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Some Economic Aspects of Education.

Does Education Pay?

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Being a thesis submitted to the Department
of Economics of the University of Manitoba
in partial fulfilment of the requirements
for the Degree of Master of Arts.

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P R E F A C E.

The question which forms the subject of this thesis is one which, under different forms and guises occupies the thoughts of many at this time.

The cost of education seems to be increasing out of all comparison with many other public utilities. Particularly is this so in the suburban municipalities, which by reason of their proximity to the City of Winnipeg, with its up to date schools and equipment, seem almost bound to follow its lead as nearly as possible, and find the expense more than they can bear.

The result has been financial difficulty and in the case of many, almost bankruptcy, and appeals to the Government to do something to relieve the situation.

These appeals range all the way from requests for pecuniary help, to demands that the government should take over the entire management of the schools of the Province; and so making Education a department of the State, and the teachers, Civil Servants.

Under these circumstances, a discussion as to whether the admittedly great expense of education is justified will, we think, prove of the greatest interest.

Apart, however, from the value to the individual of an education, is the greater and more important one of gain to the State, and we propose therefore,

to enquire into the matter from these two standpoints:-

1st. The gain to the individual.

2nd. The greater value to the State of a well
educated citizen as compared with one with a
purely elementary education.

It has been said, with considerable truth that this is a utilitarian age and everything must be brought to the test of "value", and we are not disposed to quarrel with the statement, if we can agree as to the meaning of "value", for its connotation varies according to the different uses of it by different classes of people. To the Artist "value" means something entirely different to what it does to the Literateur. The Scientists idea of value differs from that of a Politician and so on. Unfortunately in these days "value" is almost universally taken to mean "money value", What is it worth in dollars and cents? How much is a man better off financially? What is it worth in the open market?

Now much as we may deprecate discussing the Value of Education from such a standpoint, we believe that even on such grounds it may be demonstrated that Education pays.

Until comparatively a few years ago education was the prerogative of a class; but to-day it has become the right of everyone, and is within the grasp of anyone. All civilized nations are spending millions in putting education within the reach of even the poorest of their citizens. Nay, further, education is becoming almost universally compulsory and the people

are being taxed more or less heavily for its support. And here is where the shoe pinches. Make anything compulsory and tax the people for its production and at once the cry goes up, "Is it worth it?" "Are we getting value for our money?" and the question after all is a not unreasonable one. When year after year, large sums are being collected from the people, whether the times be prosperous or not, for the building of large and very ornate schools, colleges and universities, and for the payment of a large body of teachers, it is not surprising that at times they get restive. The expense entailed, too, falls most heavily upon that portion of the ratepayers, who, from force of circumstances are the least able to invest capital in the rearing and education of their children. While a man's industrial skill is in part the result of his own effort and sacrifice, it is in general, largely due to the effort and sacrifice of his parents, who cannot reap the material reward. This being so it is only natural that when this investment of capital is made compulsory, the question should be asked, "Does Education pay?"

The next question to be considered is "What is included in the term Education?" Many learned treatises have been written setting forth what, in the

author's estimation Education means: but for the purpose of this paper it is not necessary to consider them. For we are thinking of the man in the street and perhaps more particularly that larger portion of our taxpayers, the "working man", and we use the term "working man" in its common acceptance. What does Education mean to him? He - unless he is some abnormal type of man - desires that his children shall be educated, and for that purpose he sees provided for them, Elementary Schools, High Schools, and Universities. He remembers his own time at the small Country School, or in the Board Schools of the Old Country. He probably received the rudiments there, Reading, Writing, and Elementary Arithmetic and then had to leave at as early an age as the law allowed, to help to earn the family livelihood. If brought up on the farm, he had to help in the farm work and so again, got but a smattering. To such an one, the course offered at the Elementary Schools seems a full one, for the subjects which are now included in these Schools, are many more in number and more comprehensive than when he was a boy, and seem to be yearly increasing. But he finds that his child having passed the Elementary School, is urged to go on to High School and ultimately to the University. He realises that

his boy can leave the Elementary School at 14 and go to work and be at least self supporting, even if he does not add appreciably to the family exchequer. High School, means a further three or four years study and that much further strain on the family budget; and if he goes to the University, the lad will be twenty-one years of age before he has finished the course and emerges with a degree. Is it any wonder that the parents doubt if the game is worth the candle? And we must not charge them with selfishness if they query the expense. They have worked hard all their lives and brought up their children decently. The Elementary Schools' education is very much better than anything they ever had and includes what, too often, seems to them to be unnecessary "frills". They notice too that their children are not content with living and working as they have done, and wonder whether, when old age come, the children will be better able to contribute to their parents' support than had they followed their father's calling? And even if they should be, have the parents not paid too great a price for it?

Then there is the childrens' point of view. Will it pay them to spend from seven to eight years studying with the ultimate hope of bettering their position? Boys and girls about them are earning fair

wages all the time that they are working at school. Is it worth it?

There is probably less objection taken to the time spent at the Technical Schools; for any workman knows by experience that a skilled artisan is a better paid man than the ordinary mechanic; but again the question arises, - Does the extra pay compensate for the years spent in learning the intricacies of the art, at considerable expense while earning little or nothing.

The attempt to assay the value of Education in monetary terms, has met with the disapproval of many eminent leaders of educational thought. Says the Dean of one of the most noted Universities in the United States - "The world should believe that Education pays in things that are worth more than cash. I am convinced that it would be possible to compare the earnings of 10,000 college graduates with the earnings of 10,000 non-graduates to the advantage of the graduates; but to my mind that would be of little importance compared with the rich rewards that the Higher Education gives men and women. Nor do I feel any great anxiety as to the attitude of the public on these matters. Men will always grumble over the expenditure for anything, but precious few are not eager to have

money spent to give their children the highest advantages." (1)

Says another, "We proceed on the assumption that questions as to whether Education pays must be answered in the affirmative. Apparently some assume that the value of education can be determined in dollars and cents. Education, if justified at all, must, I believe, be justified on other grounds." (2) And those who realize the true value of education will cordially agree. Unfortunately, we are finding it necessary in these days to meet the common man in the market place and try, if possible, to convince him that no matter how considered, education "pays".

The school is the joint guardian with the home and the church, of those intellectual and moral ideals upon which all progress and success must be based. Forces released by the industrial and scientific revolution of the last century, are striking at the very foundation of the nations spiritual life. The fear is expressed by some that the wholesome standards of thought and conduct of Canadian life are being irreparably undermined. Whether this be true or no, it can be said with certainty, that safety can be purchased only by increasing the share of human energy which goes into the spiritually-constructive forces

(1) Dean of Harvard University.

(2) Vice President University of California.

which determine a nation's moral stamina.

But it is objected that we cannot afford to pay for the schools which claim to supply this moral stamina. They say that we are rating moral stamina too high and that the most important thing after all is material comfort, and ability to enjoy what they call "the good things of life".

They are wrong, even from their own point of view. We believe, and think we can show that it not only rewards the diligent seeker of it by increasing his material wealth, but enables him to get far more satisfaction even out of material things than he otherwise would or could.

Having discussed the objection to the expense of education, let us consider next what are the relative costs of its different branches - Elementary and Secondary - in Manitoba, and what can be said in extenuation of this expenditure and what proofs can be adduced that capital sunk in acquiring a good Education yields rich returns.

From figures supplied by the Winnipeg School Board, we find that the expenditure on the public schools the last five years has been as follows:-

<u>Year</u>	<u>Total Levy</u>	<u>Cost per Pupil.</u>
1921	\$2,688,400.00	\$83.79

<u>Year</u>	<u>Total Levy</u>	<u>Cost per Pupil</u>
1922	\$2,939,000.00	\$84.73
1923	\$2,935,000.00	\$82.04
1924	\$2,920,000.00	\$80.54
1925	\$2,920,000.00	\$82.25
Average for five years	\$2,881,000.00	\$82.25

(1)

Taking the total population of Winnipeg in 1925 we find the cost of education per capita of population to be \$16.42 (or \$1.37 per month per child); and of this sum \$14.00 may be allocated to the Elementary Schools, and \$2.42 to the High Schools.

But this hardly puts the comparison clearly enough; for the number of High School pupils is very much less than those in the Elementary Schools - or 2,883 pupils to 33,372. How does the cost per pupil work out? We have seen that \$82.25 is the cost of the Elementary pupil, and now find that \$161.87 is the cost of each High School pupil, or almost exactly twice as much. It is this extra cost that is attacked; not only by the ordinary ratepayer, but in the present session of the legislature the Government is objecting to contributing to the expense of the High Schools in those districts which are unable to furnish the money themselves.

We have given the figures for the City of

(1) Annual Report, Winnipeg School Board. 1924.

Winnipeg rather minutely, for it is in that City that the greater expenditure on Higher Education takes place, and where the necessary figures are the more easily procurable.

For the whole of Manitoba we find the expense per child, including High School, University, Technical Schools, Agricultural College etc., works out approximately to \$78.09 per pupil. The figures for the different departments separately are not available, but as nearly as can be ascertained the High Schools per pupil cost about double that of the Elementary Schools. (1)

Now what evidence have we that will warrant this extra expense, and encourage a man not only to furnish the necessary cost of a High School and University Education for his child, but to forego his probable earnings during the time that he is studying.

Fortunately we have a considerable quantity of statistics to which we can refer in this matter, compiled by a large number of people, who for various reasons, have interested themselves in the subject.

First let us see what effect extended attendance at the Elementary School has on the earning capacity of the pupil.

From figures compiled by Dr. Charles Dabney (2) in 1899, he found that in the State of Tennessee, where (1) Report of the Department of Education, Manitoba, 1924.

(2) "A World-Wide Law" by Dr. Charles W. Dabney.

the average length of schooling was three years, the average annual per capita production amounted to \$116.00 or .38¢ per working day; whereas in Massachusetts where the average school life was seven years that the per capita production was \$260.00, or .85¢ per working day. Taking the average school life of the United States at four and two-fifths years, he found the average per capita production was \$170.00 or 55¢ per day. These figures are worth considering. An extra one and two-fifths years schooling raised the annual production \$54.00, while an added two and two-fifths years of schooling raised the production a further \$90.00.

Suppose that a boy left school after only three years tuition; he would, all the time his mates were taking further tuition, be earning \$116.00 per annum. At the end of four years, when his fellows left school, he would have earned \$464.00; while they, not only had earned nothing, but had incurred an expense of \$328.00 (4 x 82.00) for their tuition; a total of \$792.00 to his credit. But they at once begin to earn \$260.00 to his \$116.00, or \$144.00 more, so that in five-and-one-half years, approximately, they would have come even with him; and from that on be compounding the difference in their favour. At this juncture we say nothing regarding "the priceless rewards which education brings", which cannot be

computed in dollars and cents, and which the boy with the three years education knows little of.

Now let us take another authority from more recent times. (1)

The following diagram sets out graphically the increased earning capacity of those who have had four years High School training, - from fourteen to eighteen years of age:-

High School Training	Age	No High School Training
In High School	14	\$200.00
" " "	16	\$250.00
\$ 500.00	18	\$350.00
\$ 750.00	20	\$470.00
\$1000.00	22	\$575.00
\$1150.00	24	\$600.00
\$1550.00	25	\$688.00
Total salary for 7 years = \$7337.50		Total salary for 11 years = \$5112.50

Taking first the boy who leaves school at the age of fourteen with only an Elementary School education. The first year he can earn \$200.00 and by gradual increases is able at twenty-five years of age to earn \$688.00 per annum. During the years he has been working he has earned a total of \$5112.00, or an average of \$1.40 a day. Compare with this the

(1) Report of the President of the Brooklyn Teachers Association, 1909.

earnings of a boy who continues at High School until he is eighteen years of age. He does not begin to be wage earning for four years after the other boy; but such is his greater earning capacity that by the time he has reached twenty-five years of age he has earned \$7,337.00.

Now at twenty-five the man with only Elementary School education has probably reached the limit of his earning capacity; while the High School trained man has the capability to consistently increase his annual earnings.

The Massachusetts Committee on Industrial Education composed of some of the ablest educators and most thoughtful men and women in the States, visited 354 firms in 55 different industries in 43 cities; personally visiting 5,459 employees out of 9,057, between the ages of fourteen and twenty-four years, employed by these firms. (1) They made a particular study of 799 workers who had left school at either fourteen or eighteen years of age; and traced the actual average salaries received by those workers year to year. They found that boys who had remained four years longer in school in order to take a technical course soon caught up in salary with their brothers who stopped at fourteen; and went ahead of them so

(1) Report of the Commission on Industrial and Technical Education submitted to the Mass: Legislature, 1906.

rapidly, that by the time that they were twenty-two years old the sum of the four years salary of the better educated boys was equal to that of the eight years salary of those who had quit school at fourteen.

At the age of twenty-five the boys who had taken four years extra schooling were, on the average, getting \$900.00 a year more than those who left school at fourteen.

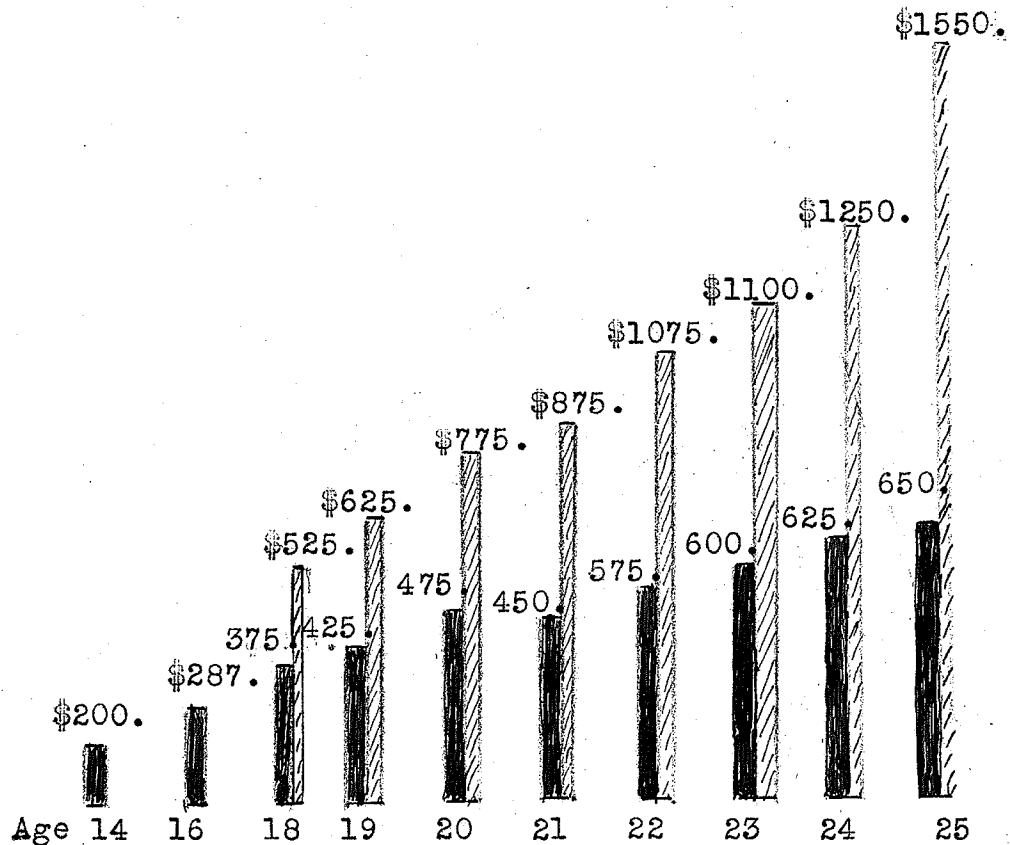
From the twenty-fifth year on, the boys who had left school at fourteen would secure practically no promotion, whereas those who had remained in school until eighteen, and had therefore entered the higher-grade industries and positions, would continue to receive promotion and increase in salary for many years.

If, however it is assumed that each boy continues for the remainder of his normal working life to receive the same salary that he was paid at twenty-five years of age, the boy who left school at fourteen would receive a total life income \$26,667.00; while the boy that remained till eighteen would receive \$58,900.00.

It thus appears that four years of technical education, from fourteen to eighteen years of age, more than doubles the earning capacity of the average

Massachusetts boy engaged in industry, and richly repays him for the time and money devoted to his education.

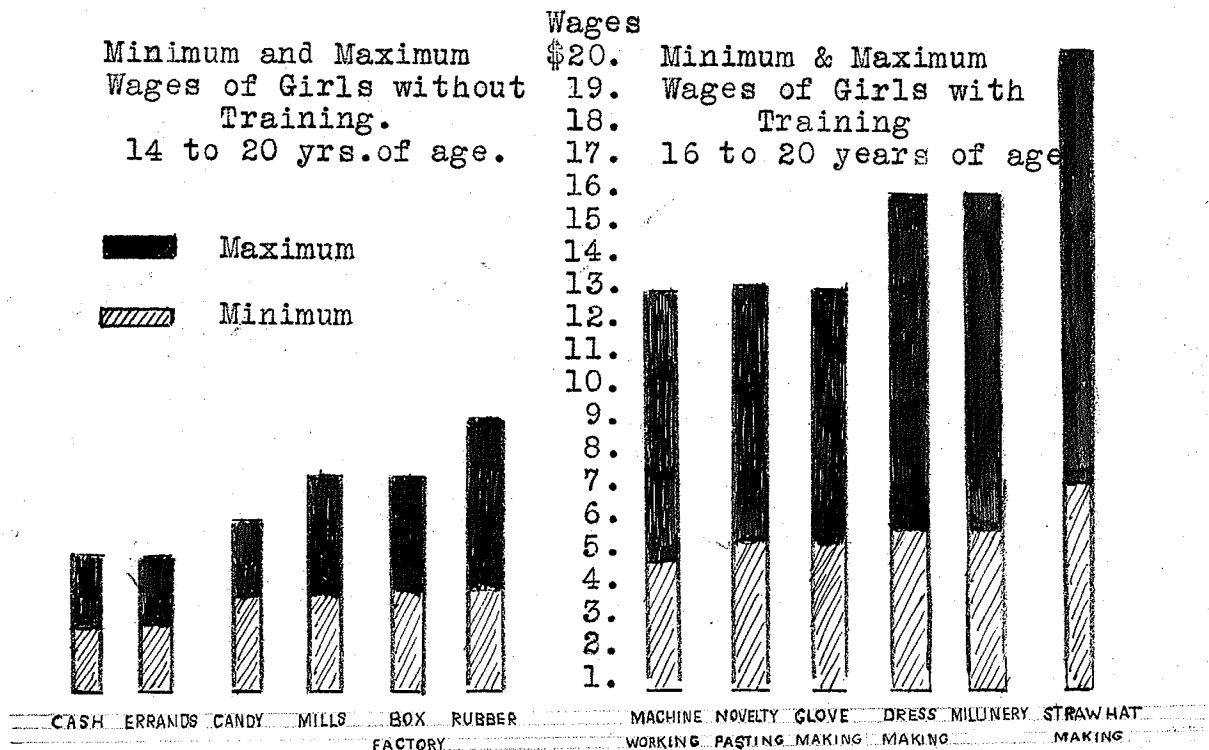
The above is graphically set forth thus:-



The solid black columns represent the average yearly wage received by 584 children who left school at fourteen years of age. The hatched columns represent the average wage received by 215 boys who remained in Technical Schools until eighteen years of age.

Note:- The Technical School students surpass the shop-trained boys from the beginning; and at twenty-five years of age are receiving \$900.00 a year higher salary.

It will be interesting here to consider a comparison, made by Miss Florence Marshall,⁽¹⁾ of the wages received by girls in those occupations demanding no training and those that do demand it.



A very interesting investigation was instituted by a Committee of the Brooklyn Teacher's Association,⁽²⁾ with a view to comparing the salaries which were received by graduates of the Elementary Schools with

(1) "The Public and the Girl Wage Earner" by Florence Marshall in "Charities and the Commons", Oct, 1907.

(2) Report of the Committee on Incentives, 1909.

those received by others who left school before graduating.

The Committee was able to trace the careers of some 166 pupils out of 193 boys taken at random from the Elementary Schools. The result of their investigations furnishes a very illuminating comment on the proposition which furnishes the topic we are now considering, i.e., "does Education Pay?"

It was found that the average income earned by these 166 boys was \$1,250.00; whereas the average salary of those who had left school before completing the Elementary course, and who therefore might almost be termed "illiterate", did not rise above \$500.00 a year. The difference in favour of the graduate being therefore \$759.00 per annum.

Were it not that these investigations were carried out by responsible and reliable authorities, anxious only to get the truth, one would be inclined to query them.

A boy leaves school with barely a smattering of knowledge and is able to earn \$10.00 a week. His mates who continued at school some two or three years longer and emerge with that education which the Elementary School can give them are able to earn \$22.00 a week. During the two or three years the latter is at

school, the illiterate youth has been earning \$1,500.00. It will take the educated boy two years to catch up; after which his advantage compounds yearly, for his salary will be increasing considerably even after he is thirty years of age; while the illiterate labourer's will not.

Further, had the parents of these 166 boys wished to buy an annuity for their sons equal to the \$750.00 per annum which they were earning over and above the ~~other~~ illiterate boys, it would have cost them \$15,000.00 per boy. It will thus be seen that the elementary education was worth to the boys more than a capital of \$15,000.00 invested for them.

It may be objected that we are dealing in this instance with the comparison between no education and an Elementary School education, and that the advantage of the latter is conceded and it therefore has little bearing on the discussion we have before us. But it will be seen as we look into the matter further, that a similar advantage is enjoyed by the High School graduate over the Elementary School graduate.

The same Committee found, on investigating the wages received by some 1600 pupils in the Night Schools of the city, as follows:-

Grade on leaving school	Average age at leaving school	Average age at present	Average wages now	Number of years have worked
Below 8B-----	13.3	18.8	\$469.00	5.4
Below 8A-----	14.1	18.4	\$424.00	3.5
First-year High School	15.0	17.0	\$425.00	2.0
Second-year High School	15.6	14.0	\$466.00	2.4
Third-year High School	15.9	18.0	\$503.00	2.1

From this it will be seen, that the pupils who continued through High School, were receiving at the end of two years, more salary than those who quit at the eighth grade ~~were~~, after more than five years work. And again it must be borne in mind that the eighth grade pupils will have almost arrived at their maximum; whereas the High School boys are only beginning, and judging by the experience of other similar cases, will receive for a number of years to come, increasing salary.

Another most interesting fact can be gathered from the above, i.e., that in-as-much as the Grade Eight pupils mentioned manifested a willingness to improve themselves by attending "Night-School", it cannot be therefore charged that they were lacking in energy and ambition as compared with the High School boys; nor cannot it be said that their slow rise in

salary can be accounted for by laziness or stupidity, even though this may with justice be used to account for some part of the inability to succeed, usually shown by the illiterate as compared with school graduates.

Additional light on the question as to the value of an education, is afforded by the salaries offered by one of the biggest Engineering firms in the United States.⁽¹⁾ For positions demanding only the most rudimentary education - in fact a knowledge merely of reading, writing and arithmetic - they were willing to pay \$982.00 yearly; positions calling for a High School or Commercial Education paid \$1,729.00; while for positions requiring two or three year's college or technical training in addition to High School, they offered as high as \$2,400.00 a year. (It should be noted that these salaries were those ruling prior to 1916).

Now let us take these cases and work them out on a basis of forty years service.

The uneducated man, or the man with only a knowledge of the three "R's", earning on an average \$982.00 a year, earns in forty years \$39,280.00. The High School graduate earning on an average \$1,729.00 per annum, earns in forty years \$469,160.00, or nearly \$30,000.00 more than the former. In order, however,

(1) The Bridge Dept: of New York City.

to be in a position to earn this higher rate of pay, the man had had to attend twelve more years at school than the uneducated man had; and taking a school year as 180 days, he had put in 2,160 more days at school. If therefore these 2,160 days in school added \$30,000.00 to the income spread over forty years, then each day in school is worth \$13.89.

Again, it was proved that in another large city, those who left school at the age of fourteen and worked until they were twenty-five, had earned on an average, after eleven years work, a total of \$15,112.00. Comparing them with those who continued at school a further four years - in other words, took the High School course - it was found that these latter, between the leaving age of eighteen and twenty-five years of age, had earned in these seven years \$7,337.00. If, in four years less time, the High School graduate can earn \$2,225.00 more money, it is evident that not only does it pay to go to High School, but it pays well.

The instances so far given are concerned with city life and employment, skilled trades and mechanics; how are the other callings, farming for instance, affected?

It would almost seem as if the calling of a farmer, dealing as it does with branches of industry

which do not appear to lend themselves to improvements by "book learning", would be as efficiently carried on by a boy whose chief asset is a strong body and an ability to do as he is told, as by one who had spent further years in acquiring knowledge which has little or nothing to do with farming lore.

As a matter of fact, one of the chief difficulties a teacher has to contend with in the country schools, is to persuade the average farmer that his boys will benefit, even as farmers by a High School education.

It is true that of late years farmer's boys and girls are taking greater advantage of the High Schools, but this is due, not to a belief that the extra year's schooling will increase their earning ability as farm hands, but rather to a desire among the younger generation to leave the farm and come into the towns; where "life", as they consider it, can be realised.

But even such a calling as that of a farmer, like all other callings, reaps the benefit of better education; and by this we do not mean the special education received at the Agricultural Colleges, which

undoubtedly leads to better farming, and therefore to better results from the labour expended.

More than ten years ago, very careful enquiry was made in one of the United States as to the yearly income received by farmers with only a District School education; as compared with that received by one with a College education; and the following is the result.

Of 1,007 farmers with only a District School education, the average yearly income was \$318.00; of 280 with a High School education, the average yearly income was \$622.00; and of 16 with a College education, the average was \$847.00.(1)

Why this should be it is perhaps difficult to explain, but the facts disclosed warrant the conclusion, that even in farming, the income received was in direct proportion to education.

The conclusions arrived at above are borne out by another investigation of similar kind; carried out in a number of States far removed from the first mentioned. It had been claimed in these States that education counts least amongst farmers; and further that the school educated away from the farm. The results of the investigations in no less than nine States, indicate that these assumptions are unjustified

(1) "Education of Farmers" in "An Agricultural Survey." Cornell University Bulletin, 295.

by the facts.(1)

The figures given below are those for the State of Kansas, and are precisely similar to those found in every State investigated:-

Education of Farmers. Annual Earnings.

Common School \$422.00

High School \$544.00

College Partial Course \$859.00

Completed College \$1,452.00

Now let us see to what extent a College Education benefits the individual.

One of the largest Universities in the United States took considerable trouble to ascertain the salaries of a large number of its graduates during the ten years following their graduation.

While it was not possible to trace every member of a class during the ten years, still sufficient data was accumulated to render the conclusions formed, reasonably accurate.

During the first year after graduation, the average salary received amounted to \$706.00. By the fifth year this had increased to \$2,040.00, and by the tenth year to \$3,804.00. Among the number of graduates whose salaries are included in the foregoing, were a considerable number of school teachers and clergymen, whose incomes are notoriously low - barely

(1) "Earning Power & Education" World's Work, July 1923.

half of what the other graduates received who had entered other professions.

That the result of this investigation was not unusual or confined to the particular class mentioned, is borne out by the fact^{that}, almost exactly similar results were secured from another class graduating some years later. (1)

Nor is it peculiar to one University. Yale University reports that the salaries received for the first five years by the class of 1906 averaged as follows:-

First year	\$683.85
Second year	\$898.30
Third year	\$1,257.54
Fourth year	\$1,686.14
Fifth year	\$2,040.04

Compare these salaries with those received by the High School students and the difference in favour of the University graduates is striking. In fact the University man was receiving about double the salary of the non-collegiate man.

Similar compilations have been made for practically every College and University in the country with the same general results.

A large middle western University compared

(1) The Decennial Record of the Class of 1901, and Fifth Record of the Class of 1906 - Princeton University.

the salaries of College graduates with non-college graduates in the same line of work, under conditions in which the two groups were as nearly identical as could be secured, and found the College education to be worth \$25,000.00.

Finally, the rate of increase in salaries from year to year of the students who attended the "Night School" of the University of Pennsylvania, while continuing their regular business during the day, presents the most remarkable example of the financial returns which an extended education affords.

Three hundred and fifty men graduated from these Schools in seven years. On entering, the average salary received was \$932.00. At the end of their three years attendance the average salary had risen to \$1,480.00 - an average increase per year of 20%.

Business men are not in the habit of increasing the salaries of their employees 20% a year without good and sufficient reason. If these students were promoted at that rate, then their training in School must have given them an increased efficiency somewhat in proportion to their increased salaries. (1)

Such facts as the foregoing have surely answered the question whether our Schools and Colleges are giving value for money or not. They are manifestly

(1) Old Penn Weekly Review, 1913.

fitting their pupils to fill positions where the remuneration received amply compensates for the expenditure of time and money involved.

Chapter 2.

The returns which an extended education assures
to the State.

Having considered the matter from the point of view of the individual, and demonstrated that he, at least, greatly gains by taking advantage of the educational facilities afforded by the secondary schools and Universities; let us next look at it from the standpoint of the State as a whole.

By a process of evolution, extending over a period of hardly more than the last hundred years, the education of the people has expanded to an extraordinary degree. When we remember that in Great Britain, when Queen Victoria came to the throne, barely two out of five of the working population could even sign their names, the condition of things as we find them to-day is astonishing. To-day it would be almost impossible to find in England a boy or girl who had not a familiar acquaintance with the three "R's". Not only so; but a very great percentage of the people have, owing to the facilities provided by the Government, acquired an education reaching in many cases even to the Universities.

Early in the last century the British parliament considered it was making a generous contribution towards the expense of Elementary education when it set aside £25,000 for that purpose. In 1923 the amount expended on all classes of education in Great

Britain had risen to £97,000,000; a great part of which has been due to the increase in the number of Secondary Schools, Technical Institutes etc.

As a further evidence of the value placed on education in England, as one of the most potent agents for the maintenance of her industrial and commercial position in the world, the passing of the Fisher Act is most notable.

Under this act, half-time employment for all children under fourteen has been done away with; the hours of employment during out-of-school-hours reduced, and the minimum age for such employment raised. And this is not alone in the interest of the child's health, but also that he may be thus enabled to take full advantage of the means provided for him - in a large measure at the expense of the Government - of fitting himself to join the army of workers, which by its intelligent industry adds not only to the comfort of its members, but to the wealth and prosperity of the nation as a whole.

But, perhaps, more striking still, is the proviso that the age limit of attendance at Continuation (not Vocational) Schools is raised to eighteen years.

Now when we find a nation, as England, so

dependant as it is for it's national existence on the industry of its people, making such a change as this, it speaks volumes for the value it places on the education of its people.

If we turn to two of the leading European countries - Germany and France - we find a similar, and in the case of Germany perhaps even a greater, appreciation of the benefit to the country of a highly educated people. As regards France, says Mr. Arthur H. Hope in his survey of French education:-

"It is generally conceded by cosmopolitan and disinterested observers that France is the brain, and in many respects the heart of Europe. It is a matter of scientifically-demonstrable fact that for the last 100 years she has been the vanguard of economic progress, and has experimented with splendid courage in almost every field of thought and action."

But after her war with Germany in 1870-1, she found to her dismay, that beside her was a nation, which while not equal to her in refinement and delicate grace, was educating her people to an individual excellence, unknown in France, and as a result was rapidly forging her way into a foremost economic position among the great nations. She realised that if she wished to keep in the race with Germany it would

be necessary for her to reform her educational practice and immensely widen ^{its} scope.

Under many Ministers of Public Instruction she has effected this, and to-day she is providing her people with an education, both academic and technical, hardly inferior to any in the world; and reaping undeniably the benefit thereof.

If we compare Germany with her great neighbour in the East, i.e. Russia; we find her industrial development and economic success to be hugely greater. To what does she owe this superiority? Certainly not to her natural resources, for Russia is in these, immensely richer than she. She herself says that it is due to her infinitely more efficient school system; and that the school is the great corner stone of her remarkable industrial advance. Nor would the Russians dispute this, for after their great war with Japan in 1904, which resulted so disastrously for them, their great leader, General Kuropatkin, publicly admitted that their costly failure was mainly due to the ignorance of her brave but untutored army on the one hand, and to the education and superior intellectual development of the Japanese on the other. Now if this lack of intellectual development was found to be so detrimental in the art of war, how immeasurably greater would its

lack be felt in the gentler arts of commerce and economic development.

Coming to this continent, we find a similar unanimity as regards the necessity of the best education that can be secured, in order, not only to the encouraging and fostering of these conditions which make for efficiency, and which the Germans include in that elusive term "Kultur", as literature, science, art, philosophy and religion; but to the attainment of those material comforts and advantages which successful business, trading, manufacturing etc., enables them to possess. So much is this so, that the charge is made, and with a considerable amount of truth, that we are prostituting education, and the knowledge gained thereby, to the pursuit of the "almighty dollar"; and to the gratification of the grosser side of our nature, and losing sight of what is of infinitely more value to us - the development of the spiritual and aesthetic. Mr. Paul Reid, one of the British University debaters, voiced this when he said "The modern world is permeated with the idea that progress is natural and inevitable. But while we recognize that modern civilization is extremely ingenious in the production of material wealth, it is a question whether it is making for the betterment and happiness of mankind.

It seems that modern civilization does not realize that a man's wealth consists not in the abundance of what he hath. There are influences at work which must be counteracted, if we wish to insure certainty of progress. We are concentrating too largely on the material, with too little attention to the mental and spiritual".

Be that as it may; the fact remains that it is recognized that no country can hope to attain its highest destiny without educating its people, and that the better the education, the greater the intellectual, and therefore the greater the industrial eminence of the country; while on the contrary, in those countries where education is at a low ebb, and where there is a lack of a necessary school system, we find a story of poverty and misery, regardless of race, climate, or natural resources; as for instance in Spain, Turkey, Mexico etc.

In Professor Alfred Marshall's "Principles of Economics", he remarks as follows on this subject:-

"Having discussed the causes which govern the growth of a numerous and vigorous population, we have next to consider the training that is required to develop its industrial efficiency ----- . But at present we may pass to consider the more general influences of school education. Little need be said of general

education, though the influence even of that on industrial efficiency is greater than it appears. It is true that the children of the working classes must very often leave school, when they have but learnt the elements of reading, writing, arithmetic and drawing; and it is sometimes argued that part of the little time spent on those subjects would be better given to practical work. But the advance made at school is important, not so much on its own account, as for the power of future advance, which a school education gives. For a truly liberal education adapts the mind to use its best faculties in business, and to use business itself as a means of increasing culture; though it does not concern itself with the details of particular trades; that is left for technical education."

"The absence of a careful general education for the children of the working classes, has been hardly less detrimental to industrial progress, than the narrow range of the old grammar-school education of the middle classes. Now however, the advance of knowledge is enabling us to use Science and Art to supplement the curriculum of the grammar school, and to give to those who can afford it, an education that develops their best faculties, and starts them on the track of thoughts which will most stimulate the higher activit-

ies of their minds in after life."

"According to the best English opinions, technical education for the higher ranks of industry, should keep the aim of developing the faculties almost as constantly before it as general education does. It should rest on the same basis as a thorough general education, but should go on to work out in detail special branches of knowledge for the benefit of particular trades. The great epochmaking inventions came, till recently, almost exclusively from England, But now other nations are joining in the race. The excellence of the common schools of America, the variety of their lives, the interchange of ideas between different races among them ---- have developed a restless spirit of inquiry, while technical education is now being pushed on with great vigour. On the other hand, the diffusion of scientific knowledge among the middle, and even the working classes of Germany, combined with their familiarity with modern languages and their habits of travelling in pursuit of instruction, has enabled them to keep up with English and American mechanics, and to take the lead in many of the applications of chemistry to business."

Professor A.B.Clark, head of the department of Political Economy at the University of Manitoba, in

dwelling on the justification of taxation for educational purposes remarks:-

"There is surely no branch of governmental expenditure which less requires defence, than that of expenditure on education - provided always that the education is of the right type and the funds are economically spent ----. Assuming that these conditions are fulfilled, the most liberal State provision for education in all its branches, is economically sound policy; for, more than any other form of public expenditure, it increases the faculty of earning power of the people."

"You may estimate the economic progress of a people and their economic value at any given time, by reference either to their earning capacity or to their cost of production."

"Taking first earning capacity. Just as an increase in the annual rental or earning power of a piece of property, means an increase in its capital value, so a rise in the average earning power of the people means a rise in their value. Now, there can be no question that a sane system of education enormously increases the earning power, and thus the value of the people, or , in other words, the efficiency of man's labour in turning natural agents and forces

to the satisfaction of his wants."

Herbert Spencer once said that the educated man is the one who has touched life in the most places. Then, we may well ask, how can we touch life in more places, and what will we gain by having done so? Consciously or unconsciously these are the questions that thousands are facing. Someone has said that the most valuable right of education is the broadening, deepening and refining of human life. It might well be put, that an education elevates one's desires and aids him in fulfilling those desires. Thus it must give him the means to satisfy his social nature, his moral and religious fervour, his mental yearnings, his desire for leisure and recreation, while at the same time it enables him to secure those material gains, without which the other benefits are to a great degree unattainable.

Says another authority:- "The educated mind is the greater productive agency in the world; without which, fertile soil, timbered land, and mineral deposits are but so much useless material. The State that fails to educate, dooms its children to industrial subjugation by those foreign States that ^{do} educate. More than once have natives lost their land from lack of education. Schools are paying investments. Years

ago our fathers fought and won the greatest battle ever waged in America - that of free schools. They established the principle that the wealth of all the people should help educate the child."

Mr. J.S.Kinder, of the Pennsylvania College for Women, Pittsburgh, in an article on the money value of education thus concludes his paper:-

"Like a good teacher, in closing, I shall summarize the points which I have used to substantiate my arguments as to why an education pays financially.

"It pays the State to educate its citizens, because they are thereby enabled to render more efficient service to the State. It pays the individual because educated people receive better salaries, and multiply their chances of success and prominence many times. The money value of an education can be estimated only in terms of thousands of dollars, yet, do not get the idea that the money value is the only asset of an education. Its general culture, an aesthetic appreciation, preparation for citizenship, as well as the close relationship which exists between education and the production of wealth, are attested by the statistics of College enrolments, and the judgments of leading men in commerce, finance, trade and industry."

The great economist Seligman, in discussing the economic activity of man, looking to the provision of the material means by which he satisfies his wants, those of his household, and eventually those of the community and the State at large, mentions as one of the most important items, the efficiency of labour. In the course of his argument he says;- "Since the ultimate factor in the relation between labour and cost is productive efficiency, the problem of increasing the efficiency of labour is of paramount importance. The older economists were fond of emphasizing the dependence of the demand for labour, upon capital. While the analysis was in many respects valuable, they overlooked the independent power of labour to contribute to its own uplifting through an increase of efficiency. It is precisely here that the economic effects of education and leisure, as well as of social and political progress, mean so much to the community. In the commercial warfare that is being waged between nations to-day, education is recognized as a potent weapon. In the United States the old time prejudice against the college-trained business man, has given way to the recognition of his superiority; technical and commercial schools of all grades are being multiplied, and even the primary and secondary institutions

are adapting their curricula more successfully to the needs of the ordinary man. The gist of the Negro problem in the South, is seen by all careful thinkers to consist in the increase of productive efficiency through an appropriate education of the negro. The hope for the Filipino is to be found in the possibility of training him to habits of orderly and consecutive work. With him, as with the labourer at home, the basis of greater productivity is to be found, not only in the domain of distribution and consumption, but in that of production. The finer the tool, the greater will be the product; when the tool consists of human energy, we have not only a greater product, but a greater capacity in the human being to utilize the product.

The short-sighted employer to-day is concerned only in securing the ostensibly cheapest workman and in driving him to the utmost; the longsighted employer finds it profitable not only to pay fair wages for moderate hours, but to surround his workman with an environment of cleanliness, comfort, and attractiveness, with provision for rest, recreation and education ----- . It can scarcely be doubted that it is "good business" on the part of the employers, and that the expenditure really involves a lowering

of the cost of production, through enhanced efficiency of labour."

Keynes, too, in seeking to discover the reasons for the great commercial prosperity of Great Britain during the second half of the last century, after enumerating many of the factors to which this prosperity might be attributed, mentions the great spread of education as one of the contributing causes.

To return to Marshall again and his estimates of the value of education to the economic advancement of the nation. In treating of the value of general and technical education he remarks "It is true that there are many kinds of work which can be done as efficiently by an uneducated as by an educated workman; but a good education confers great indirect benefits even on the ordinary workman. It stimulates his mental activity, it fosters in him a habit of wise inquisitiveness; it makes him more intelligent, more ready, more trustworthy in his ordinary work; it raises the tone of his life in working hours and out of working hours; it is thus an important means towards the production of material wealth, at the same time that, regarded as an end in itself, it is inferior to none of those which the production of material wealth can be made to subserve ----. Since the manual labour

classes are four or five times as numerous as all other classes put together, it is not unlikely that more than half of the best natural genius that is born into the country belongs to them; and of this a great part is fruitless for want of opportunity. There is no extravagance more prejudicial to the growth of national wealth, than that wasteful negligence which allows genius, that happens to be born of lowly parentage, to expend itself in lowly work. No change would conduce so much to a rapid increase in material wealth, as an improvement in our schools, and especially those of the middle grades, provided it be combined with an extensive system of scholarships, which will enable the clever son of a working man, to rise gradually from school to school, until he has the best theoretical and practical education which the age can give."

"We may then conclude that the wisdom of expending public and private funds on education, is not to be measured alone by its direct fruits. It will be profitable, as a mere investment, to give the masses of the people much greater opportunities than they can generally avail themselves of. For by this means, many, who would have died unknown, are enabled to get the start needed for bringing out

their latent abilities. And the economic value of one great industrial genius, is sufficient to cover the expenses of the education of a whole town; for one new idea, such as Bessemer's chief invention, adds as much to England's productive power as the labour of a hundred thousand men. All that is spent during many years, in opening the means of higher education to the masses, would be well paid for if it called out one more Newton, or Darwin, Shakespeare, or Beethoven!"

In another place discussing the rapid increase in the use of machinery in production, he notices that the so-called "unskilled" labourer has now often to handle appliances too subtle and expensive to have been safely intrusted to the ordinary English labourer of a century ago, or to any people at all, in some of the backward countries now. How necessary therefore is it to strive to diminish the supply of labour, incapable of any but unskilled work, in order that the average income of the country may rise even faster than in the past. And how is this to be best effected? He sees no better way than by moving in the same direction as in recent years, but even more strenuously. Education must be made more thorough. It is to educate character, faculties and activities. To this

and public money must flow, and flow freely, so that the children of unskilled workers may be made capable of earning the wages of skilled workers, and the children of skilled workers, by similar means made capable of doing still more responsible work. There is plenty of room in the upper ranks of the artisans. It is to the activity and resource of the leading minds in this class, that most of those inventions and improvements are due, which enable the working man of to-day to have comforts and luxuries, rare and unknown among the richest of a few generations ago; besides which they have probably earned for the world a hundred times as much as they have earned for themselves.

In perfect agreement with his brother economists, is Taussig, in their recognition of the necessity for trained and educated minds, in order to develop to the utmost that skill and intelligence so essential in these days of commercial rivalry and competition.

After showing the advantages of large scale production, he proceeds to discuss what are the causes which effect production. Amongst the most important of these he instances the "quality" of the labourers and by quality he means strength and skill. As far as the mere bodily strength is concerned we are not

at the moment particularly interested, but the skill and intelligence of the worker is of the greatest importance, for they tell strongly on his efficiency and the productivity of his industry. If we compare the value of the work of many of the aboriginal inhabitants of uncivilized countries with that of intelligent, educated white men, we find that the first is unable to undertake operations of more than a comparatively simple kind, because his brain power is not sufficiently developed, whereas the other is capable of displaying intellectual alertness and intelligent skill.

Negroes are employed in great numbers in the gold and diamond mines of South Africa, but only for pick and shovel work, while for handling and guiding machines, skilled and intelligent white men are employed. Many routine operations of modern industry can be carried on by any persons capable of giving steady attention; but that very faculty, like the ability and willingness to do prolonged continuous labour, is not a matter of course; it is not possessed by savages; it is a slowly acquired quality of civilized man. This effect of education on the productiveness of labour is not simple. In some respects, a wide diffusion of education is conducive

to greater efficiency of the population at large, in others, the extension of education does not seem so necessary; for, as we have seen, many kinds of rough manual work can be done as efficiently by the illiterate man as by the educated. Nevertheless, it remains true that a wide diffusion of education is a most effective means toward productiveness. It is effective particularly towards propagating new kinds of efficiency; and the rapid spread and utilization of improvements are immensely promoted by the ease of intellectual communication.

General education in all its grades, from that of the elementary school to that of the University, though not directed to a clearly defined industrial end, has its considerable economic effects. The mere attainment of knowledge and understanding is a satisfaction in itself, while at the same time it opens the way to the higher and nobler enjoyment of life.

But general education has its more immediate economic effects also. All education makes for intelligence, discrimination, the utilization of opportunities, the spread of improvements. It makes also for sobriety, honesty and steady endeavour. The more it uplifts the character and trains the faculties the more does it achieve these ends. Again, to the

general advantage of a wide diffusion of education, is to be added the fact that discovers those possessing unusual gifts. Among the uneducated are many of talent and even of genius. The full development in these of all their qualities for better efficiency, is one of the most important objects of widely diffused education.

In sum, the effectiveness of industry depends not only on material equipment, but also on accumulated moral and intellectual qualities, transmitted by education from generation to generation. Man's great moral, intellectual, educational capital must be conserved, like his material capital, by unremitting effort; and like that, it can be increased by effort. In both ways, the effort is largely altruistic. It results from the cares and sacrifices of parents, and from the conscious endeavour of the community to improve the quality of all its members through the diffusion of education.

Now and again, we have quoted to us, big men; men who are leaders in the industrial world, who arose from very humble beginnings, and delight to boast that they are self-made men, owing their success, not to education - for they had little or none - but to their own integrity and industry. There

are undoubtedly such men and no-one would for a moment try to besmirch their record, for theirs are enviable records. But it is well for us to realize that these men possess unusual original ability, and that they have supplemented this with ardent and systematic private study to counteract their lack of scholastic training; and as it has been well said; "Considering the time of life when education ought to be done, the most costly education, with the minimum of results to the individual, is that picked up here and there, as life presents opportunities." The schools effect and enormous saving in time and costly mistakes, besides offering aspects of training which cannot be had elsewhere.

But under modern conditions of industry and commerce, the ability of an uneducated man, be he never so gifted naturally, to push his way to the front, is getting more and more problematical. The complexity of the processes of civilization, increases the necessity for a good education. Because of the unparalleled progress in the arts and sciences during the past fifty years, the need has multiplied many fold. Even in farming, the farmer can no longer merely exhaust one fertile piece of fresh soil after another by crude methods of agriculture. Intelligent

rotation must be planned, soil must^{be} conserved and built up, improved stock and seed must be bred; methods of cultivation that stimulate growth and conserve moisture and fertility must be practised; markets must be considered and studied in planting; new methods of marketing must be used; accounts must be kept and homes must be made healthful. If this is not done the landowner will lose his land and become a tenant and the tenant become a day labourer.

No one, in such a country as Canada, so dependent as it is on the success of its agriculture, will dispute this; the great majority of the people recognize so clearly the necessity for the latest and most up-to-date methods and appliances in the raising of grain and breeding of cattle, that the expenditure on the training of young farmers meets perhaps with less cavilling than does that on other branches of education.

But in law, in medicine, in teaching, in manufacturing, in trade and industry of all kinds, this same increased demand for education is found.

Speaking in 1905 at Girard College, Mr. Vanderlip, one of the leading bankers and business men of the United States said:- "The mental equipment of a business man needs to be greater to-day than

was ever before necessary. The enlarged scope of business is demanding better trained men, who understand principles. There has been introduced such complexity into modern business, and such a high degree of specialization, that the young man who begins without the foundation of an exceptional training, is in danger of remaining a mere clerk."

From what has been said, it is evident that the concensus of opinion of all who have made a study of the subject is, that education is a vital necessity to a nation, especially in these days of keen competition and commercial rivalry, and that that nation which recognizes this most clearly, is almost bound to lead in the race. As we have said; education is not a luxury but a necessity to the national life. The short-sighted man who can only see the immediate return of his investment and is unable to look ahead, or the selfish man who cares only for what he himself can gain regardless of the welfare of the people to whom he owes, - in greater degree than he imagines, or is willing to admit, - the success of his venture, will cavil at the expense and complain that he is being taxed unduly for what he chooses to consider a problematical advantage. But while such a man can be ignored, there still remain the large number which, though

satisfied as to the value of education, wonder whether we are not paying too high a price for it.

The cost has increased rapidly even in the last decade. In the U.S. it nearly doubled between 1915 and 1920; and nearly doubled again between 1920 and 1925. Some of this increase can be explained by the loss in value of the dollar, and by the rapid growth in the upper and more expensive levels. But these do not wholly account for the great increases. Most of it must surely be due to the faith in the actual value to the country of the education afforded by the schools. The American nation is not given to spending money recklessly or heedlessly, any more than the British, but if it finds that the money invested is not yielding adequate return, it is quick to transfer the use of its capital to some other quarter, where better and greater profit can be secured. And yet, as we have pointed out, the expenditure on education increases at an astounding rate. The rapidly increasing population, and the consequent increasing number of children needing education, is doubtless the cause of some of this great expenditure; but the increased cost is out of all proportion to the increased population and some explanation must be sought. It is found, doubtless, in their belief

that the work of the schools is essential to present welfare and future progress. Not only is it desired that the good work shall continue, but that it shall be even better and more efficiently done than in the past. To this end money is freely, even lavishly expended, and the people submit to taxation, growing higher every year, in order to furnish the necessary funds. To those who contend that education must reckon with economic necessity, and that educational expenditures are more than the public can bear, the reply is, that education is probably the most productive force that civilization has created. Education must not be regarded solely as consuming economic energy, for each dollar spent, returns several fold in greater productive power. It is true that provision for education involves a levy upon the nation's total supply of economic energy or income, that is, its ability to produce goods, and to perform service. The total expenditure of a nation on any commodity, is limited by its total supply of economic energy. There is no magic source from which school costs can be drawn. They represent a levy against the nation's total income. If it can be shown that school costs are consuming such a large part of a nation's energy or income, that it has not sufficient left for its basic

needs, then the outcry against them would be well founded and would be greater than society could bear. But is this a fair statement of the case? Do schools require such a large part of the national income, as to leave insufficient to provide for its basic needs? and by these we mean food, shelter, clothing. In order to provide these, can it be claimed that the nation is living on its accumulated capital so that its material wealth is decreasing? Suppose that a reduction in schools costs were made, would that reduction make an appreciable increase in the provision made for these needs?

And again, does the individual ratepayer find it difficult to save and make adequate provision for the future? It is evident that if these questions could be answered in the affirmative, the charge that the costs of the schools are more than the people can bear, would be justified. In attempting to answer these questions, let us first of all see what proportion of the nation's income is actually expended on education.

From figures available for the United States, we find that something less than 3% would entirely pay the cost of the schools. (The cost in Manitoba will be somewhat higher than this, but were it

doubled it would only then be about 6% of her income.) At the same time the sums spent on luxuries immensely exceeded those expended on education. One item alone i.e., tobacco, consumed more than the whole cost of the schools, while the expenditure on ice-cream, chewing-gum, soft drinks and candy, almost equalled it. Amusements absorbed a sum equalling 50% of it, while the cost of automobiles, gasoline etc., was double it, and this for passenger vehicles alone. Figures like these are startling, and must convince the most biased and stubborn mind. But when we consider the rapid increase in the savings of the people, in spite of the unproductive expenditures just mentioned, we realise how absurd the contention is that we cannot afford to spend so much on education.

Premier Bracken in his Budget Speech in the Provincial Legislature, pointed with pride to the fact that, whereas in 1920, when the Provincial Savings Office commenced business, the deposits amounted to \$634,220.00, in 1925 they had grown to practically \$12,000,000.00 and this in spite of the fact that during those years Manitoba was passing through a period of great financial depression.

The annual reports of the Insurance Companies also make instructive reading, for they all

agree that their premiums have increased enormously in number and value in the last few years.

And many other facts might be cited to disprove the charge that the country cannot afford to expend the amount that it does on education.

The truth is that we are able not only to make generous provision for things essential to our economic stability, but are in addition able to spend immense sums on the non-essentials of life. The cost of education is but a minor fraction of the national expenditure, and could easily be immensely increased without encroaching upon any of the nation's basic economic needs. The trouble is, that the people as a whole is not prepared to curtail its expenditure on luxuries. If any economy is considered necessary, rather let it be in the expenditure on education. We have said that this is a utilitarian age; it might also be said as truly that it is an age of luxury and pleasure. The people are spending far greater amounts on material comforts than their forefathers did, and although the money expended on education has increased out of all proportion to that of fifty years ago, amusements and luxuries are far exceeding it in cost. As one authority puts it "While we spend dollars for the expansion of one

industrial process and for the production of the non-essentials of civilized life, we dole out pennies for public school support. To contend that it is impossible for the nation to provide for school support on the present basis, or on a more generous basis, if it seems wise, is to disregard the facts, and to base one's conclusions on the imaginings of small-visioned pessimists."

The fact is, not that we cannot afford to spend such large sums on education, but that we dare not spend less, if we hope to remain prosperous. Observe the experience of two of the States of the United States who seem to hold these two opposing views, i.e., Massachusetts and Tennessee. The former is a State which believes, that no sum is too high to pay for the best education possible to be secured for its people. Tennessee appears to query the advisability or necessity of more than a moderate expenditure. In 1899 Massachusetts gave its children a seven year education and spent practically \$14,000,000.00 in so doing, or \$38.55 per pupil. Tennessee considered that three years schooling was all that it could afford, and spent \$1,600,000.00, or \$4.68 per pupil. What was the result? In the same year the citizens in Massachusetts produced

nearly \$404,000,000.00 more than those of Tennessee, or an average of \$144.00 more per citizen. If Massachusetts gives \$12,000,000.00 more to her schools than does Tennessee, but her better educated citizens produced \$404,000,000.00 more per year, how much profit does she make on her investment in education? Further, if we compare these two States with the others of the United States, we find that in 1910 Massachusetts showed a productive capacity of \$466.00 per citizen, the United States as a whole \$332.00, and Tennessee of \$174.00.

It would, of course, be unfair to attribute all the difference in productive capacity to differences in educational systems of the several States. The large capital in hand, the great trading centres, and the numerous factories already established in Massachusetts give that State a considerable advantage. The effect, too, of climate and other factors must be considered before the exact share played by education can be determined. In all comparative studies of peoples, it must be recognized that absolutely accurate estimates of the part played by education in economic development are not possible. Yet the unbiased observer must recognize that education is a controlling factor, when he sees that among all

varieties of races, and accompanied by all kinds and conditions of climate, natural resources, geographical location, economic and social environment, in every case, educated people produce much and amass wealth, while uneducated people, under the same conditions, produce little and save less.

Mullhall gives the earning capacity of the inhabitants of several European countries as follows:-

Nations with efficient educational systems.		Nations with inadequate educational systems.	
England	£36	Spain	£16
France	£31	Greece	£13
Germany	£25	Russia	£10

The relation of productive power to education is shown by the enormously increased rate of production that has come about everywhere since education became more generally diffused. The total wealth accumulated in America from 1492 to 1860, a period of 368 years, was \$514.00 per capita. From then to 1904, a period of only 44 years, this increased to \$1380.00 per capita, or an addition in 44 years of \$802.00 per capita. Since that time the increase has been even more striking. This increase is due doubtless to other causes than education alone, but the conclusion is inevitable that the education of the nation is largely responsible for the vast increase

in the productive power of its citizens, for the productive power of illiterate countries is not increasing commensurately.

There is another aspect of the question too, which deserves mention, i.e., the effect of education in the diminution of crime among juveniles.

The Attendance Officer for Milwaukee, after careful examination of the records of the Juvenile Courts and Probation Department of that city, gives the following data:-

Beginning with the year 1908 he notes there was a steady increase in child delinquency until the year 1917. In 1917, Continuation Schools - schools for children who had left the Public Schools at an early age and before they had had even an Elementary School education - were established, and the following results were noticed:

Year.	Total delinquents,	School pop:	% of delinquents
1918	1819	126,321	14.40
1919	1690	127,951	13.23
1920	1099	130,891	8.40
1921	1139	133,625	8.50
1922	1049	138,955	7.55

In 1910-11 the percentage of delinquents to school population was over 21%.

Here is a fact which no argument can gainsay. The establishment of Continuation Schools instantly made itself felt, and in eleven years the delinquency had dropped from 21% to 7.55%. What the saving to the State in dollars and cents may have been, was doubtless very considerable, but who can begin to estimate the value to these lives, not only saved from being a charge to the State, and a menace to its prosperity, but transforming them into law-abiding, revenue-producing assets.

One might adduce other facts and arguments, adding proof to proof of the falsity of the position assumed by those who cry out against the annual charge for education.

Why they should adopt such a position in relation to education, which they refuse to take in relation to any other branch of the national expenditure, is extraordinary. Millions have been spent on other things, e.g., magnificent Legislative Buildings, great thoroughfares such as the Mall, etc, which, while doubtless quite legitimate, do not hold out much promise of any great returns for the money except in-so-far as they minister to the pride and gratification of the people. But when it comes to education, then every cent asked for is scrutinized

and grudgingly given. What is the result? Schools are overcrowded; teachers underpaid to such an extent that, whenever possible, they are leaving the profession and entering other callings which offer better remuneration, and if parents, who are alive to the value of a High School education wish their children to have such, they must pay for it out of their own pockets, and so on. Then when it comes to the University; for how many years have those, who have the truest interests of the country at heart, pleaded for more adequate buildings, better equipment, a larger staff of instructors, and establishment of vital courses of study, e.g., Commerce and Education, and been denied on the ground of expense?

Our fathers had the vision and risked much on it, and we are reaping the benefit in comforts and luxuries and pleasures undreamed of by them. "Ugshurum has waxed fat and kicked" and objects to yielding up even of his superfluity for future good, and refuses to listen to any argument; perhaps for fear he might be convinced, and be led to deny himself a something he thinks he might miss.

But there is still a large body of the people of whom it may be confidently stated, that it is their settled conviction that the provision of a

liberal system of free education for the children of the State, is one of the most important duties of the State, and that such education contributes very markedly not only to the moral uplift of the people, and to a higher civic virtue, but to increased economic returns to the State. They conceive of free public education as the birthright of the child, and an exercise of the State's inherent right to self-preservation and improvement, to the advantage of the general intelligence, poise, good judgment and productive capacity of the people.

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