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Mental and Moral effects  
of the  
Mathematics.

6p

John A Wright.  
Dickinson College  
Carlisle Pa  
Delivered July 19<sup>th</sup> 1838

Perhaps there is one stronger feeling on me that has more effect on our Passions than Prejudices. We have our National Prejudices & our Fictional Jealousies. We have our Prejudices also in the Literary World.

In observing the progress of the mind, we see it must have some topic, on which it can be strongly exercised. This is proved by our own experience. Electro Galvanism, Spiritual Magnetism & Phrenology have successively occupied the public mind. But there is another class which demand greater attention & consequently are of a former cast. I have refer<sup>ce</sup> to the main studies pursued in cultivating the mind.

In our first Literature, we imbibed the feelings & principles of Europe. It is a well known fact, that the Languages have there been almost exclusively studied, if we except France. We must then seek aid on the armor of Reason to defend ourselves against the attacks of Prejudice. The uses of Ages are not easily to be laid aside. They become inter-worked in our very natures & it is only some great counteracting force, some sudden Literary Earthquake, that can bring out the hidden secrets of learning. I do not intend entering on a discussion of the Comparative merits of the Classics & the Heath<sup>n</sup>, nor on the ruins of the former to attempt meeting the latter

What is more calculated to inspire a thirst for knowledge, to advance the scale of literature than the pursuit of the Math<sup>s</sup>. Their very nature proves this they are Analytical & Synthetical. They are regular one step follows another, as a builder would lay one stone on its predecessor. The student commences the task he adds link by link till the whole chain is finished.

Of the pleasure to be derived in their attainment it is difficult to speak. 'Twere impossible to attempt giving any adequate idea. Is it pleasing to the Botanist, to dissect the various flowers, examine their petals, Calyx & Stamens & thereby determine their class? Is the Chemist, to analyze a Mineral & measure its component parts? How much more there is there in the pursuit of our study etc. to examine & analyze Intellectual Properties, to invent Rules which hold true throughout the whole course, to find amidst such a variety no two clashing, to observe the relation between the first & last step? Surely no one who has ever revolved in the business of an Education can deny that solid pleasure is here to be derived, it is a pleasure beyond the bound of sensuality, a higher a nobler enjoyment, the enjoyment of the Intellect. Wouldst thou the proper cultivation of the Math<sup>s</sup> requires long & unvaried exertions, yet they bring into active & vigorous play the whole Intellectual powers. There is no one that will deny the sup<sup>er</sup>iority of Demonstrative Reasoning who will refuse the just merit that they give the faculty of long, close & concentrated thinking, of nicety in his reasoning & care in the examination of subjects, that is gives the mind an increased grasp in comprehending the most stupendous difficulties. But the Math<sup>s</sup> are Demands natures, they are the source

of this improved mode of Reasoning, and as  
there is not pleasure in this when after lengthened  
& untiring efforts the mind accomplishes its task  
it is relaxed, a sweet flow of delight pours its happy  
influence into the soul & we feel a pride in our  
mental efforts.

But in the exam<sup>n</sup> of any subject, we  
should look not only to the pleasure derived in  
its attainment, but also to its benefits & effects  
& here is a vast field opened, to describe this ex-  
-traordinary display would be impossible.

Among their greatest advantages we  
may say the foundation benefit to the rest  
is the discipline of mind the afford. From what  
has been already stated of their tendency, we  
were needly here entering on a discussion of  
this point, of what benefits there are they to the  
Scholar, the States man, the Metaphysician?  
Who more needs that rule over the mind than the  
Student? were they more cultivated, how many  
hours would be saved to him who trims the mid-  
-night lamp? of what to the States man? he must  
understand human nature, what could more im-  
-prove his powers of observation & deduction, what  
1 gave Bonaparte his transcendent military genius?  
What to Chatham that penetration for which he is  
so justly celebrated, that reasoning & re-  
-powering eloquence that struck dumb the slanderous tongues  
of his enemies? of what to the Metaphysician, to use  
the words of Stewart, to give him that scrupulous  
precision in use of language, on which more than on  
any one circumstance whatever the logical ac-  
-curacy of their reasoning & the justness of their con-  
-clusions, depends. These are cases promiscuously  
chosen among the myriads, the Agriculturist, the  
manufacturer, the Commercial man, would  
equally illustrate our position. In fine there is  
no useful branch in which they would not be of  
surpassing utility.

We now come to an exceedingly  
interesting view, one in which the Math<sup>s</sup> have been  
the most benefited & in which they stand as Beacon  
lights to the Religious world. I have reference to their  
moral effect. From what has been already stated  
of their tendency, it is evident we would be

lead to institute a careful inquiry into our own  
actions. They force us to furnish reasons for them  
Immortality cannot without Reason. Therefore, it  
follows we will find the necessity of Morals & as  
we cannot rule on Conscience, we must be  
Moral, at least in Principle.

Again the Math<sup>s</sup> have been branded  
with a tendency to Infidelity & however reasonable  
it may at first appear, yet after a little ex-  
-amination, the cloud of obscurity will be penetrated  
& the refreshing breezes of Truth refresh them afar off.

Some have objected that in Christianity we are  
forced to receive many things as True, which cannot  
be proved & which we account for by their Incom-  
-prehensibility. But there has never been a case  
where one has devoted his whole time to the  
attainment of it would be impossible, he could not  
pursue them with success, unless he would give close  
attention to numerous other branches. They are applied  
in those departments where most we derive our  
Natural evidences of Christianity.

Will the contemplation of <sup>the</sup> vast immensity of  
the myriads of stars, the far extended effect of the  
Sun, the Planets revolving on their axes & moving  
in their regular orbits, probably seen to systems far  
beyond the range of human vision. The comet winging  
his way throughout the Aethereal regions, threatening  
each body, in its terrific course with utter destruction  
excite doubts as to their necessarily being an  
Author of this wonderfully accurate Mechanism?  
Does the acquirement of Physics inspire into the soul  
a doubting feeling? Can it have any such effect  
when it presents to the eager mind the laws of Nature  
if it did, then the basis of Pallas boasted argument  
falls & with it the fond hopes of Millings, & were  
there nothing else, were every thing denied us,  
yet the world itself, observing its regularity, its  
extensive & correct application, the design exhibited  
in it, its being to be discovered & its being left to us  
to discover it, would prove the existence of the Divine  
Being. There is yet another point in which the  
fallacy of their Argument can be plainly

shown. There is no one who will deny that the 5  
Matts. have the tendency of fixing principles firm  
& on a sure basis, they do not admit of different  
degrees of belief. Again we know some men are  
sceptical on almost every subject, they doubt their  
own senses & the fact of their existence they hesitate  
in receiving, now is it probable a Matt. would  
be a sceptic when their notions are so diametri-  
cally opposed to each other, here is an incur-  
-tendency too great to be passed over.

And is Religion afraid of Reason? Can the  
pally attacks of the Infidel shake the throne of the  
Almighty? In acknowledging such a doctrine  
as this you strike a blow at once impious,  
sacrilegious & profane, you would be worse than  
brutes. Such opinions are an insult to Heaven  
I would rather be an Infidel, a Pagan, a Heathen  
than have a Religion that could not withstand  
the evils & criticisms of the Sceptic. Yet such is  
the unavoidable tendency of their argument.

And if the Matts. improve the mind,  
the reasoning powers, & have a moral effect, why  
should we prohibit their extensive cultivation?  
Why brand this foundation, this key stone, this  
solidifying pile of wisdom with all the anathemas  
of a heated & dense brain? Is it Reason?  
Is it becoming Reason able Beings? So why  
condemn the assaults of such doctrines are  
plain. They see by upholding such opinions  
they would throw the world centuries out of  
his course, roll back the tide of Improvement,  
& immerse us again into the dark Ages, the  
Ages of despotism & Tyranny. Stop them per-  
-suit & you lay waste the cultivated fields  
of literature.

Let them seek & every one who desires  
such benefits, apply himself to their conquest  
drive into their hidden depths & he will find  
"Pearls of great price" that will amply remunerate  
his labor. They are the corner stones of success  
Let any one endeavor toward them well &

6  
He can master any subject.  
Mountains are but Mole hills to his  
Mental Grasp & the movements of the Celestial  
Sphere are to him clear as the Noon day Sun.  
In fine to use the Language of a Celebrated  
writer: a sound & sufficient Knowledge of  
the Math<sup>s</sup>. is the great instrument of all  
exact Inquiry. without which no man can  
ever make such advances in any of the  
higher branches of Science. as can entitle  
him to an Independent Opinion.



Commencement Oration of John A. Wright, Class of 1838  
Transcribed by Krista Gray, September 2008  
Edited by Meg MacAvoy, September 2008

### Mental and Moral Effects of the Mathematics

Perhaps there is no stranger feeling or one that has more effect on our Passions than Prejudice. We have our National Prejudices & our Fictional Jealousies. We have our Prejudices also in the Literary World.

In observing the progress of the mind, we see it must have some topic, on which it can be strongly exercised. This is proved by our own Experience. Electro Galvanism, Animal Magnetism & Phrenology have successively occupied the public mind, but there is another class which demand greater attention & consequently are of a firmer cast. I have reference to the main studies pursued in cultivating the mind.

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What is more calculated to inspire a thirst for Knowledge, to advance the scale of Literature than the pursuit of the Math<sup>s</sup>. Their very nature proves this they are Analytical & Synthetical. They are regular one step follows another, as a builder would lay one stone on its Predecessor. The Student commences the task, he adds link by link till the whole chain is finished

Of the pleasure to [berevid?] in their attainment it is difficult to speak 'twere impossible to attempt giving any adequate idea. Is it pleasing to the Botanist to dissect the various flowers, examine their petals, [Calyxnstamens?] & thereby determine their class? To the Chemist to analyze a Mineral & measure its component parts? How much more there is there in the pursuit of our subject. To examine & analyze Intellectual Properties. To [iniculs?] Rules which hold true throughout the whole course, to find amidst such a variety no two clashing, to observe the relation between the first & last step? Surely as one who has ever revelled in the luxuries of an Education can deny that Solid pleasure is here to be derived, it is a pleasure beyond the bounds of Sensuality, a higher a nobler enjoyment, the enjoyment of the Intellect. Doubtless the proper cultivation of the Math<sup>s</sup> requires long & unwearied exertions, yet they bring into active & vigorous play the whole Intellectual powers. There is no one that will deny the lap sincerity of Demonstrative Reasoning who will refuse the just need that they give the faculty of long, close & calculative thinking, of nicety in distracting & care in the Examination of subjects, that it gives the mind an increased grasp in comprehending the most stupendous difficulties. But the Math<sup>s</sup> are Demonstative. They are the source

of the improved mode of Reasoning. And is there not pleasure in this when after lengthened & untiring efforts the mind accomplishes its task it is relaxed, a sweet flow of Delight pours its happy influence into the soul & we feel a pride in our mental efforts.

But in the exam<sup>n</sup> of any subject we should look not only to the pleasure derived in its attainment, but also to its benefits & effects & here is a vast field opened. To describe this luxuriant display would be impossible.

Among their greatest advantages & I may say the poor [dation?] benefit to the rest is the discipline of mind the [affixed?]. From what has been already stated of their tendency, it were needless here entering on a discussion of this point, of what benefit then are they to the scholar, the States man, the Metaphysician? Who more needs that rule over the mind than the Student? Were they more cultivated, how many hours would saved to him who trims the midnight lamp? Of what to the States man? He must understand human nature. What could more improve his powers of observation & dedudion. What gave Bonaparte his transcendent military genius? What to Chatam that penetration for which he is so justly celebrated. That warming & overpowering eloquaece that struck dumb the slanderous tongues of his enemies? Of what to the Metaphysician, to use the words of Stewart to give him that scrupulous precision in use of language on which more than on any one cucumstance whatever the logical accuracy of their seasoning & the justness of the conclusion, depends. These are cases promiscuously chosen among the myriads. The Agriculturalist, the Manufacturer, the Commercial man, would equally illustrate our position. In five there is no useful branch in which they would not be of surpassing utility.

We now come to an exceedingly interesting view, on which the Math<sup>s</sup> have been the most branded & in which they stand as Beacon Lights to the Religious wuld I have reference to their moral affect. From what has been already stated of their tendency it is evident we would be

be to institute a careful inquiry into our own actions. They force us to furnish reason for and for then Immorality cannot withstand reason, therefore it follows we will find the necessity of Morals & as we cannot rule our Consciences we must be Moral, at least in Principle.

Again the Math<sup>s</sup> have been branded with a tendency to Infidelity & however reasonable it may at first appear, yet after a little examination, the cloud of obscurity will be penetrated & the refreshing breezes of truth waft them afar off.

Some have objected that in Christianity we are forced to receive many things as true, which cannot be proved & which we account for by their Incompreheusbility. But there has never been a case where one has devoted his whole time to their pursuit attainment it would be impossible, he could not pursue them with success, unles he would give close attention to numerous other brances, they are applied in those Departments where most we derive our ñe natural Evidences of Christianity.

Will the contemplations of that immense space the myriads of stars, the far extended effect of the Sun. The Planets revolving on their axes & nawing in their regular orbits, probably suns to systems far beyond the range of human vision, the comet urging his way throughout the AEtherial regions, threatening each body, in its terrific course with utter destruction excite doubts as to their necessarily being an Author of this wonderfully accurate [bucanism?] Does the acquirement of Physics inspire into the soul a doubting feeling? Can it have any such effect when it presents to the eager mind the laws of Nature? If it did, than the basis of Paley's boasted argument falls & with it the fond hopes of Millings & were there nothing close, were every thing denied us, yet the work itself, observing its regularity, its extensive & current application, the design exhibited in is its being to be discovered & its being left to us to discover it, would prove the existence of the Divine Being. There is yet another point in which the fallacy of their Argument can be plainly

shown. There is no one who will deny that the Math<sup>s</sup> have the tendency of fixing principles firm & on a sure basis. They do not admit of different degrees of belief. Again we know some men are scepticals on almost every subject. They doubt their own senses & the fact of their existence they hesitate in receiving. Now is it probable a Math<sup>n</sup> would be a Sceptic when their natures are so diametrically opposed to each other, here is an inconsistency too great to be passed over.

And is Religion afraid of Reason? Can the paltry attacks of the Infidel shake the towers of the Almighty? In acknowledging such a doctrine as this you strike a blow at once impious, sacrilegious & profane, you would be worse than brutes. Such opinions are an insult to Heaven I would rather be an Infidel, a Pagan, a Heathen than have a Religion that could not withstand the [coils?] & bickerings of the Sceptic. Yet such is the unavoidable tendency of their Argument.

And if the Math<sup>s</sup> improve the mind, the reasoning powers, & have a moral effect, why should we prohibit their exclusive cultivation? Why brand this foundation, this key stone, this skieing pile of wisdom with all the another as of a heated & senseless brain? Is it Reason? It is becoming Reasonable Beings? To every candid mind the results of such doctrines are plain. They see by upholding such opinions they would throw the world [centuries?] out of her course, roll back the tide of Improvement, & immerse us again into the dark Ages, the Ages of Despotism & Tyranny. Stop their pursuit & you lay waste the cultivated fields of Literature.

Set them each & every one who desires such benefits, apply himself to their conquest drive into their hidden depths & he will find "Pearls of great price", that will amply reimburse his labor. They are the cornerstone of excess Set any are understand them well &

he can master any subject.

Mountains are but Molehills to his Mental Grasp & the movements of the Celestial sphere are to their clear as the Noon day Sun.

In five to use the language of [CaleRialn?] unite a sound & sufficient Knowledge of the Math<sup>s</sup> is the great instrument of all exact Inquiry, without which no man can even make such advances in any of the higher branches of Service, as can entitle him to an Independent Opinion.