division of labour. The concept of accountability is provided for in the sixth principle which not only allows but encourages regular visitation and superintendency of the institution by all those individuals contributing to its support. For Bentham, this was an advantage unique to schools instituted and supported by private contributions.

Under Category II are discussed a further six principles, all concerning the preservation of discipline, or 'the effectual and universal performance of the several prescribed Exercises, and the exclusion of disorder'. Once again, the psychological affinity between Bentham's concept of school administration and the management of factories is obvious, both in the reliance upon the extrinsic motivation provided by rewards and punishments, and in the concern to effect economies in the former. It is important to add, however, that the

principles themselves derive not so much from any conscious attempt to utilise in education the proven methods and techniques of industry as from a rigid application to the operation of a school of utilitarian ethical theory. When dealing with the control of behaviour through the dispensing of rewards and punishments, the author of The Principles of Morals and Legislation was, so to speak, on home-ground.

Thus, the first two principles concern the minimizing both of rewards and punishments. The 'punishment minimizing, and corporal punishment excluding principle' needed no justification, and required that the suffering produced by any act of punishment be but slightly greater 'to the person under temptation ... than the enjoyment expected from the offence'.[20] The 'reward economizing principle', however, is justified, not only on grounds of its effecting a reduction of expenditures, but also because rewards cannot be poured 'into one bosom, but at the expense of suffering ... inflicted upon others'.[21] The reward, therefore, must be the least sufficient to impel the individual to do what is required of him.

The guarantee of economy in dispensing rewards and punishments is contained in the 'constant and universal inspection promising and securing principle', or the 'Panopticon principle', which for Bentham was to be the cornerstone of the whole edifice of order and discipline, both in schools and in society. Significantly, the Panopticon was originally invented by Bentham's brother, Samuel, who was interested in the problem of prison design. It was, in fact, a prison in which[22]

> one inspector, or at most a very small number of inspectors, is in a position to supervise all the cells which are arranged concentrically around a central pavilion: ... the fundamental advantage of the Panopticon is so evident that one is in danger of obscuring it in the desire to prove it. To be incessantly under the eyes of the inspector is to lose in effect the power to do evil and almost the thought of wanting to do it.

The principle, Bentham believed, could be extended to factories, mad-houses, hospitals, poor-houses, and schools, all of which housed inmates who required constant inspection. What was required to keep children away from unprofitable play and mischief was simply the awareness that they were under the eye of a master every moment.[23]

It might be argued, admitted Bentham elsewhere, that such a system was nothing less than spying. But, he went on, there was no secrecy involved; indeed, 'the object of the inspection principle is ... to make them not only suspect, but be assured that whatever they do is known, even though that should not be the case'.[24] Vice was thus prevented, rather than discovered and then punished. It might also be charged that the awareness of being under constant inspection would produce a generation of timid men, totally lacking in initiative. But surely, he went on, what mattered was 'would happiness be most likely to be increased or diminished by this discipline? Call them soldiers, call them monks, call them machines: so they be but happy ones, I should not care'.[25]

The introduction of this principle required that the school be constructed in such a way that the master could see everything and everyone, while remaining himself, when he desired, unseen. By this single innovation in school design, Bentham confidently expected to do more than just prevent the occurrence of any overt misbehaviour by students and monitors. As he himself put it, 'Morals reformed, health preserved, industry invigorated, instruction diffused, public burthens lightened, ... all by a simple idea in architecture'.[26]

Of course, if the purposes of the school were to be realized, it was necessary that students should do more than passively behave themselves. They must work - hard and consistently. And to 'encourage' them to do so, an appropriate and inexpensive system of rewards and punishments was required. In his 'place-capturing, or extempore degradation and promotion principle', Bentham elaborated such a system. Each class in the school was to be arranged in a row representing a gradation of honour and merit. Attendant upon the 'saying of lessons', a continual process of promotion and degradation was to take place, formal instruction being converted, in this way, into a highly competitive game. Thus, punishment would be attached 'instantaneously upon demerit, and ... reward upon merit ... without further trouble or expense in any shape'.[27]

Finally, in a system of discipline so heavily dependent upon rewards and punishment, justice must not only be done, but be seen to be done. To guarantee this, Bentham enunciated two further principles, the 'appeal providing principle', whereby a scholar could appeal the decision of a monitor to the master himself, and the 'scholar-jury principle', which would preserve the master from the reproach of tyranny, train students in 'the exercise of the functions of the judicature', and add the force of social pressure to the maintenance of order in the school.

In Category III are enunciated four principles which have to do with securing factual information about the progress of every student in the school.[28] Noone recognized more clearly than Bentham and the Philosophical Radicals that for sound decisions to be made in any field, be it politics, economics, health or education, accurate information must be instantly available. Moreover, record-keeping was a necessary condition for true accountability.

In the proposed Chrestomathic school, Bentham provided for extensive records to be kept, detailing the age of scholars and monitors, their attendance, the dates of their entering and leaving each class in the school, the number and types of their delinquencies, and the rewards and punishments dispensed to them. A history of the progress of every scholar and monitor would thus be available, not only to the master but to any contributor or parent who wished to see what he was getting for his money. One of the more important responsibilities of the master was this book-keeping function.[29]

In Category IV Bentham included no less than fourteen principles which have for their object the achievement of complete mastery of the prescribed instructional content by every student, this mastery to be demonstrated by the student's obtaining a maximum score on a series of standardized tests. In a very real sense, Bentham perceived the various relationships between the school, the subscribers, the students and their parents to be contractual ones.[30] For a specified sum of money, paid by subscribers or parents, the school contracted to perform a certain set of operations, and, more importantly, to achieve agreed upon objectives. The fulfillment of the contract by the school could only be demonstrated by each student 'proving' that he had, indeed, totally 'mastered' the instructional content. Anything less would mean that the school had failed to live up to the terms of the contract; anything more would mean that the school was exceeding the terms of the contract and presumably misallocating funds.

All the principles under this category are therefore designed to ensure nothing less and certainly nothing more than the fulfillment of the terms of a contract, that is effectively to

instruct each student in 'the several prescribed exercises'. Among the more significant principles are the following: that no student admitted to the school be presumed incapable of 'imbibing the instruction'; that the instructional content and objectives be so precisely formulated that every student and monitor immediately apprehend what was required of him; that no student be allowed to move out of a class until he had achieved a 'perfect performance', in effect, 'continuing to be taught, until he has learnt'; that material already 'mastered' be regularly recapitulated to ensure its retention and logical connection with new information; that charts and schematic representations of material cover all areas of the school visible to students so that they would 'learn' during the few moments in the day when they were not being instructed; and that all outside distraction be eliminated by an appropriate placement of windows.[31]

For Bentham, it was not enough that contractual obligations be undertaken and met; they must be discharged as efficiently as possible. Thus, in Category V, he discussed his final eight principles of school management, all of which have [32]

for their special object, the union of the maximum of despatch with the maximum of uniformity; thereby proportionably shortening the time, employed in the acquisition of the proposed body of instruction, and increasing the number of pupils made to acquire it, by the same Teachers, at the same time.

The aim of producing a standardized product, in as short a time as possible, in as large a quantity as possible, with as little expenditure as possible, was as much an ideal of Bentham for education as it was of any industrialist for his business.

The principles themselves are largely self-explanatory, and require little or no comment. To the 20th-century reader many of them may perhaps seem somewhat trivial. What is important, however, is not so much the specific principles themselves as the intention behind them, and thus their impact. To save time, to save money, to increase the output of a uniform product while holding expenses steady - these were objectives which were to condition the approach to and outlook on popular or elementary education from its very inception. It is a mark of Bentham's genius that, at the very outset of popular education, he was able to penetrate to and uncover the bedrock of administrative principles upon which not only the monitorial school but subsequent institutions of public education were to be constructed and conducted.

Lacking an effective system of central and local government, possessed of a chaotic legal system, confronted with war abroad and discontent at home, experiencing the pangs of rapid population growth, increasing urbanization and emerging industrialism, English society in the late 18th and early 19th centuries faced social problems which defied traditional solutions and traditional modes of thought. The approach of the 19th century to the resolving of these difficulties was to be created by a fusion of evangelical religion and Benthamite utilitarianism. Thus, while the awareness of social problems was heightened and the direction of the new society greatly affected by the puritanical and humanitarian spirit of evangelicalism, the actual method of tackling social issues was largely determined by the critical and practical outlook of Benthamism. Certainly the tendency to treat social problems as essentially business problems can be traced to Benthamism, and this to some extent explains the emergence and continuing strength of a 'management syndrome' in English popular education.

But even if the influence of Bentham is ignored, when one considers the close affinities between the problems of factory and school management - *raising funds*, allocating limited resources, the crucial question of accountability and the difficulties of imposing order and discipline - it is hardly surprising that the solutions proposed, accepted and put into practice were in so many respects similar. And while the replacement of monitors by pupil teachers, the evolution of a teaching profession, the expansion of curricula, the introduction of more enlightened pedagogy, and the gradual increase of government aid may all be looked upon as educational advances, there are no grounds for maintaining that any of them represented or was accompanied by a deliberate rejection of an already well established business-management syndrome. For in the final analysis the close relationship between business management and school administration was and perhaps still is due not so much to any imitation one of the other but rather to the essential *similarity* of those two recent and yet founding institutions of modern society, the factory and the school.

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APPENDIX

PRINCIPLES OF SCHOOL MANAGEMENT:

applicable to INTELLECTUAL INSTRUCTION, to all branches without distinction

Adapted from J. Bentham's Chrestomathic Instruction Table II

I. Principles, relative to the Official Establishment: i.e. to the quality and functions of the Persons, by whom the performance of the several Exercises is to be directed.

1. Scholar - Teacher employment maximizing principle.
2. Contiguously proficient Teacher *preferring* principle.
3. Scholar - tutor employment maximizing, or Lesson-getting Assistant employing, principle.
4. Scholar - Monitor employment maximizing, or Scholar Order - preserver employment maximizing, principle.
5. Master's time economizing, or Nil per se quod per suos, principle.
6. Regular Visitation, or Constant Superintendency providing, principle.

II. Principles, having, for their special object, the preservation of Discipline: i.e. the effectual and universal performance of the several prescribed Exercises, and the exclusion of disorder; i.e. of all practices obstructive of such performance, or productive of mischief in any other shape; and, to that end, the correct and complete observance of *all arrangements* and regulations, established for either of those purposes.

1. Punishment minimizing, and Corporal Punishment excluding principle.
2. Reward economizing principle.
3. Constant and universal Inspection promising and securing principle.

   Note: To this belongs the Panopticon Architecture employing principle.
4. Place - capturing, or Extempore degradation and promotion principle.

5. Appeal (from Scholar - master) providing principle.

6. Juvenile Penal Jury, or Scholar Jurymen employing principle.

III. Principles, having, for their special object, the securing the forthcomingness of Evidence: viz. in the most correct, complete, durable and easily accessible shape: and thereby the most constant and universal *notoriety* of all past matters of fact, the knowledge of which can be necessary, or conducive, to the propriety of all subsequent proceedings; whether for securing the due *performance* of Exercises, as per Col. I or for the exclusion of disorder, as per Col. II.

1. Aggregate Progress Registration, or Register employing, principle.

2. Individual and comparative proficiency registration, or Place - competition - result Registration employing, principle.

3. Delinquency registration, or Black - Book employing, principle.

4. Universal Delation principle, or Non - Connivance tolerating, principle.

IV. Principles, having for their special object, the securing perfection: viz. in the performance of every Exercise, and that in the instance of every Scholar, without exception.

1. Universal proficiency promising principle.

2. Non-conception, or Non - *intellection*, presuming, principle.

3. Constantly and universally perfect performance exacting, or No - imperfect tolerating, principle.

4. Gradual progression securing, or Gradually progressive Exercises employing, principle.

5. Frequent and adequate recapitulation exacting principle.

6. Place - capturing probative exercise employment maximizing principle.

7. Fixt verbal *standard* employment, and Verbal conformity exaction, maximizing principle.

8. Organic Intellection - Test employment maximizing principle.

9. Note - taking Intellection - Test employment maximizing principle.

10. Self service exaction maximizing principle.

11. Task - descriptive enunciation and promulgation exacting principle.

12. *Constant* all - comprehensive and illustrative Tabular Exhibition maximizing principle.

13. Distraction preventing, or Exterior object excluding principle.

14. Constantly and universally apposite Scholar - classification securing, principle.

V. Principles, having, for their special object, the union of the maximum of despatch with the maximum of uniformity; thereby proportionably shortening the time, employed in the acquisition of the proposed body of instruction, and increasing the number of Pupils, made to acquire it, by the same Teachers, at the same time.

1. Simplification maximizing, or Short lesson employing, principle.

2. Universal - simultaneous - action promising and effecting principle.

3. Constantly - uninterrupted - action promising and effecting principle.

4. Word of command employing, or Audible - direction abbreviating principle.

5. Universally visible signal, or pattern employing, or Universally and simultaneously visible direction employing, principle.

6. Needless repetition and commoration excluding principle.

7. Remembrance assisting Metre - employment maximizing principle.

8. Employment varying, or Task - alternating principle.

1. R. E. Callahan, Education and the Cult of Efficiency (Chicago, 1968), p. vii.
2. Ibid.
3. Jeremy Bentham, Chrestomathia (1816). Works of Jeremy Bentham (ed. J. Bowring), (New York, 1962), Vol. 8, pp. 1-191.
4. H. Wodehouse, A Survey of the History of Education (1930), p. 141.
5. Andrew Bell, Extract of a Sermon on the Education of the Poor (1807), p. 17.
6. W. H. G. Armytage, Four Hundred Years of English Education (1964), p. 90.
7. Joseph Lancaster, Improvements in Education (1806), p. 23.
8. Society for the Bettering of the Condition of the Poor, (ed. Thomas Bernard), Of the Education of the Poor (1809), pp. 34, 36.
9. Lancaster, op.cit., pp. 17-18.
10. Paul Mantoux, The Industrial Revolution in the Eighteenth Century (1962), p. 375.
11. R. S. Fitton & A. P. Wadsworth, The Strutts and the Arkwrights, 1758-1830, pp. 234-237.
12. Andrew Ure, The Philosophy of Manufactures (1835), (1967 edn.), p. 15.
13. Lancaster, op.cit., pp. 13-19. In this connection, it is interesting to speculate what degree of student motivation could be generated by a modern school system which allocated over 20 per cent of its budget to 'prizes and rewards'.
14. In fact Bentham was aware that the system was in use both at the High School, Edinburgh and at Charterhouse School. See Bentham, op.cit., pp. ii, 59.
15. J. S. Mill, On Bentham and Coleridge (1838), (1962 edn.), p. 39.
16. See Appendix.
17. Bentham, op.cit., pp. 46-53.
18. Ibid., p. 46.
19. Ibid.
20. Ibid., p. 48.
21. Ibid.
22. E. Halevy, The Growth of Philosophic Radicalism (1955), p. 83.
23. Jeremy Bentham, Panopticon, or the Inspection House (1787), Works, Vol. IV, p. 62.
24. Ibid., p. 66.
25. Ibid., p. 64.
26. Ibid., p. 39.
27. Bentham, Chrestomathia, op.cit., p. 48. A principle, incidentally, employed by Lancaster in his school.
28. Ibid., p. 49.
29. As the 19th century wore on and the machinery for allocating government grants to schools became more complex, this function was to become increasingly important. By the middle of the century, the school register was as ubiquitous and as sacred as it is today in many parts of the world.
30. The similarities between Bentham's views here and those underlying one of the most recent innovations in public education, performance contracting, are obvious.
31. Bentham, Chrestomathia, op.cit., pp. 49-52.
32. See Appendix.