A close-up photograph of a young child's face, showing their eyes, nose, and mouth. The child has dark, curly hair and is looking slightly to the right. The background is a dark, blurred teal color.

The Ends and Means of Education

*A Philosophy of
Education Reader*

Kevin Johnstun

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On Knowledge and Wanting to Know

Introduction to the Western Ancients

This section of the book deals primarily with two questions that fascinated the ancient and medieval worlds: *How do we know what we know?* and *Why do we want to know?*

Various answers to the first question will be found in both sections from Plato. The first attempt is found in the Socratic dialogue between Socrates and Meno. In that dialogue the wily Socrates questions the learned Meno about the nature of virtue. As Meno attempts to offer definitions, Socrates pokes holes in them. Meno becomes more and more frustrated and finally demands that if Socrates is so wise why doesn't he just teach him the definition of virtue, and there Socrates explains that he can't teach him for all learning is recollection.

You will see that Aristotle does not hold the same vision as Plato and Socrates; rather, he believes that from experience humans can understand basic principles and then use those principles to reason their way to scientific knowledge. These two contrasting visions continue to undergird much of the educational tension around curriculum and instruction today.

The second question is also answered by Aristotle as he explores the thesis that all men by nature desire to know. This issue is then taken up in a debate between Augustine and

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Aquinas. Augustine argues that the desire to know is to be kept in check and not turned toward curiosity, while Aquinas argues that it is a natural and perfect desire for man to want to know whatever is knowable.

The answers that are forwarded by the authors in this section have been widely influential in shaping the educational endeavors in various spheres: individual, church, and state. Throughout the section you will find reflection questions between paragraphs. Take time to stop and think about the central arguments forwarded by these classical Western thinkers and how our decisions about whether or not they are right or wrong affect the way we interact in educational settings.

Can We Learn?

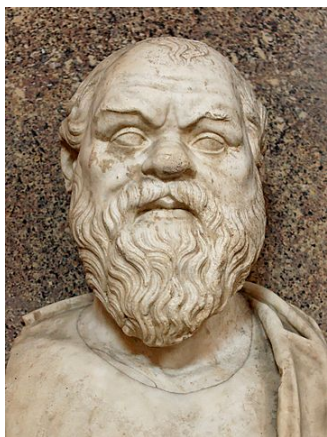
Selections from Meno

Plato

Up to this point, Socrates has been challenging Meno to provide a definition of Virtue. Meno has been unable to provide a whole or complete definition of virtue without breaking the definition into parts or merely providing a good example of virtue. Socrates and Meno are now discussing whether or not it is possible for anybody to learn what virtue is. Their conversation applies well beyond the scope of whether or not it is possible to learn about virtue, but whether or not it is possible to learn something at all.

Soc. will be used for Socrates, and Men. will be used for Meno.

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Soc. Then begin again, and answer me, What, according to you and your friend Gorgias, is the definition of virtue?

Men. O Socrates, I used to be told, before I knew you, that you were always doubting yourself and making others doubt; and now you are casting your spells over me, and I am simply getting bewitched and enchanted, and am at my wits' end. And if I may venture to make a jest upon you, you seem to me both in your appearance and in your power over others to be very like the flat torpedo fish, who torpifies those who come near him and touch him, as you have now torpified me, I think. For my soul and my tongue are really torpid, and I do not know how to answer you; and though I have been delivered of an infinite variety of speeches about virtue before now, and to many persons-and very good ones they were, as I thought-at this moment I cannot even say what virtue is. And I think that. you are very wise in not voyaging and going away from home, for if you did in other places as do in Athens, you would be cast into prison as a magician.

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Soc. You are a rogue, Meno, and had all but caught me.

Men. What do you mean, Socrates?

Soc. I can tell why you made a simile about me.

Men. Why?

Soc. In order that I might make another simile about you. For I know that all pretty young gentlemen like to have pretty similes made about them-as well they may-but I shall not return the compliment. As to my being a torpedo, if the torpedo is torpid as well as the cause of torpidity in others, then indeed I am a torpedo, but not otherwise; for I perplex others, not because I am clear, but because I am utterly perplexed myself. And now I know not what virtue is, and you seem to be in the same case, although you did once perhaps know before you touched me. However, I have no objection to join with you in the enquiry.

Reflection Question

Here Meno accuses Socrates of doubting himself and making others doubt. Socrates doesn't seem to mind. What is the relationship between learning and doubting?

Men. And how will you enquire, Socrates, into that which you do not know? What will you put forth as the subject of enquiry?

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And if you find what you want, how will you ever know that this is the thing which you did not know?

Soc. I know, Meno, what you mean; but just see what a tiresome dispute you are introducing. You argue that man cannot enquire either about that which he knows, or about that which he does not know; for if he knows, he has no need to enquire; and if not, he cannot; for he does not know the, very subject about which he is to enquire.

Men. Well, Socrates, and is not the argument sound?

Soc. I think not.

Men. Why not?

Soc. I will tell you why: I have heard from certain wise men and women who spoke of things divine that-

Men. What did they say?

Soc. They spoke of a glorious truth, as I conceive.

Men. What was it? and who were they?

Soc. Some of them were priests and priestesses, who had studied how they might be able to give a reason of their profession: there, have been poets also, who spoke of these things by inspiration, like Pindar, and many others who were inspired. And they say-mark, now, and see whether their words are true-they say that the soul of man is immortal, and at one time has an end, which is termed dying, and at another time is born again, but is never destroyed. And the moral is, that a man

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ought to live always in perfect holiness. "For in the ninth year Persephone sends the souls of those from whom she has received the penalty of ancient crime back again from beneath into the light of the sun above, and these are they who become noble kings and mighty men and great in wisdom and are called saintly heroes in after ages." The soul, then, as being immortal, and having been born again many times, and having seen all things that exist, whether in this world or in the world below, has knowledge of them all; and it is no wonder that she should be able to call to remembrance all that she ever knew about virtue, and about everything; for as all nature is akin, and the soul has learned all things; there is no difficulty in her eliciting or as men say learning, out of a single recollection -all the rest, if a man is strenuous and does not faint; for all enquiry and all learning is but recollection. And therefore we ought not to listen to this sophistical argument about the impossibility of enquiry: for it will make us idle; and is sweet only to the sluggard; but the other saying will make us active and inquisitive. In that confiding, I will gladly enquire with you into the nature of virtue.

Reflection Question

If Socrates is right and all learning is but recollection, how might that change the way that you approach teaching a class?

Men. Yes, Socrates; but what do you mean by saying that we do

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not learn, and that what we call learning is only a process of recollection? Can you teach me how this is?

Soc. I told you, Meno, just now that you were a rogue, and now you ask whether I can teach you, when I am saying that there is no teaching, but only recollection; and thus you imagine that you will involve me in a contradiction.

Reflection Question

Do you think that Meno asked legitimate questions?
Why or why not?

Men. Indeed, Socrates, I protest that I had no such intention. I only asked the question from habit; but if you can prove to me that what you say is true, I wish that you would.

Soc. It will be no easy matter, but I will try to please you to the utmost of my power. Suppose that you call one of your numerous attendants, that I may demonstrate on him.

Men. Certainly. Come hither, boy.

Soc. He is Greek, and speaks Greek, does he not?

Men. Yes, indeed; he was born in the house.

Soc. Attend now to the questions which I ask him, and observe whether he learns of me or only remembers.

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Men. I will.

After this point Socrates calls over a slave boy and proceeds to question the boy about mathematical principles. Socrates is able to ask the questions in such a way that the boy is able to explain the pythagorean theorem without any direct instruction. Socrates then argues that the fact that this boy is able to explain complex math without "teaching" is strong evidence that all learning is recollection.

Attributions

To find the full length Meno translated by Benjamin Jowett visit [The Internet Classics Archive](#).

A special thanks to A. Legrand Richards for his help in selecting the text for this abridgment.

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Plato

Why, How, and When Should We Learn?

Selections from *Metaphysics*, *Posterior Analytics*, and *Politics*

Aristotle

The following section includes comments from three of Aristotle's books. The sections are ordered from the most abstract to the most concrete. 1) Why do men desire to know? 2) How do we know that we know? 3) What obligations do societies have to educate?

Metaphysics

Book 1

*In this section of the *Metaphysics*, Aristotle argues for several conclusions 1) humans have a natural desire to want to know. 2) we must be more sure of the premises of an argument than its conclusion. 3) all scientific knowledge is the result of demonstration (logical proof).*

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Part 1

"ALL men by nature desire to know. An indication of this is the delight we take in our senses; for even apart from their usefulness they are loved for themselves; and above all others the sense of sight. For not only with a view to action, but even when we are not going to do anything, we prefer seeing (one might say) to everything else. The reason is that this, most of all the senses, makes us know and brings to light many differences between things.

"By nature animals are born with the faculty of sensation, and from sensation memory is produced in some of them, though not in others. And therefore the former are more intelligent and apt at learning than those which cannot remember; those which are incapable of hearing sounds are intelligent though they cannot be taught, e.g. the bee, and any other race of animals that may be like it; and those which besides memory have this sense of hearing can be taught.

"The animals other than man live by appearances and memories, and have but little of connected experience; but the human race lives also by art and reasonings. Now from memory experience is produced in men; for the several memories of the same thing produce finally the capacity for a single experience. And experience seems pretty much like science and art, but really science and art come to men through experience; for 'experience made art', as Polus says, 'but inexperience luck.' Now art arises when from many notions gained by experience one universal judgement about a class of objects is produced. For to have a judgement that when Callias was ill of this disease this did him good, and similarly in the case of Socrates

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and in many individual cases, is a matter of experience; but to judge that it has done good to all persons of a certain constitution, marked off in one class, when they were ill of this disease, e.g. to phlegmatic or bilious people when burning with fevers-this is a matter of art.

"With a view to action experience seems in no respect inferior to art, and men of experience succeed even better than those who have theory without experience. (The reason is that experience is knowledge of individuals, art of universals, and actions and productions are all concerned with the individual; for the physician does not cure man, except in an incidental way, but Callias or Socrates or some other called by some such individual name, who happens to be a man. If, then, a man has the theory without the experience, and recognizes the universal but does not know the individual included in this, he will often fail to cure; for it is the individual that is to be cured.) But yet we think that knowledge and understanding belong to art rather than to experience, and we suppose artists to be wiser than men of experience (which implies that Wisdom depends in all cases rather on knowledge); and this because the former know the cause, but the latter do not. For men of experience know that the thing is so, but do not know why, while the others know the 'why' and the cause. Hence we think also that the masterworkers in each craft are more honourable and know in a truer sense and are wiser than the manual workers, because they know the causes of the things that are done (we think the manual workers are like certain lifeless things which act indeed, but act without knowing what they do, as fire burns, - but while the lifeless things perform each of their functions by a natural tendency, the labourers perform them through habit); thus we view them as being wiser not in virtue of being able to

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act, but of having the theory for themselves and knowing the causes. And in general it is a sign of the man who knows and of the man who does not know, that the former can teach, and therefore we think art more truly knowledge than experience is; for artists can teach, and men of mere experience cannot.

"Again, we do not regard any of the senses as Wisdom; yet surely these give the most authoritative knowledge of particulars. But they do not tell us the 'why' of anything-e.g. why fire is hot; they only say that it is hot.

"At first he who invented any art whatever that went beyond the common perceptions of man was naturally admired by men, not only because there was something useful in the inventions, but because he was thought wise and superior to the rest. But as more arts were invented, and some were directed to the necessities of life, others to recreation, the inventors of the latter were naturally always regarded as wiser than the inventors of the former, because their branches of knowledge did not aim at utility. Hence when all such inventions were already established, the sciences which do not aim at giving pleasure or at the necessities of life were discovered, and first in the places where men first began to have leisure. This is why the mathematical arts were founded in Egypt; for there the priestly caste was allowed to be at leisure.

"We have said in the Ethics what the difference is between art and science and the other kindred faculties; but the point of our present discussion is this, that all men suppose what is called Wisdom to deal with the first causes and the principles of things; so that, as has been said before, the man of experience is thought to be wiser than the possessors of any sense-

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perception whatever, the artist wiser than the men of experience, the masterworker than the mechanic, and the theoretical kinds of knowledge to be more of the nature of Wisdom than the productive. Clearly then Wisdom is knowledge about certain principles and causes.

Part 2

"Since we are seeking this knowledge, we must inquire of what kind are the causes and the principles, the knowledge of which is Wisdom. If one were to take the notions we have about the wise man, this might perhaps make the answer more evident. We suppose first, then, that the wise man knows all things, as far as possible, although he has not knowledge of each of them in detail; secondly, that he who can learn things that are difficult, and not easy for man to know, is wise (sense-perception is common to all, and therefore easy and no mark of Wisdom); again, that he who is more exact and more capable of teaching the causes is wiser, in every branch of knowledge; and that of the sciences, also, that which is desirable on its own account and for the sake of knowing it is more of the nature of Wisdom than that which is desirable on account of its results, and the superior science is more of the nature of Wisdom than the ancillary; for the wise man must not be ordered but must order, and he must not obey another, but the less wise must obey him.

"Such and so many are the notions, then, which we have about Wisdom and the wise. Now of these characteristics that of knowing all things must belong to him who has in the highest degree universal knowledge; for he knows in a sense all the instances that fall under the universal. And these things, the

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most universal, are on the whole the hardest for men to know; for they are farthest from the senses. And the most exact of the sciences are those which deal most with first principles; for those which involve fewer principles are more exact than those which involve additional principles, e.g. arithmetic than geometry. But the science which investigates causes is also instructive, in a higher degree, for the people who instruct us are those who tell the causes of each thing. And understanding and knowledge pursued for their own sake are found most in the knowledge of that which is most knowable (for he who chooses to know for the sake of knowing will choose most readily that which is most truly knowledge, and such is the knowledge of that which is most knowable); and the first principles and the causes are most knowable; for by reason of these, and from these, all other things come to be known, and not these by means of the things subordinate to them. And the science which knows to what end each thing must be done is the most authoritative of the sciences, and more authoritative than any ancillary science; and this end is the good of that thing, and in general the supreme good in the whole of nature. Judged by all the tests we have mentioned, then, the name in question falls to the same science; this must be a science that investigates the first principles and causes; for the good, i.e. the end, is one of the causes.

"That it is not a science of production is clear even from the history of the earliest philosophers. For it is owing to their wonder that men both now begin and at first began to philosophize; they wondered originally at the obvious difficulties, then advanced little by little and stated difficulties about the greater matters, e.g. about the phenomena of the moon and those of the sun and of the stars, and about the

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genesis of the universe. And a man who is puzzled and wonders thinks himself ignorant (whence even the lover of myth is in a sense a lover of Wisdom, for the myth is composed of wonders); therefore since they philosophized order to escape from ignorance, evidently they were pursuing science in order to know, and not for any utilitarian end. And this is confirmed by the facts; for it was when almost all the necessities of life and the things that make for comfort and recreation had been secured, that such knowledge began to be sought. Evidently then we do not seek it for the sake of any other advantage; but as the man is free, we say, who exists for his own sake and not for another's, so we pursue this as the only free science, for it alone exists for its own sake...

Posterior Analytics

Book 1

This second section is from Aristotle's work that focuses heavily on categorizing the kinds of things that can be known and how we know them. This passage begins with his opening comments on Scientific knowledge. He proceeds into defining a host of terms that will become central to philosophy especially medieval and 20th century analytic Philosophy.

Part 2

We suppose ourselves to possess unqualified scientific knowledge of a thing, as opposed to knowing it in the accidental way in which the sophist knows, when we think that we know the cause on which the fact depends, as the cause of that fact

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and of no other, and, further, that the fact could not be other than it is. Now that scientific knowing is something of this sort is evident—witness both those who falsely claim it and those who actually possess it, since the former merely imagine themselves to be, while the latter are also actually, in the condition described. Consequently the proper object of unqualified scientific knowledge is something which cannot be other than it is. There may be another manner of knowing as well—that will be discussed later. What I now assert is that at all events we do know by demonstration. By demonstration I mean a syllogism productive of scientific knowledge, a syllogism, that is, the grasp of which is *eo ipso* such knowledge. Assuming then that my thesis as to the nature of scientific knowing is correct, the premises of demonstrated knowledge must be true, primary, immediate, better known than and prior to the conclusion, which is further related to them as effect to cause. Unless these conditions are satisfied, the basic truths will not be ‘appropriate’ to the conclusion. Syllogism there may indeed be without these conditions, but such syllogism, not being productive of scientific knowledge, will not be demonstration. The premises must be true: for that which is non-existent cannot be known—we cannot know, e.g. that the diagonal of a square is commensurate with its side. The premises must be primary and indemonstrable; otherwise they will require demonstration in order to be known, since to have knowledge, if it be not accidental knowledge, of things which are demonstrable, means precisely to have a demonstration of them. The premises must be the causes of the conclusion, better known than it, and prior to it; its causes, since we possess scientific knowledge of a thing only when we know its cause; prior, in order to be causes; antecedently known, this antecedent knowledge being not our mere understanding of the

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meaning, but knowledge of the fact as well. Now 'prior' and 'better known' are ambiguous terms, for there is a difference between what is prior and better known in the order of being and what is prior and better known to man. I mean that objects nearer to sense are prior and better known to man; objects without qualification prior and better known are those further from sense. Now the most universal causes are furthest from sense and particular causes are nearest to sense, and they are thus exactly opposed to one another. In saying that the premises of demonstrated knowledge must be primary, I mean that they must be the 'appropriate' basic truths, for I identify primary premise and basic truth. A 'basic truth' in a demonstration is an immediate proposition. An immediate proposition is one which has no other proposition prior to it. A proposition is either part of an enunciation, i.e. it predicates a single attribute of a single subject. If a proposition is dialectical, it assumes either part indifferently; if it is demonstrative, it lays down one part to the definite exclusion of the other because that part is true. The term 'enunciation' denotes either part of a contradiction indifferently. A contradiction is an opposition which of its own nature excludes a middle. The part of a contradiction which conjoins a predicate with a subject is an affirmation; the part disjoining them is a negation. I call an immediate basic truth of syllogism a 'thesis' when, though it is not susceptible of proof by the teacher, yet ignorance of it does not constitute a total bar to progress on the part of the pupil: one which the pupil must know if he is to learn anything whatever is an axiom. I call it an axiom because there are such truths and we give them the name of axioms par excellence. If a thesis assumes one part or the other of an enunciation, i.e. asserts either the existence or the non-existence of a subject, it is a hypothesis; if it does not so assert,

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it is a definition. Definition is a 'thesis' or a 'laying something down', since the arithmetician lays it down that to be a unit is to be quantitatively indivisible; but it is not a hypothesis, for to define what a unit is, is not the same as to affirm its existence. Now since the required ground of our knowledge—i.e. of our conviction—of a fact is the possession of such a syllogism as we call demonstration, and the ground of the syllogism is the facts constituting its premises, we must not only know the primary premises—some if not all of them—beforehand, but know them better than the conclusion: for the cause of an attribute's inherence in a subject always itself inheres in the subject more firmly than that attribute; e.g. the cause of our loving anything is dearer to us than the object of our love. So since the primary premises are the cause of our knowledge—i.e. of our conviction—it follows that we know them better—that is, are more convinced of them—than their consequences, precisely because of our knowledge of the latter is the effect of our knowledge of the premises. Now a man cannot believe in anything more than in the things he knows, unless he has either actual knowledge of it or something better than actual knowledge. But we are faced with this paradox if a student whose belief rests on demonstration has not prior knowledge; a man must believe in some, if not in all, of the basic truths more than in the conclusion. Moreover, if a man sets out to acquire the scientific knowledge that comes through demonstration, he must not only have a better knowledge of the basic truths and a firmer conviction of them than of the conclusion which is being demonstrated: more than this, nothing must be more certain or better known to him than these basic truths in their character as contradicting the fundamental premises which lead to the opposed and erroneous conclusion. For indeed the conviction of pure science must be unshakable.

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Politics

Book 8

In this section of the politics Aristotle turns his attention to the topic of why a society should institute a public education system. His arguments hinge on the idea that the society is prior to the individual in the sense that if you were to destroy the society you would destroy the individual. Therefore, no individual belongs to himself and his thriving is important to the state.

Part 1

None will doubt that the legislator should direct his attention above all to the education of youth; for the neglect of education does harm to the constitution. The citizen should be molded to suit the form of government under which he lives. For each government has a peculiar character which originally formed and which continues to preserve it. The character of democracy creates democracy, and the character of oligarchy creates oligarchy; and always the better the character, the better the government.

Again, for the exercise of any faculty or art a previous training and habituation are required; clearly therefore for the practice of virtue. And since the whole city has one end, it is manifest that education should be one and the same for all, and that it should be public, and not private- not as at present, when every one looks after his own children separately, and gives them separate instruction of the sort which he thinks best; the

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training in things which are of common interest should be the same for all. Neither must we suppose that any one of the citizens belongs to himself, for they all belong to the state, and are each of them a part of the state, and the care of each part is inseparable from the care of the whole. In this particular as in some others the Lacedaemonians are to be praised, for they take the greatest pains about their children, and make education the business of the state.

Part II

That education should be regulated by law and should be an affair of state is not to be denied, but what should be the character of this public education, and how young persons should be educated, are questions which remain to be considered. As things are, there is disagreement about the subjects. For mankind are by no means agreed about the things to be taught, whether we look to virtue or the best life. Neither is it clear whether education is more concerned with intellectual or with moral virtue. The existing practice is perplexing; no one knows on what principle we should proceed—should the useful in life, or should virtue, or should the higher knowledge, be the aim of our training; all three opinions have been entertained. Again, about the means there is no agreement; for different persons, starting with different ideas about the nature of virtue, naturally disagree about the practice of it. There can be no doubt that children should be taught those useful things which are really necessary, but not all useful things; for occupations are divided into liberal and illiberal; and to young children should be imparted only such kinds of knowledge as will be useful to them without vulgarizing them. And any occupation, art, or science, which

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makes the body or soul or mind of the freeman less fit for the practice or exercise of virtue, is vulgar; wherefore we call those arts vulgar which tend to deform the body, and likewise all paid employments, for they absorb and degrade the mind. There are also some liberal arts quite proper for a freeman to acquire, but only in a certain degree, and if he attend to them too closely, in order to attain perfection in them, the same evil effects will follow. The object also which a man sets before him makes a great difference; if he does or learns anything for his own sake or for the sake of his friends, or with a view to excellence the action will not appear illiberal; but if done for the sake of others, the very same action will be thought menial and servile. The received subjects of instruction, as I have already remarked, are partly of a liberal and party of an illiberal character.

Part III

The customary branches of education are in number four; they are- (1) reading and writing, (2) gymnastic exercises, (3) music, to which is sometimes added (4) drawing. Of these, reading and writing and drawing are regarded as useful for the purposes of life in a variety of ways, and gymnastic exercises are thought to infuse courage. concerning music a doubt may be raised- in our own day most men cultivate it for the sake of pleasure, but originally it was included in education, because nature herself, as has been often said, requires that we should be able, not only to work well, but to use leisure well; for, as I must repeat once again, the first principle of all action is leisure. Both are required, but leisure is better than occupation and is its end; and therefore the question must be asked, what ought we to do when at leisure? Clearly we ought not to be amusing ourselves,

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for then amusement would be the end of life. But if this is inconceivable, and amusement is needed more amid serious occupations than at other times (for he who is hard at work has need of relaxation, and amusement gives relaxation, whereas occupation is always accompanied with exertion and effort), we should introduce amusements only at suitable times, and they should be our medicines, for the emotion which they create in the soul is a relaxation, and from the pleasure we obtain rest. But leisure of itself gives pleasure and happiness and enjoyment of life, which are experienced, not by the busy man, but by those who have leisure. For he who is occupied has in view some end which he has not attained; but happiness is an end, since all men deem it to be accompanied with pleasure and not with pain. This pleasure, however, is regarded differently by different persons, and varies according to the habit of individuals; the pleasure of the best man is the best, and springs from the noblest sources. It is clear then that there are branches of learning and education which we must study merely with a view to leisure spent in intellectual activity, and these are to be valued for their own sake; whereas those kinds of knowledge which are useful in business are to be deemed necessary, and exist for the sake of other things. And therefore our fathers admitted music into education, not on the ground either of its necessity or utility, for it is not necessary, nor indeed useful in the same manner as reading and writing, which are useful in money-making, in the management of a household, in the acquisition of knowledge and in political life, nor like drawing, useful for a more correct judgment of the works of artists, nor again like gymnastic, which gives health and strength; for neither of these is to be gained from music. There remains, then, the use of music for intellectual enjoyment in leisure; which is in fact evidently the reason of its

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introduction, this being one of the ways in which it is thought that a freeman should pass his leisure; as Homer says,

"But he who alone should be called to the pleasant feast, " and afterwards he speaks of others whom he describes as inviting

"The bard who would delight them all. " And in another place Odysseus says there is no better way of passing life than when men's hearts are merry and The banqueters in the hall, sitting in order, hear the voice of the minstrel.

It is evident, then, that there is a sort of education in which parents should train their sons, not as being useful or necessary, but because it is liberal or noble. Whether this is of one kind only, or of more than one, and if so, what they are, and how they are to be imparted, must hereafter be determined. Thus much we are now in a position to say, that the ancients witness to us; for their opinion may be gathered from the fact that music is one of the received and traditional branches of education. Further, it is clear that children should be instructed in some useful things- for example, in reading and writing- not only for their usefulness, but also because many other sorts of knowledge are acquired through them. With a like view they may be taught drawing, not to prevent their making mistakes in their own purchases, or in order that they may not be imposed upon in the buying or selling of articles, but perhaps rather because it makes them judges of the beauty of the human form. To be always seeking after the useful does not become free and exalted souls. Now it is clear that in education practice must be used before theory, and the body be trained before the mind; and therefore boys should be handed over to the trainer, who creates in them the roper habit of body, and to the wrestling-

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master, who teaches them their exercises.

Attributions

You can find complete copies of all three of Aristotle's works Translated by Benjamin Jowett at [The Internet Classics Archive \[https://edtechbooks.org/-heh\]](https://edtechbooks.org/-heh).

A special thanks to Michael Arts for his assistance in selecting the texts for this abridgement.

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What is the Appropriate Use of Curiosity?

Selections from Confessions and Commentary on the Metaphysics of Aristotle

Augustine & Thomas Aquinas

In this section, you will find two passages. The first is from Augustine's Confessions. He frames his version of what it means to be curious. In the second passage, you will find a passage from Aquinas' Commentary on the Metaphysics of Aristotle. In that passage, he lays out his competing vision of what it means to be curious.

Augustine

St. Augustine, Confessiones, X, 35 (54-55)

54. At this point I mention another form of temptation, more various and dangerous. For over and above that lust of the flesh which lies in the delight of all our senses and pleasures—whoso slaves are wasted unto destruction as they go from You—there can also be in the mind itself, through those same bodily senses, a certain vain desire and curiosity, not of taking delight in the body, but of making experiments with the body's aid, and

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cloaked under the name of learning and knowledge. Because this is in the appetite to know, and the eyes are the chief of the senses we use for attaining knowledge, it is called in Scripture the lust of the eyes. For "to see" belongs as a property to the eyes; yet we apply the word also to the other senses, when we use them for gaining knowledge. Thus we do not say: "Hear how it flashes," or "Smell how bright it is," or "Taste how it shines," or "Touch how it glows": because all these things are said to be seen. Yet we do not say only "See how it shines," something that only the eye can perceive; but also "See how it sounds," "See how it smells," "See how it tastes," "See how hot it is." Thus the experience of the senses as a whole, as has been said, is called the lust of the eyes, yet we apply it to the other senses by analogy when they are in pursuit of the truth about anything.

55. In this it is easy to distinguish between the way in which the senses serve pleasure and the way in which they serve curiosity. Pleasure goes after objects that are beautiful to see, hear, smell, taste, touch, but curiosity for the sake of experiment can go after quite contrary things, not in order to experience their unpleasantness, but through the mere itch to experience and find out. What pleasure can there be in seeing a mangled corpse, which is only horrible? yet if there happens to be one anywhere about, people flock to it to be saddened and sickened: indeed they are in terror that they may dream about it. So that you would think that when they are awake they would not go to see it unless either they were dragged there by force, or some false report that the sight was beautiful had drawn them. It is the same with the other senses which it would be long to follow up. Because of this disease of curiosity you have the various freaks shown in the theatres. Thus men

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proceed to investigate the phenomena of nature—the part of nature external to us—though the knowledge is of no value to them: for they wish to know simply for the sake of knowing. We have a similar thing when for the sake of the same perverted learning inquiry is made by way of magic. And the same happens even in religion: God is tempted when signs and wonders are demanded, not for any purpose of salvation, but solely for the experience of seeing them.

Reflection Question

Few today would frame "experiment" in such a negative light, but Augustine raises an interesting question. What is the limit to the type of things that you can justify learning just because you wanted to know them? Can I find out your social security number just because I want to know?

Aquinas

St. Thomas Aquinas, Commentary on the Metaphysics of Aristotle, Lesson 1

1. [Aristotle] says, first, that the desire to know belongs by nature to all men.
2. Three reasons can be given for this. The first is that each

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thing naturally desires its own perfection. Hence matter is also said to desire form as any imperfect thing desires its perfection. Therefore, since the intellect, by which man is what he is, considered in itself is all things potentially, and becomes them actually only through knowledge, because the intellect is none of the things that exist before it understands them, as is stated in Book III of *The Soul*; so each man naturally desires knowledge just as matter desires form.

3. The second reason is that each thing has a natural inclination to perform its proper operation, as something hot is naturally inclined to heat, and something heavy to be moved downwards. Now the proper operation of man as man is to understand, for by reason of this he differs from all other things. Hence the desire of man is naturally inclined to understand, and therefore to possess scientific knowledge.

4. The third reason is that it is desirable for each thing to be united to its source, since it is in this that the perfection of each thing consists. This is also the reason why circular motion is the most perfect motion, as is proved in Book VIII of the *Physics*, because its terminus is united to its starting-point. Now it is only by means of his intellect that man is united to the separate substances, which are the source of the human intellect and that to which the human intellect is related as something imperfect to something perfect. It is for this reason, too, that the ultimate happiness of man consists in this union. Therefore man naturally desires to know.

Reflection Question

What do you see as the main points of contrast between Augustine and Aquinas?

Attributions

The full book of Augustine's Confessions Translated by Rev. Dr. E.B. Pusey can be found online with Google books. The entirety of Aquinas' Commentary translated by John P. Rowan can be found in the Priory archives. A special thanks to Michael Arts for his assistance in compiling this abridgment.

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The Handbooks from Philosophers

These books on the philosophy of education show very little resemblance to the analytic and phenomenological works that are the staples of philosophy in the 20th and 21st century. That is, they are not systematic philosophy. Rather many of them, especially Locke and Montaigne, read much more like musings that are brought together based on the authors' vast reading in the works of philosophy and without any intention of connecting the thoughts from one paragraph to another to build an airtight system for answering essential questions in the philosophy of education.

With that in mind, I have found it is best to read them not as premises leading to conclusions but as conclusions in and of themselves and then to investigate these conclusions to see if one can get back to the philosophical axioms that informed them. This, I believe, is a fitting course of inquiry, because all of the authors had engaged in extensive study throughout the philosophical corpus of their time.

Thus, the vast majority of the reflection questions in these essays are aimed at asking the reader to think about what kinds of assumptions the authors must have made to arrive at these particular conclusions.

What is a Classical Education?

Selections from *Of the Education of Children*

Michel de Montaigne

In this essay, Montaigne responds to a Madame Diane de Foix who asked him how to educate a child. Montaigne begins by saying that he does not know how to educate children but then goes on to give a series of practical recommendations based on his philosophical positions on the nature of knowledge and teaching. His philosophical system is not entirely clear throughout the essay, but the reflection questions will ask you to investigate what might have been his underlying philosophical positions in traditional realms such as epistemology, ontology, and ethics.

It may also be important to note that in the original version each of the quotes that I have bolded is preceded by the Latin translation. I have not included the Latin here for the sake of brevity.

TO MADAME DIANE DE FOIX, Comtesse de Gurson

I never yet saw that father, but let his son be never so decrepit

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or deformed, would not, notwithstanding, own him: not, nevertheless, if he were not totally besotted, and blinded with his paternal affection, that he did not well enough discern his defects; but that with all defaults he was still his. Just so, I see better than any other, that all I write here are but the idle reveries of a man that has only nibbled upon the outward crust of sciences in his nonage, and only retained a general and formless image of them; who has got a little snatch of everything and nothing of the whole, 'a la Francoise'. For I know, in general, that there is such a thing as physic, as jurisprudence: four parts in mathematics, and, roughly, what all these aim and point at; and, peradventure, I yet know farther, what sciences in general pretend unto, in order to the service of our life: but to dive farther than that, and to have cudgelled my brains in the study of Aristotle, the monarch of all modern learning, or particularly addicted myself to any one science, I have never done it; neither is there any one art of which I am able to draw the first lineaments and dead colour; insomuch that there is not a boy of the lowest form in a school, that may not pretend to be wiser than I, who am not able to examine him in his first lesson, which, if I am at any time forced upon, I am necessitated in my own defence, to ask him, unaptly enough, some universal questions, such as may serve to try his natural understanding; a lesson as strange and unknown to him, as his is to me...

Some one, then, having seen the preceding chapter, the other day told me at my house, that I should a little farther have extended my discourse on the education of children.—[“Which, how fit I am to do, let my friends flatter me if they please, I have in the meantime no such opinion of my own talent, as to promise myself any very good success from my endeavour.”

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This passage would appear to be an interpolation by Cotton. At all events, I do not find it in the original editions before me, or in Coste.]—

Now, madam, if I had any sufficiency in this subject, I could not possibly better employ it, than to present my best instructions to the little man that threatens you shortly with a happy birth (for you are too generous to begin otherwise than with a male); for, having had so great a hand in the treaty of your marriage, I have a certain particular right and interest in the greatness and prosperity of the issue that shall spring from it; beside that, your having had the best of my services so long in possession, sufficiently obliges me to desire the honour and advantage of all wherein you shall be concerned. But, in truth, all I understand as to that particular is only this, that the greatest and most important difficulty of human science is the education of children.

Reflection Question

What might Montaigne mean by science? Whatever his notion of science, why would this be the hardest science?

For as in agriculture, the husbandry that is to precede planting, as also planting itself, is certain, plain, and well known; but after that which is planted comes to life, there is a great deal more to be done, more art to be used, more care to be taken,

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and much more difficulty to cultivate and bring it to perfection so it is with men; it is no hard matter to get children; but after they are born, then begins the trouble, solicitude, and care rightly to train, principle, and bring them up. The symptoms of their inclinations in that tender age are so obscure, and the promises so uncertain and fallacious, that it is very hard to establish any solid judgment or conjecture upon them. Look at Cimon, for example, and Themistocles, and a thousand others, who very much deceived the expectation men had of them. Cubs of bears and puppies readily discover their natural inclination; but men, so soon as ever they are grown up, applying themselves to certain habits, engaging themselves in certain opinions, and conforming themselves to particular laws and customs, easily alter, or at least disguise, their true and real disposition; and yet it is hard to force the propension of nature. Whence it comes to pass, that for not having chosen the right course, we often take very great pains, and consume a good part of our time in training up children to things, for which, by their natural constitution, they are totally unfit. In this difficulty, nevertheless, I am clearly of opinion, that they ought to be elemented in the best and most advantageous studies, without taking too much notice of, or being too superstitious in those light prognostics they give of themselves in their tender years, and to which Plato, in his Republic, gives, methinks, too much authority.

Madam, science is a very great ornament, and a thing of marvellous use, especially in persons raised to that degree of fortune in which you are. And, in truth, in persons of mean and low condition, it cannot perform its true and genuine office, being naturally more prompt to assist in the conduct of war, in the government of peoples, in negotiating the leagues and

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friendships of princes and foreign nations, than in forming a syllogism in logic, in pleading a process in law, or in prescribing a dose of pills in physic. Wherefore, madam, believing you will not omit this so necessary feature in the education of your children, who yourself have tasted its sweetness, and are of a learned extraction (for we yet have the writings of the ancient Counts of Foix, from whom my lord, your husband, and yourself, are both of you descended, and Monsieur de Candale, your uncle, every day obliges the world with others, which will extend the knowledge of this quality in your family for so many succeeding ages), I will, upon this occasion, presume to acquaint your ladyship with one particular fancy of my own, contrary to the common method, which is all I am able to contribute to your service in this affair.

Reflection Question

What kind of obligation does an individual have to pass on the knowledge he or she has gained?

The charge of the tutor you shall provide for your son, upon the choice of whom depends the whole success of his education, has several other great and considerable parts and duties required in so important a trust, besides that of which I am about to speak: these, however, I shall not mention, as being unable to add anything of moment to the common rules: and in this, wherein I take upon me to advise, he may follow it so far only as it shall appear advisable.

Reflection Question

Montaigne is articulating his vision for the education of children based on the framework of one mentor to one child, does this limit the way his insights can be applied to public education. If so, how?

For a, boy of quality then, who pretends to letters not upon the account of profit (for so mean an object is unworthy of the grace and favour of the Muses, and moreover, in it a man directs his service to and depends upon others), nor so much for outward ornament, as for his own proper and peculiar use, and to furnish and enrich himself within, having rather a desire to come out an accomplished cavalier than a mere scholar or learned man; for such a one, I say, I would, also, have his friends solicitous to find him out a tutor, who has rather a well-made than a well-filled head...seeking, indeed, both the one and the other, but rather of the two to prefer manners and judgment to mere learning, and that this man should exercise his charge after a new method.

'Tis the custom of pedagogues to be eternally thundering in their pupil's ears, as they were pouring into a funnel, whilst the business of the pupil is only to repeat what the others have said: now I would have a tutor to correct this error, and, that at the very first, he should according to the capacity he has to deal with, put it to the test, permitting his pupil himself to taste things, and of himself to discern and choose them, sometimes

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opening the way to him, and sometimes leaving him to open it for himself; that is, I would not have him alone to invent and speak, but that he should also hear his pupil speak in turn. Socrates, and since him Arcesilaus, made first their scholars speak, and then they spoke to them—Diogenes Laertius, iv. 36.

“The authority of those who teach, is very often an impediment to those who desire to learn.”

—Cicero, *De Natura Deor.*, i. 5.

Reflection Question

How does the authority of a teacher shape the possibility of collaboration between teachers and students?

It is good to make him, like a young horse, trot before him, that he may judge of his going, and how much he is to abate of his own speed, to accommodate himself to the vigour and capacity of the other. For want of which due proportion we spoil all; which also to know how to adjust, and to keep within an exact and due measure, is one of the hardest things I know, and 'tis the effect of a high and well-tempered soul, to know how to condescend to such puerile motions and to govern and direct them. I walk firmer and more secure uphill than down.

Such as, according to our common way of teaching, undertake,

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with one and the same lesson, and the same measure of direction, to instruct several boys of differing and unequal capacities, are infinitely mistaken; and 'tis no wonder, if in a whole multitude of scholars, there are not found above two or three who bring away any good account of their time and discipline. Let the master not only examine him about the grammatical construction of the bare words of his lesson, but about the sense and let him judge of the profit he has made, not by the testimony of his memory, but by that of his life. Let him make him put what he has learned into a hundred several forms, and accommodate it to so many several subjects, to see if he yet rightly comprehends it, and has made it his own, taking instruction of his progress by the pedagogic institutions of Plato. 'Tis a sign of crudity and indigestion to disgorge what we eat in the same condition it was swallowed; the stomach has not performed its office unless it have altered the form and condition of what was committed to it to concoct. Our minds work only upon trust, when bound and compelled to follow the appetite of another's fancy, enslaved and captivated under the authority of another's instruction; we have been so subjected to the trammel, that we have no free, nor natural pace of our own; our own vigour and liberty are extinct and gone:

"They are ever in wardship."

—*Seneca, Ep., 33.*

I was privately carried at Pisa to see a very honest man, but so great an Aristotelian, that his most usual thesis was: "That the touchstone and square of all solid imagination, and of all truth, was an absolute conformity to Aristotle's doctrine; and that all besides was nothing but inanity and chimera; for that he had

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seen all, and said all." A position, that for having been a little too injuriously and broadly interpreted, brought him once and long kept him in great danger of the Inquisition at Rome.

Let him make him examine and thoroughly sift everything he reads, and lodge nothing in his fancy upon simple authority and upon trust. Aristotle's principles will then be no more principles to him, than those of Epicurus and the Stoics: let this diversity of opinions be propounded to, and laid before him; he will himself choose, if he be able; if not, he will remain in doubt.

"I love to doubt, as well as to know."

—Dante, *Inferno*, xi. 93

Reflection Question

What kind of epistemic value should students assign to the instruction in class?

...For, if he embrace the opinions of Xenophon and Plato, by his own reason, they will no more be theirs, but become his own. Who follows another, follows nothing, finds nothing, nay, is inquisitive after nothing.

Let him, at least, know that he knows. It will be necessary that he imbibe their knowledge, not that he be corrupted with their precepts; and no matter if he forget where he had his learning,

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provided he know how to apply it to his own use. Truth and reason are common to every one, and are no more his who spake them first, than his who speaks them after: 'tis no more according to Plato, than according to me, since both he and I equally see and understand them. Bees cull their several sweets from this flower and that blossom, here and there where they find them, but themselves afterwards make the honey, which is all and purely their own, and no more thyme and marjoram: so the several fragments he borrows from others, he will transform and shuffle together to compile a work that shall be absolutely his own; that is to say, his judgment: his instruction, labour and study, tend to nothing else but to form that. He is not obliged to discover whence he got the materials that have assisted him, but only to produce what he has himself done with them... 'Tis, says Epicharmus, the understanding that sees and hears, 'tis the understanding that improves everything, that orders everything, and that acts, rules, and reigns: all other faculties are blind, and deaf, and without soul. And certainly we render it timorous and servile, in not allowing it the liberty and privilege to do anything of itself. Whoever asked his pupil what he thought of grammar and rhetoric, or of such and such a sentence of Cicero? Our masters stick them, full feathered, in our memories, and there establish them like oracles, of which the letters and syllables are of the substance of the thing. To know by rote, is no knowledge, and signifies no more but only to retain what one has entrusted to our memory. That which a man rightly knows and understands, he is the free disposer of at his own full liberty, without any regard to the author from whence he had it, or fumbling over the leaves of his book. A mere bookish learning is a poor, paltry learning; it may serve for ornament, but there is yet no foundation for any superstructure to be built upon it, according to the opinion of

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Plato, who says, that constancy, faith, and sincerity, are the true philosophy, and the other sciences, that are directed to other ends; mere adulterate paint...

Reflection Question

Based on the previous paragraph, what kind of factors influence Montaigne's hierarchy of knowledge?

I would that a boy should be sent abroad very young, and first, so as to kill two birds with one stone, into those neighbouring nations whose language is most differing from our own, and to which, if it be not formed betimes, the tongue will grow too stiff to bend.

And also 'tis the general opinion of all, that a child should not be brought up in his mother's lap. Mothers are too tender, and their natural affection is apt to make the most discreet of them all so overfond, that they can neither find in their hearts to give them due correction for the faults they may commit, nor suffer them to be inured to hardships and hazards, as they ought to be. They will not endure to see them return all dust and sweat from their exercise, to drink cold drink when they are hot, nor see them mount an unruly horse, nor take a foil in hand against a rude fencer, or so much as to discharge a carbine. And yet there is no remedy; whoever will breed a boy to be good for anything when he comes to be a man, must by no means spare him when young, and must very often transgress the rules of

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physic:

“Let him live in open air, and ever in movement about something.”

—*Horace, Od. ii., 3, 5.*

It is not enough to fortify his soul; you are also to make his sinews strong; for the soul will be oppressed if not assisted by the members, and would have too hard a task to discharge two offices alone...

“Labour hardens us against pain.”

—*Cicero, Tusc. Quaes., ii. 15.*

A boy is to be broken in to the toil and roughness of exercise, so as to be trained up to the pain and suffering of dislocations, cholics, cauteries, and even imprisonment and the rack itself; for he may come by misfortune to be reduced to the worst of these, which (as this world goes) is sometimes inflicted on the good as well as the bad. As for proof, in our present civil war whoever draws his sword against the laws, threatens the honestest men with the whip and the halter...

If his governor be of my humour, he will form his will to be a very good and loyal subject to his prince, very affectionate to his person, and very stout in his quarrel; but withal he will cool in him the desire of having any other tie to his service than public duty. Besides several other inconveniences that are inconsistent with the liberty every honest man ought to have, a man's judgment, being bribed and prepossessed by these particular obligations, is either blinded and less free to exercise

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its function, or is blemished with ingratitude and indiscretion. A man that is purely a courtier, can neither have power nor will to speak or think otherwise than favourably and well of a master, who, amongst so many millions of other subjects, has picked out him with his own hand to nourish and advance; this favour, and the profit flowing from it, must needs, and not without some show of reason, corrupt his freedom and dazzle him; and we commonly see these people speak in another kind of phrase than is ordinarily spoken by others of the same nation, though what they say in that courtly language is not much to be believed...Let him examine every man's talent; a peasant, a bricklayer, a passenger: one may learn something from every one of these in their several capacities, and something will be picked out of their discourse whereof some use may be made at one time or another; nay, even the folly and impertinence of others will contribute to his instruction. By observing the graces and manners of all he sees, he will create to himself an emulation of the good, and a contempt of the bad...

In this conversing with men, I mean also, and principally, those who only live in the records of history; he shall, by reading those books, converse with the great and heroic souls of the best ages. 'Tis an idle and vain study to those who make it so by doing it after a negligent manner, but to those who do it with care and observation, 'tis a study of inestimable fruit and value; and the only study, as Plato reports, that the Lacedaemonians reserved to themselves. What profit shall he not reap as to the business of men, by reading the Lives of Plutarch? But, withal, let my governor remember to what end his instructions are principally directed, and that he do not so much imprint in his pupil's memory the date of the ruin of Carthage, as the manners of Hannibal and Scipio; nor so much where Marcellus

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died, as why it was unworthy of his duty that he died there. Let him not teach him so much the narrative parts of history as to judge them; the reading of them, in my opinion, is a thing that of all others we apply ourselves unto with the most differing measure. I have read a hundred things in Livy that another has not, or not taken notice of at least; and Plutarch has read a hundred more there than ever I could find, or than, peradventure, that author ever wrote; to some it is merely a grammar study, to others the very anatomy of philosophy, by which the most abstruse parts of our human nature penetrate...

Human understanding is marvellously enlightened by daily conversation with men, for we are, otherwise, compressed and heaped up in ourselves, and have our sight limited to the length of our own noses. One asking Socrates of what country he was, he did not make answer, of Athens, but of the world;—Cicero, *Tusc. Quaes.*, v. 37; Plutarch, *On Exile*, c. 4.— he whose imagination was fuller and wider, embraced the whole world for his country, and extended his society and friendship to all mankind; not as we do, who look no further than our feet...

Reflection Question

Montaigne speaks several times about the importance of the classics and history. What kind of knowledge do humans gain from reading stories and histories?

This great world which some do yet multiply as several species

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under one genus, is the mirror wherein we are to behold ourselves, to be able to know ourselves as we ought to do in the true bias. In short, I would have this to be the book my young gentleman should study with the most attention. So many humours, so many sects, so many judgments, opinions, laws, and customs, teach us to judge aright of our own, and inform our understanding to discover its imperfection and natural infirmity, which is no trivial speculation...

To examples may fitly be applied all the profitable discourses of philosophy, to which all human actions, as to their best rule, ought to be especially directed: a scholar shall be taught to know—

“Learn what it is right to wish; what is the true use of coined money; how much it becomes us to give in liberality to our country and our dear relations; whom and what the Deity commanded thee to be; and in what part of the human system thou art placed; what we are and to what purpose engendered.”

—*Persius, iii. 69*

what it is to know, and what to be ignorant; what ought to be the end and design of study; what valour, temperance, and justice are; the difference betwixt ambition and avarice, servitude and subjection, licence and liberty; by what token a man may know true and solid contentment; how far death, affliction, and disgrace are to be apprehended;

“And how you may shun or sustain every hardship.”

—*Virgil, AENEID, iii. 459.*

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by what secret springs we move, and the reason of our various agitations and irresolutions: for, methinks the first doctrine with which one should season his understanding, ought to be that which regulates his manners and his sense; that teaches him to know himself, and how both well to dig and well to live. Amongst the liberal sciences, let us begin with that which makes us free; not that they do not all serve in some measure to the instruction and use of life, as all other things in some sort also do; but let us make choice of that which directly and professedly serves to that end. If we are once able to restrain the offices of human life within their just and natural limits, we shall find that most of the sciences in use are of no great use to us, and even in those that are, that there are many very unnecessary cavities and dilatations which we had better let alone, and, following Socrates' direction, limit the course of our studies to those things only where is a true and real utility...

Anaximenes writing to Pythagoras, "To what purpose," said he, "should I trouble myself in searching out the secrets of the stars, having death or slavery continually before my eyes?" for the kings of Persia were at that time preparing to invade his country. Every one ought to say thus, "Being assaulted, as I am by ambition, avarice, temerity, superstition, and having within so many other enemies of life, shall I go ponder over the world's changes?"

After having taught him what will make him more wise and good, you may then entertain him with the elements of logic, physics, geometry, rhetoric, and the science which he shall then himself most incline to, his judgment being beforehand formed and fit to choose, he will quickly make his own. The way of instructing him ought to be sometimes by discourse, and

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sometimes by reading; sometimes his governor shall put the author himself, which he shall think most proper for him, into his hands, and sometimes only the marrow and substance of it; and if himself be not conversant enough in books to turn to all the fine discourses the books contain for his purpose, there may some man of learning be joined to him, that upon every occasion shall supply him with what he stands in need of, to furnish it to his pupil. And who can doubt but that this way of teaching is much more easy and natural than that of Gaza,—Theodore Gaza, rector of the Academy of Ferrara.—in which the precepts are so intricate, and so harsh, and the words so vain, lean; and insignificant, that there is no hold to be taken of them, nothing that quickens and elevates the wit and fancy, whereas here the mind has what to feed upon and to digest. This fruit, therefore, is not only without comparison, much more fair and beautiful; but will also be much more early ripe...

Since philosophy is that which instructs us to live, and that infancy has there its lessons as well as other ages, why is it not communicated to children betimes?

“The clay is moist and soft: now, now make haste, and form the pitcher on the rapid wheel.”

—*Persius, iii. 23.*

They begin to teach us to live when we have almost done living. A hundred students have got the pox before they have come to read Aristotle’s lecture on temperance. Cicero said, that though he should live two men’s ages, he should never find leisure to study the lyric poets; and I find these sophisters yet more

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deplorably unprofitable. The boy we would breed has a great deal less time to spare; he owes but the first fifteen or sixteen years of his life to education; the remainder is due to action. Let us, therefore, employ that short time in necessary instruction. Away with the thorny subtleties of dialectics; they are abuses, things by which our lives can never be amended: take the plain philosophical discourses, learn how rightly to choose, and then rightly to apply them; they are more easy to be understood than one of Boccaccio's novels; a child from nurse is much more capable of them, than of learning to read or to write. Philosophy has discourses proper for childhood, as well as for the decrepit age of men.

I am of Plutarch's mind, that Aristotle did not so much trouble his great disciple with the knack of forming syllogisms, or with the elements of geometry; as with infusing into him good precepts concerning valour, prowess, magnanimity, temperance, and the contempt of fear; and with this ammunition, sent him, whilst yet a boy, with no more than thirty thousand foot, four thousand horse, and but forty-two thousand crowns, to subjugate the empire of the whole earth. For the other acts and sciences, he says, Alexander highly indeed commended their excellence and charm, and had them in very great honour and esteem, but not ravished with them to that degree as to be tempted to affect the practice of them In his own person:

"Young men and old men, derive hence a certain end to the mind, and stores for miserable grey hairs."

—*Persius, v. 64.*

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Epicurus, in the beginning of his letter to Meniceus,—Diogenes Laertius, x. 122.—says, “That neither the youngest should refuse to philosophise, nor the oldest grow weary of it.” Who does otherwise, seems tacitly to imply, that either the time of living happily is not yet come, or that it is already past. And yet, a for all that, I would not have this pupil of ours imprisoned and made a slave to his book; nor would I have him given up to the morosity and melancholic humour of a sour ill-natured pedant.

I would not have his spirit cowed and subdued, by applying him to the rack, and tormenting him, as some do, fourteen or fifteen hours a day, and so make a pack-horse of him. Neither should I think it good, when, by reason of a solitary and melancholic complexion, he is discovered to be overmuch addicted to his book, to nourish that humour in him; for that renders him unfit for civil conversation, and diverts him from better employments. And how many have I seen in my time totally brutified by an immoderate thirst after knowledge? Carneades was so besotted with it, that he would not find time so much as to comb his head or to pare his nails. Neither would I have his generous manners spoiled and corrupted by the incivility and barbarism of those of another...

As to the rest, this method of education ought to be carried on with a severe sweetness, quite contrary to the practice of our pedants, who, instead of tempting and alluring children to letters by apt and gentle ways, do in truth present nothing before them but rods and ferules, horror and cruelty. Away with this violence! away with this compulsion! than which, I certainly believe nothing more dulls and degenerates a well-descended nature. If you would have him apprehend shame and chastisement, do not harden him to them: inure him to heat and

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cold, to wind and sun, and to dangers that he ought to despise; wean him from all effeminacy and delicacy in clothes and lodging, eating and drinking; accustom him to everything, that he may not be a Sir Paris, a carpet-knight, but a sinewy, hardy, and vigorous young man. I have ever from a child to the age wherein I now am, been of this opinion, and am still constant to it. But amongst other things, the strict government of most of our colleges has evermore displeased me; peradventure, they might have erred less perniciously on the indulgent side. 'Tis a real house of correction of imprisoned youth. They are made debauched by being punished before they are so. Do but come in when they are about their lesson, and you shall hear nothing but the outcries of boys under execution, with the thundering noise of their pedagogues drunk with fury. A very pretty way this, to tempt these tender and timorous souls to love their book, with a furious countenance, and a rod in hand! A cursed and pernicious way of proceeding! Besides what Quintilian has very well observed, that this imperious authority is often attended by very dangerous consequences, and particularly our way of chastising. How much more decent would it be to see their classes strewed with green leaves and fine flowers, than with the bloody stumps of birch and willows?...

To return to my subject, there is nothing like alluring the appetite and affections; otherwise you make nothing but so many asses laden with books; by dint of the lash, you give them their pocketful of learning to keep; whereas, to do well you should not only lodge it with them, but make them espouse it.

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Reflection Question

After reviewing Montaigne's comments on education, what do you think is his vision for the ends of education?

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What Kind of Subjects are Worth Investigating?

Selections from Rules for the Direction of the Mind

Rene Descartes

In this text, Descartes outlines several of his rules for rigorous thinking. The two principal questions that he seeks to answer are 1) what kind of things deserve the attention of rigorous and extended thinking and 2) on what topics can we obtain certainty? Descartes' claims about what objects are worthy of attention and why they are worthy of attention stand in fairly stark contrast to the underlying mindset behind exploration-based curricula of the 21st century.

Rule I

The aim of our studies should be to direct the mind with a view to forming true and sound judgments about whatever comes before it.

Whenever men notice some similarity between two things, they are wont to ascribe to each, even in those respects in which the two differ, what they have found to be true of the other. Thus they erroneously compare the sciences, which entirely consists

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in the cognitive exercise of the mind, with the arts, which depend upon an exercise and disposition of the body. They see that not all the arts can be acquired by the same man, but that he who restricts himself to one, most readily becomes the best executant, since it is not so easy for the same hand to adapt itself both to agricultural operations and to harp-playing, or to the performance of several such tasks as to one alone.

Reflection Question

Does this distinction hold based on your understanding of the sciences and the arts?

Rule II

We should attend only to those objects of which our minds seem capable of having certain and indubitable cognition.

Reflection Question

Descartes has yet to define his two central terms "certain" and "indubitable" what do you think he might mean by both of these terms?

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Science in its entirety is true and evident cognition. He is no more learned who has doubts on many matters than the man who has never thought of them; nay he appears to be less learned if he has formed wrong opinions on any particulars. Hence it were better not to study at all than to occupy one's self with objects of such difficulty, that, owing to our inability to distinguish true from false, we are forced to regard the doubtful as certain; for in those matters, any hope of augmenting our knowledge is exceeded by the risk of diminishing it. Thus in accordance with the above maxim we reject all such merely probable knowledge and make it a rule to trust only what is completely known and incapable of being doubted. No doubt men of education may persuade themselves that there is but little of such certain knowledge, because, forsooth, a common failing of human nature has made them deem it too easy and open to everyone, and so led them to neglect to think upon such truths; but I nevertheless announce that there are more of these than they think --truths which suffice to give a rigorous demonstration of innumerable propositions, the discussion of which they have hitherto been unable to free from the element of probability. Further, because they have believed that it was unbecoming for a man of education to confess ignorance on any point, they have so accustomed themselves to trick out their fabricated explanations, that they have ended by gradually imposing on themselves and thus have issued them to the public as genuine.

But if we adhere closely to this rule we shall find left but few objects of legitimate study. For there is scarce any question occurring in the sciences about which talented men have not disagreed. But whenever two men come to opposite decisions about the same matter one of them at least must certainly be in

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the wrong, and apparently there is not even one of them who knows; for if the reasoning of the second were sound and clear he would be able so to lay it before the other to succeed in convincing his understanding also. Hence apparently we cannot attain to a perfect knowledge in any such case of probable opinion, for it would be rashness to hope for more than others have attained to. Consequently if we reckon correctly, of the sciences already discovered, Arithmetic and Geometry alone are left, to which the observance of this rule reduces us.

Reflection question

Descartes' reasoning has guided him to two objects that are worth studying. Does his reasoning seem sound or not and why?

Yet we do not therefore condemn that method of philosophizing which others have already discovered, and those weapons of the schoolmen, probable syllogisms, which are so well suited for polemics. They indeed give practice to the wits of youth and, producing emulation among them, act as a stimulus; and it is much better for their minds to be moulded by opinions of this sort, uncertain though they appear, as being objects of controversy amongst the learned, than to be left entirely to their own devices. For thus through lack of guidance they might stray into some abyss, but as long as they follow in their masters' footsteps, though they may diverge at times from the

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truth, they will yet certainly find a path which is at least in this respect safer, that it has been approved by more prudent people. We ourselves rejoice that we in earlier years experienced this scholastic training; but now, being released from that oath of allegiance which bound us to our old masters and since, as become our riper years, we are no longer subject to the ferule, if we wish in earnest to establish for ourselves those rules which shall aid us in scaling the heights of human knowledge, we must admit assuredly among the primary members of our catalogue that maxim which forbids us to abuse our leisure as many do, who neglect all easy quests and take up their time only with difficult matters; for they, though certainly making all sorts of subtle conjectures and elaborating most plausible arguments with great ingenuity, frequently find too late that after all their labours they have only increased the multitude of their doubts, without acquiring any knowledge whatsoever.

But now let us proceed to explain more carefully our reason for saying, as we did a little while ago, that of all the sciences known as yet, Arithmetic and Geometry alone are free from any taint of falsity or uncertainty. We must note then that there are two ways by which we arrive at the knowledge of facts, viz. by experience and by deduction. We must further observe that while our inferences from experience are frequently fallacious, deduction, or the pure illation of one thing from another, though it may be passed over, if it is not seen through, cannot be erroneous when performed by an understanding that is in the least degree rational. And it seems to me that the operation is profited but little by those constraining bonds by means of which the Dialecticians claim to control human reason, though I do not deny that that discipline may be serviceable for other

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purposes. My reason for saying so is that none of the mistakes which men can make (men, I say, not beasts) are due to faulty inference; they are caused merely by the fact that we found upon a basis of poorly comprehended experiences, or that propositions are posited which are hasty and groundless.

Reflection Question

Is it true that reason cannot lead to error?

This furnishes us with an evident explanation of the great superiority in certitude of arithmetic and Geometry to other sciences. The former alone deal with an object so pure and uncomplicated, that they need make no assumptions at all which experience renders uncertain, but wholly consist in the rational deduction of consequences. They are on that account much the easiest and clearest of all, and possess an object such as we require, for in them it is scarce humanly possible for anyone to err except by inadvertence. And yet we should not be surprised to find that plenty of people of their own accord prefer to apply their intelligence to other studies, or to Philosophy. The reason for this is that every person permits himself the liberty of making guesses in the matter of an obscure subject with more confidence than in one which is clear, and that it is much easier to have some vague notion about any subject, no matter what, than to arrive at the real truth about a single question however simple that may be.

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But one conclusion now emerges out of these considerations, viz. not, indeed, that Arithmetic and Geometry are the sole sciences to be studied, but only that in our search for the direct road towards truth we should busy ourselves with no object about which we cannot attain a certitude equal to that of the demonstrations of Arithmetic and Geometry.

Rule III

Concerning objects proposed for study, we ought to investigate what we can clearly and evidently intuit or deduce with certainty, and not what other people have thought or what we ourselves conjecture. For knowledge can be attained in no other way.

We must read the works of the ancients; for it is an extraordinary advantage to have available the labors of so many men, both in order to recognize what true discoveries have already long since been made and -also to become aware of what scope is still left for invention in the various disciplines. There is, however; at the same time a great danger that perhaps some contagion of error, contracted from a too attentive reading of them, may stick to us against our will, in spite of all precautions. For authors are ordinarily so disposed that whenever their heedless credulity has led them to a decision on some controverted opinion, they always try to bring us over to the same side, with the subtlest arguments; if on the other hand they have been fortunate enough to discover something certain and evident, they never set it forth without wrapping it up in all sorts of complications. (I suppose they are afraid that a simple account may lessen the importance they gain by the discovery; or perhaps they begrudge us the plain

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truth.)

Reflection Question

Descartes and Montaigne raise similar questions with respect to the works of the ancients. What kind of authority should time-honored wisdom be given? Does it have an epistemic value of its own?

But in fact, even if all writers were honest and plain; even if they never passed off matters of doubt upon us as if they were truths, but set forth everything in good faith; nevertheless, since there is hardly anything that one of them says but someone else asserts the contrary, we should be continually uncertain which side to believe. It would be no good to count heads, and then follow the opinion that has most authorities for it; for if the question that arises is a difficult one, it is more credible that the truth of the matter may have been discovered by few men than by many. But even if all agreed together, it would not be enough to have their teachings. For we shall never be mathematicians, say, even if we retain in memory all the proofs others have given, unless we ourselves have the mental aptitude of solving any given problem; we shall never be philosophers, if we have read all the arguments of Plato and Aristotle but cannot form a solid judgment on matters set before us; this sort of learning would appear historical rather than scientific. Further, this Rule counsels us against ever mixing up any conjectures with our judgments as to the truth of

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things. It is of no small importance to observe this; for the chief reason why in the common philosophy there is nothing to be found whose certitude is so apparent as to be beyond controversy is that those who practice it have not begun by contenting themselves with the recognition of what is clear and certain, but have ventured on the further assertion of what was obscure and unknown and was arrived at only through probable conjectures. These assertions they have later on themselves gradually come to hold with complete confidence, and have mixed them up indiscriminately with evident truths; and the final result was their inability to draw any conclusion that did not seem to depend on some such proposition, and consequently to draw any that was not uncertain.

In order to avoid our subsequently falling into the same error, the Rule enumerates all the intellectual activities by means of which we can attain to knowledge of things without any fear of deception; it allows of only two such intuition and induction. By intuition I mean, not the wavering assurance of the senses, or the deceitful judgment of a misconstructured imagination, but a conception, formed by unclouded mental attention, so easy and distinct as to leave no room for doubt in regard to the thing we are understanding. It comes to the same thing if we say: It is an indubitable conception formed by an unclouded mental mind; one that originates solely from the light of reason, and is more certain even than deduction, because it is simpler (though, as we have previously noted, deduction, too, cannot go wrong if it is a human being that performs it). Thus, anybody can see by mental intuition that he himself exists, that he thinks, that a triangle is bounded by just three lines, and a globe by a single surface, and so on; there are far more of such truths than most people observe, because they disdain to turn their mind to such easy topics.

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Some people may perhaps be troubled by this new use of the word intuition, and of other words that I shall later on be obliged to shift away from their common meaning. So I give at this point the general warning that I am not in the least thinking of the usage of particular words that has prevailed in the Schools in modern times, since it would be most difficult to use the same terms while holding quite different views; I take into account only what a given word means in Latin, in order that, whenever there are no proper words for what I mean, I may transfer to that meaning the words that seem to me most suitable. The evidentness and certainty of intuition is, moreover, necessary not only in forming propositions but also for any inferences. For example, take the inference that 2 and 2 come to the same as 3 and 1; intuition must show us not only that 2 and 2 make 4, and that 3 and 1 also make 4, but furthermore that the above third proposition is a necessary conclusion from these two.

This may raise a doubt as to our reason for having added another mode of knowledge, besides intuition, in this Rule - namely, knowledge by deduction. (By this term I mean any necessary conclusion from other things known with certainty.) We had to do this because many things are known although not self-evident, so long as they are deduced from principles known to be true by a continuous and uninterrupted movement of thought, with clear intuition of each point. It is in the same way that we know the last link of a long chain is connected with the first, even though we do not view in a single glance (Intuitu) all the intermediate links on which the connexion depends; we need only to have gone through the links in succession and to remember that from the first to the last each is joined to the next. Thus we distinguish at this point between intuition and

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certain deduction'; because the latter, unlike the former, is conceived as involving a movement or succession; and is again unlike intuition in not requiring something evident at the moment, but rather, so to say, borrowing its certainty from memory. From this we may gather that when propositions are direct conclusions from first principles, they may be said to be known by intuition or by deduction, according to different ways of looking at them; but first principles themselves may be said to be known only by intuition; and remote conclusions, on the other hand, only by deduction.

Reflection Question

Does the advent of new fields of study like [non-euclidian geometry](https://edtechbooks.org/-XkK) [https://edtechbooks.org/-XkK] undermine any of Descartes' claims in this piece?

These are the two most certain ways to knowledge; and on the side of the mind no more must be admitted; all others must be rejected as suspect and liable to mislead.

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Reflection Question

In the end, did Descartes provide good evidence for his claims about what objects are worthy of study? Why or why not?

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How to Educate a Gentleman?

Selections from

John Locke

In this section Locke lays out several of his thoughts on the best way to educate a young gentleman. He speaks primarily of how a tutor should act toward a young pupil. Much of his attention is focused on how avoiding physical punishment and helping students develop their own motivation.

A sound mind in a sound body, is a short, but full description of a happy state in this world: He that has these two, has little more to wish for; and he that wants either of them, will be but little better for anything else. Men's happiness or misery is most part of their own making. He, whose mind directs not wisely, will never take the right way; and he, whose body is crazy and feeble, will never be able to advance in it. I confess, there are some men's constitutions of body and mind so vigorous, and well framed by nature, that they need not much assistance from others, but by the strength of their natural genius, they are from their cradles carried towards what is excellent; and by the privilege of their happy constitutions are able to do wonders: but examples of this kind are but few, and I

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think I may say, that of all the men we meet with, nine parts of ten are what they are, good or evil, useful or not, by their education. 'Tis that which makes the great difference in mankind: the little, and almost insensible impressions on our tender infancies, have very important and lasting consequences: and there 'tis, as in the fountains of some rivers, where a gentle application of the hand turns the flexible waters into channels, that make them quite contrary courses, and by this little direction given them at first in the source, they receive different tendencies and arrive at last, at very remote and distant places.

Reflection Question

Locke seems to be committing himself to societal determinism. Is this consistent with his other philosophical works?

1.[Physcial] punishment contributes not at all to the mastery of our natural propensity to indulge corporal and present pleasure, and to avoid pain at any rate, but rather encourages it; and so strengthens that in us, which is the root of all vicious and wrong actions. For what motives, I pray, does a child act by, but of such pleasure and pain, that drudges at his book against his inclination, or abstains from eating unwholesome fruit, that he takes pleasure in, only out of fear of whipping? He in this only prefers the greater corporal pleasure, or avoids the greater corporal pain; and what is it, to govern his actions, and

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direct his conduct, by such motives as these? What is it, I say, but to cherish that principle in him, which it is our business to root out and destroy? And therefore I cannot think any correction useful to a child, where the shame of suffering for having, done amiss does not work more upon him than the pain.

33. As the strength of the body lies chiefly able to endure hardships, so also does that of the mind. And the great principle and foundation of all virtue and worth is placed in this, that a man is able to deny himself his own desires, cross his own inclinations, and purely follow what reason directs as best, though the appetite lean the other way.

Reflection Question

What kind of ethical framework undergirds Locke's views of value and worth?

49. This sort of correction naturally breeds an aversion to that which it is the tutor's business to create a liking to. How obvious is it to observe, that children come to hate things liked at first, as soon as they come to be whipped, or chid, and teased about them? And it is not to be wondered at in them, when grown men would not be able to be reconciled to any thing by such ways. Who is there that would not be disgusted with any innocent recreation in itself indifferent to him, if he I should with blows, or ill language, be hale to it, when he had no mind? Or be constantly so treated, for some circumstance in his

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application to it? This is natural to be so. Offensive circumstances ordinarily infect innocent things which they are joined with: and the very sight of a cup, wherein any one uses to take nauseous physic, turns his stomach, so that nothing will relish well out of it, though the cup be never so clean and well-shaped, and of the richest materials.

50. Such a sort of slavish discipline makes a slavish temper. The child submits, and dissembles obedience, whilst the fear of the rod hangs over him; but when that is removed, and, by being out of sight, he can promise himself impunity, he gives the greater scope to his natural inclination, which by this way is not at all altered, but on the contrary heightened and increased in him; and after such restraint, breaks out usually with the more violence. or,

51 4. If severity carried to the highest pitch does prevail, and works a cure upon the present unruly distemper, it is often bringing in the room of it a worse and more dangerous disease, by breaking the mind; and then, in the place of disorderly young fellow, you have a low-spirited, moped creature: who, however with his unnatural sobriety he may please silly people, who commend tame, unactive children because they make no noise, nor give them any trouble; yet, at last, will probably prove as uncomfortable a thing to his friends, as he will be, all his life, an useless thing to himself and others.

52 Beating them, and all other sorts o slavish and corporal punishments, are not the discipline fit to be used in the education of those we would have wise, good, and ingenuous men; and therefore very rarely to be applied, and that only in great occasions, and cases of extremity. On the other side, to

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flatter children by rewards of things that are pleasant to them, is as carefully to be avoided. He that will give to his son apples, or sugar-plums, or what else of this kind he is most delighted with, to make him learn his book, does but authorize his love of pleasure, and cocker up that dangerous propensity, which he ought by all means to subdue and stifle in him. You can never hope to teach him to master it whilst you compound for the check you give his inclination in one place, by the satisfaction you propose to it in another

Reflection Question

What about this course of action is wrong for Locke? Is it inconsistency, inefficiency, or something else entirely?

To make a good, a wise, and a virtuous man, it is fit he should learn to cross his appetite, and deny his inclination to riches, finery, or pleasing his palate, etc., whenever his reason advises the contrary, and his duty requires it. But when you draw him to do anything that is fit, by the offer of money or reward the pains of learning his book, by the pleasure of a luscious morsel; when you promise him a lace-cravat, or a fine new suit, upon performance of some of his little tasks; what do you, by proposing these as rewards, but allow them to be the good things he should aim at, and thereby encourage his longing for them, and accustom him to place his happiness in them? Thus people, to prevail with children to be industrious about their

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grammar, dancing, or some other such matter of no great moment to the happiness or usefulness of their lives by misapplied rewards and punishments, sacrifice their virtue, invert the order of their education, and teach them luxury, pride, or covetousness, etc. For in this way, flattering those wrong inclinations, which they should restrain and suppress, they lay the foundations of those future vices, which cannot be avoided, but by curbing our desires, and accustoming them early to submit to reason.

53. I say, not this, that I would have children kept from the conveniences or pleasures of life, that are not injurious to their health or virtue. On the contrary, I would have their lives made as pleasant, and as agreeable to them as may be, in a plentiful enjoyment of whatsoever might innocently delight them: provided it be with this caution, that they have those enjoyments only as the consequences of the state of esteem and acceptance they are in with their parents and governors; but they should never be offered or bestowed on them, as the reward of this or that particularly performance, that they show an aversion to, or to which they would not have applied themselves without that temptation.

54. But if you take away the rod on one hand, and these little encouragements, which they are taken with, on the other, How then (will you say) shall children be governed? Remove hope and fear, and there is an end of all discipline. I grant, that good and evil, reward and punishment, are the only motives to a rational creature; these are the spur and reins whereby all mankind are set on work and guided, and therefore they are to be made use of to children too. For I advise their parents and governors always to carry this in their minds, that they are to

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be treated as rational creatures.

55. I grant, and punishments must be proposed to children, if we intend to work upon them. The mistake, I imagine, is that those that are generally made use of, are ill chosen. The pains and pleasures of the body are, I think, of ill consequence, when made the rewards and punishments, whereby men would prevail on their children: for they serve but to increase and strengthen those appetites which 'tis our business to subdue and master. What principle of virtue do you lay in a child, if you will redeem his desires of one pleasure by the proposal of another? This is but to enlarge his appetite, and instruct it to wander. If a child cries for an unwholesome and dangerous fruit, you purchase his quiet by giving him a less hurtful sweetmeat; this perhaps may preserve his health, but spoils his mind, and sets that farther out of order. For here you only change the object, but flatter still his appetite, and allow that must be satisfied: wherein, as I have showed, lies the root of the mischief: and till you bring him to be able to bear a denial of that satisfaction, the child may at present be quiet and orderly, but the disease is not cured. By this way of proceeding you foment and cherish in him, that which is the spring from whence all the evil flows, which will be sure on the next occasion to break out again with more violence, give him stronger longings, and you more trouble.

65. ...Let therefore your rules to your son be as few as is possible, and rather fewer than more than seem absolutely necessary. For if you burden him with many rules, one of these two things must necessarily follow; that either he must be very often punished, which will be of ill consequence, by making punishment too frequent and familiar; or else you must let the

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transgressions of some of your rules go unpunished, whereby they will of course grow contemptible, and your authority become cheap to him. Make but few laws, but see they be well observed, when once made. Few years require but few laws; and as his age increases when one rule is by practice well established, you may add another.

70 ...What shall I do with my son? If I keep him always at home, he will be in danger to be my young master; and if I send him abroad, how is it possible to keep him from the contagion of rudeness and vice, which is so every where in fashion? In my house, he will perhaps be more innocent, but more ignorant, too, of the world, and being used constantly to the same faces, and little company will, when he comes abroad, be a sheepish or conceited creature... Virtue is harder to be got than a knowledge of the world; and if lost in a young man, is seldom recovered... A young man, before he leaves the shelter of his father's house, and the guard of a tutor, should be fortified with resolution, and made acquainted with men, to secure his virtue; lest he should be led into some ruinous course, or fatal precipice, before he is sufficiently acquainted with the dangers of conversation, and has steadiness enough not to yield to every temptation... But how any one's being put into a mixed herd of unruly boys, and then learning to wrangle at trap, or rook at span-farthing, fits him for civil conversation or business I do not see... I am sure, he who is able to be at the charge of a tutor at home, may there give his son a more genteel carriage, more manly thoughts, and a sense of what is worthy and becoming, with a greater proficiency in learning into the bargain, and ripen him up sooner into a man, than any at school can do... And if a young gentleman, bred at home, be not taught more of them than he could learn at school, his father has made a very

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ill choice of a tutor. Take a boy from the top of a grammar-school, and one of the same age, bred as he should be in his father's family, and bring them into good company together; and then see which of the two will have the more manly carriage, and address himself with the more becoming assurance to strangers....Vice, if we may believe the general complaint, ripens so fast now-a-days, and runs up to seed so early in young people, that it is impossible to keep a lad from the spreading contagion, if you will venture him abroad in the herd, and trust to chance, or his own inclination, for the choice of his company at school... It is virtue then, direct virtue, which is the hard and valuable part to be aimed at in education... And therefore I cannot but prefer breeding of a young gentleman at home in his father's sight, under a good governor, as much the best and safest way to this great and main end of education, when it can be had, and is ordered as it should be... This I am sure, a father that breeds his son at home, has the opportunity to have him more in his own company, and there give him what encouragement he thinks fit; and can keep him better from the taint of servants, and the meaner sort of people, than is possible to be done abroad. But what shall be resolved in the case, must in great measure be left to the parents...

73. None of the things they are to learn should ever be made a burden to them, or imposed on them as a task. Whatever is so proposed, presently becomes irksome: the mind takes an aversion to it, though before it were a thing of delight or indifference. Let a child be but ordered to whip his top at a certain time every day, whether he has, or has not a mind to it; let this be but required of him as a duty, wherein he must spend so many hours morning and afternoon, and see whether he will not soon be weary of any play at this rate. Is it not so with

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grown men? What they do cheerfully of themselves, do they not presently grow sick of, and can no more endure, as soon as they find it is expected of them as a duty? Children have as much a mind to show that they are free, that their own good actions come front themselves, that they are absolute and independent, as any of the proudest of you grown men, think of them as you please.

Reflection Question

Is Locke right about the nature of tasks? If so, what implications would it have for the kinds of demands humans can make on each other?

102. Begin therefore betimes nicely to observe your son's temper, and that, when he is under least restraint. See what are his predominant passions and prevailing inclinations; whether he be fierce or mild, bold or bashful, compassionate or cruel, open or reserved, etc. For as these are different in him, so are your methods to be different, and your authority must hence take measures to apply it self [in] different ways to him. These native propensities, these prevalences of constitution, are not to be cured by rules, or a direct contest, especially those of them that are the humbler and meaner sort, which proceed from fear and lowness of spirit; though with art they may be much mended, and turned to good purposes. But of this be sure, after all is done, the bias will always hang on that side that nature first placed it: and, if you carefully observe the characters of his

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mind now in the first scenes of his life, you will ever after be able to judge which way his thoughts lean, and what he aims at even hereafter, when, as he grows up, the plot thickens, and he puts on several shapes to act it.

118 Curiosity in children (which I had occasion just to mention, section 108) is but an appetite after knowledge, and therefore ought to be encouraged in them, not only as a good sign, but as the great instrument nature has provided to remove that ignorance they were born with, and which, without this busy inquisitiveness, will make them dull and useless creatures. The ways to encourage it, and keep it active and vigorous, are, I suppose, these following: 1. Not to check or discountenance any inquiries he shall make, nor suffer them to be laughed at; but to answer all his questions, and explain the matters he desires to know, so as to make them as much intelligible to him. as suits the capacity of his age and knowledge... Mark what 'tis his mind aims at in the question, and not what words he expresses it in... For knowledge to the understanding is acceptable as light to the eyes: and children are please and delighted with it exceedingly, especially if they see that their inquiries are regarded, and that their desire of knowing is encouraged and commended. And I doubt not, but one great reason why many children abandon themselves wholly to silly sports; and trifle away all their time in trifling, is, because they have found their curiosity balked, and their inquiries neglected...

167. ...In teaching of children this too, I think, it is to be observed, that in most cases, where they stick, they are apt to be farther puzzled, by putting them upon finding it out themselves... Therefore, wherever they are at a stand, and are willing to go forward, help them presently over the difficulty,

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without any rebuke or chiding; remembering, that where harsher ways are taken, they are the effect only of pride and peevishness in the teacher, who expects children should instantly be masters of as much as he knows: whereas he should rather consider that his business is to settle in them habits, not angrily to inculcate rules, which serve for little in the conduct of our lives; at least are of no use to children, who forget them as soon as given. ...The great use and skill of a teacher is to make all as easy as he can....Passionate words or blows from the tutor, fill the child's mind with terror and affrightment, which immediately takes it wholly up, and leaves no room for other impressions....

180. ...But in this, as in all other parts of instruction, great care must be taken with children, to begin with that which is plain and simple, and to teach them as little as can be at once, and settle that well in their heads, before you proceed to the next, or anything new in that science.

Give them first one simple idea, and see that they take it right, and perfectly comprehend it, before you go any farther; and then add some other simple idea, which lies next in your way to what you aim it; and so proceeding by gentle and insensible steps, children, without confusion and amazement, will have their understandings opened, and their thoughts extended, farther than could have been expected. And when any one has learned any thing himself, there is no such way to fix it in his memory, and to encourage him to go on as to set him to teach it others.

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Reflection Question

What are Locke's principal views about the ends and means of education?

Attributions

You can find a complete version of this book on its WikiSource page.

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How is the Desire to Learn Cultivated?

Selections from Emile

Jean-Jacques Rousseau

In this text, Rousseau vigorously attempts to make the case for allowing nature to educate a child by working to help the child keep their curiosity. He also disagrees with Locke directly and indirectly. If you have not read the essay by Locke, it may be best to read it first.

GOD MAKES ALL THINGS GOOD; man meddles with them and they become evil. He forces one soil to yield the products of another, one tree to bear another's fruit. He confuses and confounds time, place, and natural conditions. He mutilates his dog, his horse, and his slave. He destroys and defaces all things; he loves all that is disformed and monstrous; he will have nothing as nature made it, not even man himself, who must learn his paces like a saddle-horse, and be shaped to his master's taste like the trees in his garden...

A father has done but a third of his task when he begets children and provides a living for them. He owes men to humanity, citizens to the state. A man who can pay this

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threefold debt and neglects to do so is guilty, more guilty, perhaps, if he pays it in part than when he neglects it entirely. He has no right to be a father if he cannot fulfill a father's duties. Poverty, pressure of business, mistaken social prejudices, none of these can excuse a man from his duty, which is to support and educate his own children. If a man of any natural feeling neglects these sacred duties he will repent it with bitter tears and will never be comforted...

The children's first tears are prayers, beware lest they become commands; he begins by asking for aid, he ends by demanding service. Thus from his own weakness, the source of his first consciousness of dependence, springs the later idea of rule and tyranny; but as this idea is aroused rather by his needs than by our services, we begin to see moral results whose causes are not in nature; thus we see how important it is, even at the earliest age, to discern the secret meaning of the gesture or cry...

Reflection Question

What kind of responsibility do we have to work to understand others?

Whatever you do, your actual authority can never extend beyond your own powers. As soon as you are obliged to see with another's eyes you must will what he wills. You say with pride, "My people are my subjects." Granted, but what are you?

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The subject of your ministers. And your ministers, what are they? The subjects of their clerks, their mistresses, the servants of their servants. Grasp all, usurp all, and then pour out your silver with both hands; set up your batteries, raise the gallows and the wheel; make laws, issue proclamations, multiply your spies, your soldiers, your hangmen, your prisons, and your chains. Poor little men, what good does it do you? You will be no better served, you will be none the less robbed and deceived, you will be no nearer absolute power. You will say continually, "It is our will," and you will continually do the will of others.

There is only one man who gets his own way--he who can get it single-handed; therefore freedom, not power, is the greatest good. That man is truly free who desires what he is able to perform, and does what he desires. This is my fundamental maxim. Apply it to childhood, and all the rules of education spring from it...

Reflection Question

Is this fundamental axiom consistent with your vision of the best means of providing an education?

These are weighty considerations, and they provide a solution for all the conflicting problems of our social system. There are two kinds of dependence: dependence on things, which is the work of nature; and dependence on men, which is the work of

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society. Dependence on things, being non-moral, does no injury to liberty and begets no vices; dependence on men, being out of order, gives rise to every kind of vice, and through this master and slave become mutually depraved...

Give him, not what he wants, but what he needs. Let there be no question of obedience for him or tyranny for you. Supply the strength he lacks just so far as is required for freedom, not for power, so that he may receive your services with a sort of shame, and look forward to the time when he may dispense with them and may achieve the honor of self-help...

If his words were prompted by a real need you should recognize it and satisfy it at once; but to yield to his tears is to encourage him to cry, to teach him to doubt your kindness, and to think that you are influenced more by his importunity than your own good-will. If he does not think you kind he will soon think you unkind; if he thinks you weak he will soon become obstinate; what you mean to give must be given at once. Be chary of refusing, but, having refused, do not change your mind...

Man naturally considers all that he can get as his own. In this sense Hobbes' theory is true to a certain extent: Multiply both our wishes and the means of satisfying them, and each will be master of all. Each child, who has only to ask and have, thinks himself the master of the universe; he considers all men as his slaves; and when you are at last compelled to refuse, he takes your refusal as act of rebellion, for he thinks he has only to command...

If children are not to be required to do anything as a matter of obedience, it follows that they will only learn what they

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perceive to be real and present value, either for use or enjoyment; what other motive could they have for learning?...

People make a great fuss about discovering the best way to teach children to read. They invent "bureaux" [a case containing letters] and cards, they turn the nursery into a printer's shop. Locke would have them taught to read by means of dice. What a fine idea! And the pity of it! There is a better way than any of these, and one which is generally overlooked-- it consists in the desire to learn. Arouse this desire to your scholar and have done with your "bureaux" and your dice-- any method will serve...

Not till his strength is in excess of what is needed for self-preservation, is the speculative faculty developed...

You will make him stupid if you are always giving him directions, always saying come here, go there, stop, do this, don't do that. If your head always guides his hands, his own mind will become useless...

Your scholar is subject to a power which is continually giving him instruction; he acts only at the word of command; he dare not eat when he is hungry, nor laugh when he is merry, nor weep when he is sad, nor offer one hand rather than the other, nor stir a foot unless he is told to do it; before long he will not venture to breathe without orders. What would you have him think about, when you do all the thinking for him? He rests securely on your foresight, why should he think for himself? He knows you have undertaken to take care of him, to secure his welfare, and he feels himself freed from this responsibility. His judgment relies on yours...

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As for my pupil, or rather Nature's pupil, he has been trained from the outset to be as self-reliant as possible, he has not formed the habit of constantly seeking help from others, still less of displaying his stores of learning. On the other hand, he exercises discrimination and forethought, he reasons about everything that concerns himself. He does not chatter, he acts. Not a word does he know of what is going on in the world at large, but he knows very thoroughly what affects himself. As he is always stirring he is compelled to notice many things, to recognize many effects; he soon acquires a good deal of experience. Nature, not man, is his schoolmaster, and he learns all the quicker because he is not aware that he has any lesson to learn...

Reflection question

Rousseau uses the previous paragraphs to set several priorities? What might be the consequences of selecting these priorities?

Young teacher, I am setting before you a difficult task, the art of controlling without precepts, and doing everything without doing anything at all...

When education is most carefully attended to, the teacher issues his orders and thinks himself master, but it is the child who is real master. He uses the tasks you set him to obtain what he wants from you, and he can always make you pay for

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an hour's industry by a week's complaisance. You must always be making bargains with him... The child is usually much quicker to read the master's thoughts than the master to read the child's feelings...

Our first teachers in natural philosophy are our feet, hands, and eyes. to substitute books for them does not teach us to reason, it teaches us to use the reason of others rather than our own; it teaches us to believe much and know little. Before you can practice an art you must first get your tools; and if you are to make good use of those tools, they must be fashioned sufficiently strong to stand use. To learn to think we must therefore exercise our limbs, our senses, and our bodily organs, which are the tools of the intellect; and to get the best use out of these tools, the body which supplies us with them must be strong and healthy....

Work or play are all one to him, his games are his work; he knows no difference. He brings to everything the cheerfulness of interest, the charm of freedom, and he shows the bent of his own mind and the extent of his knowledge...

Let the senses be the only guide for the first workings of reason. No book but the world, no teaching but that of fact. The child who reads ceases to think, he only reads. He is acquiring words not knowledge.

Reflection Question

Is there any way of creating a hierarchy of knowledge gained from different sources?

Teach your scholar to observe the phenomena of nature; you will soon rouse his curiosity, but if you would have it grow, do not be in too great a hurry to satisfy this curiosity. Put the problems before him and let him solve them himself. Let him know nothing because you have told him, but because he has learnt it for himself. Let him not be taught science, let him discover it. If ever you substitute authority for reason he will cease to reason; he will be a plaything of other people's thoughts...

I dislike that array of instruments and apparatus. The scientific atmosphere destroys science. Either the child is frightened by these instruments or his attention, which should be fixed on their effects, is distracted by their appearance. We shall make all our apparatus ourselves, and I would not make it beforehand, but having caught a glimpse of the experiment by chance we mean to invent step by step an instrument for its verification. I would rather our apparatus was somewhat clumsy and imperfect, but our ideas clear as to what the apparatus ought to be, and the results to be obtained by means of it... Too much apparatus, designed to guide us in our experiments and to supplement the exactness of our senses, makes us neglect to use those senses... T

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he more ingenious our apparatus, the coarser and more unskillful are our senses. We surround ourselves with tools and fail to use those with which nature has provided every one of us...

I do not like verbal explanations. Young people pay little heed to them, nor do they remember them. Things! Things! I cannot repeat it too often. We lay too much stress upon words; we teachers babble, and our scholars follow our example...

He finds it pays best to pretend to listen to what he is forced to hear. This is the practical result of our fine systems of education...

For once more I repeat the risk is not in what he does not know, but in what he thinks he knows...

I hate books; they only teach us to talk about things we know nothing about...

Since we must have books, there is one book which, to my thinking, supplies the best treatise on an education according to nature. This is the first book Emile will read; for a long time it will form his whole library...What is this wonderful book? Is it Aristotle? Pliny? Buffon? No; it is Robinson Crusoe...

Let him think he is Robinson himself; let him see himself clad in skins, wearing a tall cap, a great cutlass, all the grotesque get-up of Robinson Crusoe, even to the umbrella which he will scarcely need. He should anxiously consider what steps to take; will this or that be wanting.

The man who eats in idleness what he has not himself earned,

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is a thief, and in my eyes, the man who lives on an income paid him by the state for doing nothing, differs little from a highwayman who lives on those who travel his way...

Man in society is bound to work; rich or poor, weak or strong, every idler is a thief. Now of all the pursuits by which a man may earn his living, the nearest to a state of nature is manual labor; of all stations that of the artisan is least dependent on Fortune...

“Learn a trade.” “A trade for my son! My son a working man! What are you thinking of, sir?”

Madam, my thoughts are wiser than yours; you want to make him fit for nothing but a lord, a marquis, or a prince; and some day he may be less than nothing. I want to give him a rank which he cannot lose, a rank which will always do him honor; I want to raise him to the status of a man, and, whatever you may say, he will have fewer equals in that rank than in your own...

Learning a trade matters less than overcoming the prejudices he despises...

Work for honor, not for need; stoop to the position of a working man, to rise above your own. to conquer Fortune and everything else, begin by independence. To rule through public opinion, begin by ruling over it....

He must work like a peasant and think like a philosopher, if he is not to be as idle as a savage...

Self-love, which concerns itself only with ourselves, is content to satisfy our own needs; but selfishness, which is always

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comparing self with others, is never satisfied and never can be; for this feeling which prefers ourselves to others, requires that they should prefer us to themselves, which is impossible. Thus the tender and gentle passions spring from self-love, while the hateful and angry passions spring selfishness. Have respect then for your species; remember that it consists essentially of the people, that if all the kings and all the philosophers were removed they would scarcely be missed, and things would go on none the worse. In a word, teach your pupil to love all men, even those who fail to appreciate him; act in such a way that he is not a member of any class, but takes his place in all alike: speak in his hearing of the human race with tenderness, and even with pity, but never with scorn. You are a man; do not dishonor mankind...

Reflection Question

Is it possible to hold these kinds of feelings towards "all men"?

Above all, no vanity, no emulation, no boasting, none of those sentiments which force us to compare ourselves with others; for such comparisons are never made without arousing some measure of hatred against those who dispute our claim to the first place, were it only in our own estimation...

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Reflection Question

What are the principle elements of Rousseau's philosophy about the ends and means of education?

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How Can Girls Receive an Equal Education?

Selection from *A Vindication of the Rights of Woman*

Mary Wollstonecraft

The good effects resulting from attention to private education will ever be very confined, and the parent who really puts his own hand to the plow, will always, in some degree be disappointed, till education becomes a grand national concern. A man cannot retire into a desert with his child, and if he did, he could not bring himself back to childhood, and become the proper friend and play-fellow of an infant or youth. And when children are confined to the society of men and women, they very soon acquire that kind of premature manhood which stops the growth of every vigorous power of mind or body. In order to open their faculties they should be excited to think for themselves; and this can only be done by mixing a number of children together, and making them jointly pursue the same objects.

A child very soon contracts a benumbing indolence of mind,

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which he has seldom sufficient vigour to shake off, when he only asks a question instead of seeking for information, and then relies implicitly on the answer he receives. With his equals in age this could never be the case, and the subjects of inquiry, though they might be influenced, would not be entirely under the direction of men, who frequently damp, if not destroy abilities, by bringing them forward too hastily: and too hastily they will infallibly be brought forward, if the child could be confined to the society of a man, however sagacious that man may be.

Besides, in youth the seeds of every affection should be sown, and the respectful regard, which is felt for a parent, is very different from the social affections that are to constitute the happiness of life as it advances. Of these, equality is the basis, and an intercourse of sentiments unclogged by that observant seriousness which prevents disputation, though it may not enforce submission. Let a child have ever such an affection for his parent, he will always languish to play and chat with children; and the very respect he entertains, for filial esteem always has a dash of fear mixed with it, will, if it do not teach him cunning, at least prevent him from pouring out the little secrets which first open the heart to friendship and confidence, gradually leading to more expansive benevolence. Added to this, he will never acquire that frank ingenuousness of behaviour, which young people can only attain by being frequently in society, where they dare to speak what they think; neither afraid of being reproved for their presumption, nor laughed at for their folly.

Forcibly impressed by the reflections which the sight of schools, as they are at present conducted, naturally suggested, I have

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formerly delivered my opinion rather warmly in favour of a private education; but further experience has led me to view the subject in a different light. I still, however, think schools, as they are now regulated, the hot-beds of vice and folly, and the knowledge of human nature, supposed to be attained there, merely cunning selfishness.

At school, boys become gluttons and slovens, and, instead of cultivating domestic affections, very early rush into the libertinism which destroys the constitution before it is formed; hardening the heart as it weakens the understanding.

I should, in fact, be averse to boarding-schools, if it were for no other reason than the unsettled state of mind which the expectation of the vacations produce. On these the children's thoughts are fixed with eager anticipating hopes, for, at least, to speak with moderation, half of the time, and when they arrive they are spent in total dissipation and beastly indulgence.

But, on the contrary, when they are brought up at home, though they may pursue a plan of study in a more orderly manner than can be adopted, when near a fourth part of the year is actually spent in idleness, and as much more in regret and anticipation; yet they there acquire too high an opinion of their own importance, from being allowed to tyrannize over servants, and from the anxiety expressed by most mothers, on the score of manners, who, eager to teach the accomplishments of a gentleman, stifle, in their birth, the virtues of a man. Thus brought into company when they ought to be seriously employed, and treated like men when they are still boys, they become vain and effeminate.

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The only way to avoid two extremes equally injurious to morality, would be to contrive some way of combining a public and private education. Thus to make men citizens, two natural steps might be taken, which seem directly to lead to the desired point; for the domestic affections, that first open the heart to the various modifications of humanity would be cultivated, whilst the children were nevertheless allowed to spend great part of their time, on terms of equality, with other children...

In public schools, however, religion, confounded with irksome ceremonies and unreasonable restraints, assumes the most ungracious aspect: not the sober austere one that commands respect whilst it inspires fear; but a ludicrous cast, that serves to point a pun. For, in fact, most of the good stories and smart things which enliven the spirits that have been concentrated at whist, are manufactured out of the incidents to which the very men labour to give a droll turn who countenance the abuse to live on the spoil.

There is not, perhaps, in the kingdom, a more dogmatical or luxurious set of men, than the pedantic tyrants who reside in colleges and preside at public schools. The vacations are equally injurious to the morals of the masters and pupils, and the intercourse, which the former keep up with the nobility, introduces the same vanity and extravagance into their families, which banish domestic duties and comforts from the lordly mansion, whose state is awkwardly aped on a smaller scale. The boys, who live at a great expence with the masters and assistants, are never domesticated, though placed there for that purpose; for, after a silent dinner, they swallow a hasty glass of wine, and retire to plan some mischievous trick, or to ridicule the person or manners of the very people they have just been

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cringing to, and whom they ought to consider as the representatives of their parents.

Can it then be a matter of surprise, that boys become selfish and vicious who are thus shut out from social converse? or that a mitre often graces the brow of one of these diligent pastors? The desire of living in the same style, as the rank just above them, infects each individual and every class of people, and meanness is the concomitant of this ignoble ambition; but those professions are most debasing whose ladder is patronage; yet out of one of these professions the tutors of youth are in general chosen. But, can they be expected to inspire independent sentiments, whose conduct must be regulated by the cautious prudence that is ever on the watch for preferment?

So far, however, from thinking of the morals of boys, I have heard several masters of schools argue, that they only undertook to teach Latin and Greek; and that they had fulfilled their duty, by sending some good scholars to college. A few good scholars, I grant, may have been formed by emulation and discipline; but, to bring forward these clever boys, the health and morals of a number have been sacrificed.

The sons of our gentry and wealthy commoners are mostly educated at these seminaries, and will any one pretend to assert, that the majority, making every allowance, come under the description of tolerable scholars?

It is not for the benefit of society that a few brilliant men should be brought forward at the expence of the multitude. It is true, that great men seem to start up, as great revolutions occur, at proper intervals, to restore order, and to blow aside the clouds

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that thicken over the face of truth; but let more reason and virtue prevail in society, and these strong winds would not be necessary. Public education, of every denomination, should be directed to form citizens; but if you wish to make good citizens, you must first exercise the affections of a son and a brother. This is the only way to expand the heart; for public affections, as well as public virtues, must ever grow out of the private character, or they are merely meteors that shoot athwart a dark sky, and disappear as they are gazed at and admired.

Few, I believe, have had much affection for mankind, who did not first love their parents, their brothers, sisters, and even the domestic brutes, whom they first played with. The exercise of youthful sympathies forms the moral temperature; and it is the recollection of these first affections and pursuits, that gives life to those that are afterwards more under the direction of reason. In youth, the fondest friendships are formed, the genial juices mounting at the same time, kindly mix; or, rather the heart, tempered for the reception of friendship, is accustomed to seek for pleasure in something more noble than the churlish gratification of appetite.

In order then to inspire a love of home and domestic pleasures, children ought to be educated at home, for riotous holidays only make them fond of home for their own sakes. Yet, the vacations, which do not foster domestic affections, continually disturb the course of study, and render any plan of improvement abortive which includes temperance; still, were they abolished, children would be entirely separated from their parents, and I question whether they would become better citizens by sacrificing the preparatory affections, by destroying the force of relationships that render the marriage state as necessary as respectable. But,

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if a private education produce self-importance, or insulates a man in his family, the evil is only shifted, not remedied.

This train of reasoning brings me back to a subject, on which I mean to dwell, the necessity of establishing proper day-schools. But these should be national establishments, for whilst school-masters are dependent on the caprice of parents, little exertion can be expected from them, more than is necessary to please ignorant people. Indeed, the necessity of a master's giving the parents some sample of the boy's abilities, which during the vacation, is shown to every visiter, is productive of more mischief than would at first be supposed. For they are seldom done entirely, to speak with moderation, by the child itself; thus the master countenances falsehoods, or winds the poor machine up to some extraordinary exertion, that injures the wheels, and stops the progress of gradual improvement. The memory is loaded with unintelligible words, to make a show of, without the understanding's acquiring any distinct ideas: but only that education deserves emphatically to be termed cultivation of mind, which teaches young people how to begin to think. The imagination should not be allowed to debauch the understanding before it gained strength, or vanity will become the forerunner of vice: for every way of exhibiting the acquirements of a child is injurious to its moral character.

How much time is lost in teaching them to recite what they do not understand! whilst, seated on benches, all in their best array, the mammas listen with astonishment to the parrot-like prattle, uttered in solemn cadences, with all the pomp of ignorance and folly. Such exhibitions only serve to strike the spreading fibres of vanity through the whole mind; for they neither teach children to speak fluently, nor behave gracefully.

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So far from it, that these frivolous pursuits might comprehensively be termed the study of affectation: for we now rarely see a simple, bashful boy, though few people of taste were ever disgusted by that awkward sheepishness so natural to the age, which schools and an early introduction into society, have changed into impudence and apish grimace.

Yet, how can these things be remedied whilst schoolmasters depend entirely on parents for a subsistence; and when so many rival schools hang out their lures to catch the attention of vain fathers and mothers, whose parental affection only leads them to wish, that their children should outshine those of their neighbours?

Without great good luck, a sensible, conscientious man, would starve before he could raise a school, if he disdained to bubble weak parents, by practising the secret tricks of the craft.

In the best regulated schools, however, where swarms are not crammed together many bad habits must be acquired; but, at common schools, the body, heart, and understanding, are equally stunted, for parents are often only in quest of the cheapest school, and the master could not live, if he did not take a much greater number than he could manage himself; nor will the scanty pittance, allowed for each child, permit him to hire ushers sufficient to assist in the discharge of the mechanical part of the business. Besides, whatever appearance the house and garden may make, the children do not enjoy the comforts of either, for they are continually reminded, by irksome restrictions, that they are not at home, and the state-rooms, garden, etc. must be kept in order for the recreation of the parents; who, of a Sunday, visit the school, and

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are impressed by the very parade that renders the situation of their children uncomfortable.

With what disgust have I heard sensible women, for girls are more restrained and cowed than boys, speak of the wearisome confinement which they endured at school. Not allowed, perhaps, to step out of one broad walk in a superb garden, and obliged to pace with steady deportment stupidly backwards and forwards, holding up their heads, and turning out their toes, with shoulders braced back, instead of bounding, as nature directs to complete her own design, in the various attitudes so conducive to health. The pure animal spirits, which make both mind and body shoot out, and unfold the tender blossoms of hope are turned sour, and vented in vain wishes, or pert repinings, that contract the faculties and spoil the temper; else they mount to the brain and sharpening the understanding before it gains proportionable strength, produce that pitiful cunning which disgracefully characterizes the female mind--and I fear will ever characterize it whilst women remain the slaves of power!

The little respect which the male world pay to chastity is, I am persuaded, the grand source of many of the physical and moral evils that torment mankind, as well as of the vices and follies that degrade and destroy women; yet at school, boys infallibly lose that decent bashfulness, which might have ripened into modesty at home.

I have already animadverted on the bad habits which females acquire when they are shut up together; and I think that the observation may fairly be extended to the other sex, till the natural inference is drawn which I have had in view throughout-

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-that to improve both sexes they ought, not only in private families, but in public schools, to be educated together. If marriage be the cement of society, mankind should all be educated after the same model, or the intercourse of the sexes will never deserve the name of fellowship, nor will women ever fulfil the peculiar duties of their sex, till they become enlightened citizens, till they become free, by being enabled to earn their own subsistence, independent of men; in the same manner, I mean, to prevent misconstruction, as one man is independent of another. Nay, marriage will never be held sacred till women by being brought up with men, are prepared to be their companions, rather than their mistresses; for the mean doublings of cunning will ever render them contemptible, whilst oppression renders them timid. So convinced am I of this truth, that I will venture to predict, that virtue will never prevail in society till the virtues of both sexes are founded on reason; and, till the affection common to both are allowed to gain their due strength by the discharge of mutual duties.

Were boys and girls permitted to pursue the same studies together, those graceful decencies might early be inculcated which produce modesty, without those sexual distinctions that taint the mind. Lessons of politeness, and that formulary of decorum, which treads on the heels of falsehood, would be rendered useless by habitual propriety of behaviour. Not, indeed put on for visitors like the courtly robe of politeness, but the sober effect of cleanliness of mind. Would not this simple elegance of sincerity be a chaste homage paid to domestic affections, far surpassing the meretricious compliments that shine with false lustre in the heartless intercourse of fashionable life? But, till more understanding preponderate in society, there will ever be a want of heart and taste, and the

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harlot's rouge will supply the place of that celestial suffusion which only virtuous affections can give to the face. Gallantry, and what is called love, may subsist without simplicity of character; but the main pillars of friendship, are respect and confidence--esteem is never founded on it cannot tell what.

A taste for the fine arts requires great cultivation; but not more than a taste for the virtuous affections: and both suppose that enlargement of mind which opens so many sources of mental pleasure. Why do people hurry to noisy scenes and crowded circles? I should answer, because they want activity of mind, because they have not cherished the virtues of the heart. They only, therefore, see and feel in the gross, and continually pine after variety, finding every thing that is simple, insipid.

This argument may be carried further than philosophers are aware of, for if nature destined woman, in particular, for the discharge of domestic duties, she made her susceptible of the attached affections in a great degree. Now women are notoriously fond of pleasure; and naturally must be so, according to my definition, because they cannot enter into the minutiae of domestic taste; lacking judgment the foundation of all taste. For the understanding, in spite of sensual cavillers, reserves to itself the privilege of conveying pure joy to the heart.

With what a languid yawn have I seen an admirable poem thrown down, that a man of true taste returns to, again and again with rapture; and, whilst melody has almost suspended respiration, a lady has asked me where I bought my gown. I have seen also an eye glanced coldly over a most exquisite picture, rest, sparkling with pleasure, on a caricature rudely

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sketched; and whilst some terrific feature in nature has spread a sublime stillness through my soul, I have been desired to observe the pretty tricks of a lap-dog, that my perverse fate forced me to travel with. Is it surprising, that such a tasteless being should rather caress this dog than her children? Or, that she should prefer the rant of flattery to the simple accents of sincerity?

To illustrate this remark I must be allowed to observe, that men of the first genius, and most cultivated minds, have appeared to have the highest relish for the simple beauties of nature; and they must have forcibly felt, what they have so well described, the charm, which natural affections, and unsophisticated feelings spread round the human character. It is this power of looking into the heart, and responsively vibrating with each emotion, that enables the poet to personify each passion, and the painter to sketch with a pencil of fire.

True taste is ever the work of the understanding employed in observing natural effects; and till women have more understanding, it is vain to expect them to possess domestic taste. Their lively senses will ever be at work to harden their hearts, and the emotions struck out of them will continue to be vivid and transitory, unless a proper education stores their minds with knowledge.

It is the want of domestic taste, and not the acquirement of knowledge, that takes women out of their families, and tears the smiling babe from the breast that ought to afford it nourishment.

Women have been allowed to remain in ignorance, and slavish

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dependence, many, very many years, and still we hear of nothing but their fondness of pleasure and sway, their preference of rakes and soldiers, their childish attachment to toys, and the vanity that makes them value accomplishments more than virtues.

History brings forward a fearful catalogue of the crimes which their cunning has produced, when the weak slaves have had sufficient address to over-reach their masters. In France, and in how many other countries have men been the luxurious despots, and women the crafty ministers? Does this prove that ignorance and dependence domesticate them? Is not their folly the by-word of the libertines, who relax in their society; and do not men of sense continually lament, that an immoderate fondness for dress and dissipation carries the mother of a family for ever from home? Their hearts have not been debauched by knowledge, nor their minds led astray by scientific pursuits; yet, they do not fulfil the peculiar duties, which as women they are called upon by nature to fulfil. On the contrary, the state of warfare which subsists between the sexes, makes them employ those wiles, that frustrate the more open designs of force.

When, therefore, I call women slaves, I mean in a political and civil sense; for, indirectly they obtain too much power, and are debased by their exertions to obtain illicit sway.

Let an enlightened nation then try what effect reason would have to bring them back to nature, and their duty; and allowing them to share the advantages of education and government with man, see whether they will become better, as they grow wiser and become free. They cannot be injured by the

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experiment; for it is not in the power of man to render them more insignificant than they are at present...

In this plan of education, the constitution of boys would not be ruined by the early debaucheries, which now make men so selfish, nor girls rendered weak and vain, by indolence and frivolous pursuits. But, I presuppose, that such a degree of equality should be established between the sexes as would shut out gallantry and coquetry, yet allow friendship and love to temper the heart for the discharge of higher duties.

These would be schools of morality--and the happiness of man, allowed to flow from the pure springs of duty and affection, what advances might not the human mind make? Society can only be happy and free in proportion as it is virtuous; but the present distinctions, established in society, corrode all private, and blast all public virtue.

I have already inveighed against the custom of confining girls to their needle, and shutting them out from all political and civil employments; for by thus narrowing their minds they are rendered unfit to fulfil the peculiar duties which nature has assigned them.

Only employed about the little incidents of the day, they necessarily grow up cunning. My very soul has often sickened at observing the sly tricks practised by women to gain some foolish thing on which their silly hearts were set. Not allowed to dispose of money, or call any thing their own, they learn to turn the market penny; or, should a husband offend, by staying from home, or give rise to some emotions of jealousy--a new gown, or any pretty bauble, smooths Juno's angry brow.

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But these LITTLENESSES would not degrade their character, if women were led to respect themselves, if political and moral subjects were opened to them; and I will venture to affirm, that this is the only way to make them properly attentive to their domestic duties. An active mind embraces the whole circle of its duties, and finds time enough for all. It is not, I assert, a bold attempt to emulate masculine virtues; it is not the enchantment of literary pursuits, or the steady investigation of scientific subjects, that lead women astray from duty. No, it is indolence and vanity --the love of pleasure and the love of sway, that will reign paramount in an empty mind. I say empty, emphatically, because the education which women now receive scarcely deserves the name. For the little knowledge they are led to acquire during the important years of youth, is merely relative to accomplishments; and accomplishments without a bottom, for unless the understanding be cultivated, superficial and monotonous is every grace. Like the charms of a made-up face, they only strike the senses in a crowd; but at home, wanting mind, they want variety. The consequence is obvious; in gay scenes of dissipation we meet the artificial mind and face, for those who fly from solitude dread next to solitude, the domestic circle; not having it in their power to amuse or interest, they feel their own insignificance, or find nothing to amuse or interest themselves.

Besides, what can be more indelicate than a girl's coming out in the fashionable world? Which, in other words, is to bring to market a marriageable miss, whose person is taken from one public place to another, richly caparisoned. Yet, mixing in the giddy circle under restraint, these butterflies long to flutter at large, for the first affection of their souls is their own persons, to which their attention has been called with the most sedulous

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care, whilst they were preparing for the period that decides their fate for life. Instead of pursuing this idle routine, sighing for tasteless show, and heartless state, with what dignity would the youths of both sexes form attachments in the schools that I have cursorily pointed out; in which, as life advanced, dancing, music, and drawing, might be admitted as relaxations, for at these schools young people of fortune ought to remain, more or less, till they were of age. Those, who were designed for particular professions, might attend, three or four mornings in the week, the schools appropriated for their immediate instruction.

I only drop these observations at present, as hints; rather, indeed as an outline of the plan I mean, than a digested one; but I must add, that I highly approve of one regulation mentioned in the pamphlet already alluded to (The Bishop of Autun), that of making the children and youths independent of the masters respecting punishments. They should be tried by their peers, which would be an admirable method of fixing sound principles of justice in the mind, and might have the happiest effect on the temper, which is very early soured or irritated by tyranny, till it becomes peevishly cunning, or ferociously overbearing.

My imagination darts forward with benevolent fervour to greet these amiable and respectable groups, in spite of the sneering of cold hearts, who are at liberty to utter, with frigid self-importance, the damning epithet-- romantic; the force of which I shall endeavour to blunt by repeating the words of an eloquent moralist. "I know not whether the allusions of a truly humane heart, whose zeal renders everything easy, is not preferable to that rough and repulsing reason, which always

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finds in indifference for the public good, the first obstacle to whatever would promote it."

I know that libertines will also exclaim, that woman would be unsexed by acquiring strength of body and mind, and that beauty, soft bewitching beauty! would no longer adorn the daughters of men. I am of a very different opinion, for I think, that, on the contrary, we should then see dignified beauty, and true grace; to produce which, many powerful physical and moral causes would concur. Not relaxed beauty, it is true, nor the graces of helplessness; but such as appears to make us respect the human body as a majestic pile, fit to receive a noble inhabitant, in the relics of antiquity...

Humanity to animals should be particularly inculcated as a part of national education, for it is not at present one of our national virtues. Tenderness for their humble dumb domestics, amongst the lower class, is oftener to be found in a savage than a civilized state. For civilization prevents that intercourse which creates affection in the rude hut, or mud cabin, and leads uncultivated minds who are only depraved by the refinements which prevail in the society, where they are trodden under foot by the rich, to domineer over them to revenge the insults that they are obliged to bear from their superiours.

This habitual cruelty is first caught at school, where it is one of the rare sports of the boys to torment the miserable brutes that fall in their way. The transition, as they grow up, from barbarity to brutes to domestic tyranny over wives, children, and servants, is very easy. Justice, or even benevolence, will not be a powerful spring of action, unless it extend to the whole creation; nay, I believe that it may be delivered as an axiom,

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that those who can see pain, unmoved, will soon learn to inflict it...

My observations on national education are obviously hints; but I principally wish to enforce the necessity of educating the sexes together to perfect both, and of making children sleep at home, that they may learn to love home; yet to make private support instead of smothering public affections, they should be sent to school to mix with a number of equals, for only by the jostlings of equality can we form a just opinion of ourselves.

To render mankind more virtuous, and happier of course, both sexes must act from the same principle; but how can that be expected when only one is allowed to see the reasonableness of it? To render also the social compact truly equitable, and in order to spread those enlightening principles, which alone can meliorate the fate of man, women must be allowed to found their virtue on knowledge, which is scarcely possible unless they be educated by the same pursuits as men. For they are now made so inferior by ignorance and low desires, as not to deserve to be ranked with them; or, by the serpentine wriggings of cunning they mount the tree of knowledge and only acquire sufficient to lead men astray.

It is plain from the history of all nations, that women cannot be confined to merely domestic pursuits, for they will not fulfil family duties, unless their minds take a wider range, and whilst they are kept in ignorance, they become in the same proportion, the slaves of pleasure as they are the slaves of man. Nor can they be shut out of great enterprises, though the narrowness of their minds often make them mar what they are unable to comprehend.

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The libertinism, and even the virtues of superior men, will always give women, of some description, great power over them; and these weak women, under the influence of childish passions and selfish vanity, will throw a false light over the objects which the very men view with their eyes, who ought to enlighten their judgment. Men of fancy, and those sanguine characters who mostly hold the helm of human affairs, in general, relax in the society of women; and surely I need not cite to the most superficial reader of history, the numerous examples of vice and oppression which the private intrigues of female favourites have produced; not to dwell on the mischief that naturally arises from the blundering interposition of well-meaning folly. For in the transactions of business it is much better to have to deal with a knave than a fool, because a knave adheres to some plan; and any plan of reason may be seen through much sooner than a sudden flight of folly. The power which vile and foolish women have had over wise men, who possessed sensibility, is notorious; I shall only mention one instance.

Whoever drew a more exalted female character than Rousseau? Though in the lump he constantly endeavoured to degrade the sex. And why was he thus anxious? Truly to justify to himself the affection which weakness and virtue had made him cherish for that fool Theresa. He could not raise her to the common level of her sex; and therefore he laboured to bring woman down to her's. He found her a convenient humble companion, and pride made him determine to find some superior virtues in the being whom he chose to live with; but did not her conduct during his life, and after his death, clearly show how grossly he was mistaken who called her a celestial innocent. Nay, in the bitterness of his heart, he himself laments, that when his bodily

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infirmities made him no longer treat her like a woman, she ceased to have an affection for him. And it was very natural that she should, for having so few sentiments in common, when the sexual tie was broken, what was to hold her? To hold her affection whose sensibility was confined to one sex, nay, to one man, it requires sense to turn sensibility into the broad channel of humanity: many women have not mind enough to have an affection for a woman, or a friendship for a man. But the sexual weakness that makes woman depend on man for a subsistence, produces a kind of cattish affection, which leads a wife to purr about her husband, as she would about any man who fed and caressed her.

Men, are however, often gratified by this kind of fondness which is confined in a beastly manner to themselves, but should they ever become more virtuous, they will wish to converse at their fire-side with a friend, after they cease to play with a mistress. Besides, understanding is necessary to give variety and interest to sensual enjoyments, for low, indeed, in the intellectual scale, is the mind that can continue to love when neither virtue nor sense give a human appearance to an animal appetite. But sense will always preponderate; and if women are not, in general, brought more on a level with men, some superior women, like the Greek courtezans will assemble the men of abilities around them, and draw from their families many citizens, who would have stayed at home, had their wives had more sense, or the graces which result from the exercise of the understanding and fancy, the legitimate parents of taste. A woman of talents, if she be not absolutely ugly, will always obtain great power, raised by the weakness of her sex; and in proportion as men acquire virtue and delicacy: by the exertion of reason, they will look for both in women, but they can only

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acquire them in the same way that men do.

In France or Italy have the women confined themselves to domestic life? though they have not hitherto had a political existence, yet, have they not illicitly had great sway? Corrupting themselves and the men with whose passions they played? In short, in whatever light I view the subject, reason and experience convince me, that the only method of leading women to fulfil their peculiar duties, is to free them from all restraint by allowing them to participate the inherent rights of mankind.

Make them free, and they will quickly become wise and virtuous, as men become more so; for the improvement must be mutual, or the justice which one half of the human race are obliged to submit to, retorting on their oppressors, the virtue of man will be worm-eaten by the insect whom he keeps under his feet.

Let men take their choice, man and woman were made for each other, though not to become one being; and if they will not improve women, they will deprave them!

I speak of the improvement and emancipation of the whole sex, for I know that the behaviour of a few women, who by accident, or following a strong bent of nature, have acquired a portion of knowledge superior to that of the rest of their sex, has often been over-bearing; but there have been instances of women who, attaining knowledge, have not discarded modesty, nor have they always pedantically appeared to despise the ignorance which they laboured to disperse in their own minds. The exclamations then which any advice respecting female

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learning, commonly produces, especially from pretty women, often arise from envy. When they chance to see that even the lustre of their eyes, and the flippant sportiveness of refined coquetry will not always secure them attention, during a whole evening, should a woman of a more cultivated understanding endeavour to give a rational turn to the conversation, the common source of consolation is, that such women seldom get husbands. What arts have I not seen silly women use to interrupt by FLIRTATION, (a very significant word to describe such a manoeuvre) a rational conversation, which made the men forget that they were pretty women.

But, allowing what is very natural to man--that the possession of rare abilities is really calculated to excite over-weening pride, disgusting in both men and women--in what a state of inferiority must the female faculties have rusted when such a small portion of knowledge as those women attained, who have sneeringly been termed learned women, could be singular? Sufficiently so to puff up the possessor, and excite envy in her contemporaries, and some of the other sex. Nay, has not a little rationality exposed many women to the severest censure? I advert to well known-facts, for I have frequently heard women ridiculed, and every little weakness exposed, only because they adopted the advice of some medical men, and deviated from the beaten track in their mode of treating their infants. I have actually heard this barbarous aversion to innovation carried still further, and a sensible woman stigmatized as an unnatural mother, who has thus been wisely solicitous to preserve the health of her children, when in the midst of her care she has lost one by some of the casualties of infancy which no prudence can ward off. Her acquaintance have observed, that this was the consequence of new-fangled notions--the new-fangled

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notions of ease and cleanliness. And those who, pretending to experience, though they have long adhered to prejudices that have, according to the opinion of the most sagacious physicians, thinned the human race, almost rejoiced at the disaster that gave a kind of sanction to prescription.

Indeed, if it were only on this account, the national education of women is of the utmost consequence; for what a number of human sacrifices are made to that moloch, prejudice! And in how many ways are children destroyed by the lasciviousness of man? The want of natural affection in many women, who are drawn from their duty by the admiration of men, and the ignorance of others, render the infancy of man a much more perilous state than that of brutes; yet men are unwilling to place women in situations proper to enable them to acquire sufficient understanding to know how even to nurse their babes.

So forcibly does this truth strike me, that I would rest the whole tendency of my reasoning upon it; for whatever tends to incapacitate the maternal character, takes woman out of her sphere.

But it is vain to expect the present race of weak mothers either to take that reasonable care of a child's body, which is necessary to lay the foundation of a good constitution, supposing that it do not suffer for the sins of its fathers; or to manage its temper so judiciously that the child will not have, as it grows up, to throw off all that its mother, its first instructor, directly or indirectly taught, and unless the mind have uncommon vigour, womanish follies will stick to the character throughout life. The weakness of the mother will be visited on

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the children! And whilst women are educated to rely on their husbands for judgment, this must ever be the consequence, for there is no improving an understanding by halves, nor can any being act wisely from imitation, because in every circumstance of life there is a kind of individuality, which requires an exertion of judgment to modify general rules. The being who can think justly in one track, will soon extend its intellectual empire; and she who has sufficient judgment to manage her children, will not submit right or wrong, to her husband, or patiently to the social laws which makes a nonentity of a wife.

In public schools women, to guard against the errors of ignorance, should be taught the elements of anatomy and medicine, not only to enable them to take proper care of their own health, but to make them rational nurses of their infants, parents, and husbands; for the bills of mortality are swelled by the blunders of self-willed old women, who give nostrums of their own, without knowing any thing of the human frame. It is likewise proper, only in a domestic view, to make women, acquainted with the anatomy of the mind, by allowing the sexes to associate together in every pursuit; and by leading them to observe the progress of the human understanding in the improvement of the sciences and arts; never forgetting the science of morality, nor the study of the political history of mankind.

A man has been termed a microcosm; and every family might also be called a state. States, it is true, have mostly been governed by arts that disgrace the character of man; and the want of a just constitution, and equal laws, have so perplexed the notions of the worldly wise, that they more than question the reasonableness of contending for the rights of humanity.

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Thus morality, polluted in the national reservoir, sends off streams of vice to corrupt the constituent parts of the body politic; but should more noble, or rather more just principles regulate the laws, which ought to be the government of society, and not those who execute them, duty might become the rule of private conduct.

Besides, by the exercise of their bodies and minds, women would acquire that mental activity so necessary in the maternal character, united with the fortitude that distinguishes steadiness of conduct from the obstinate perverseness of weakness. For it is dangerous to advise the indolent to be steady, because they instantly become rigorous, and to save themselves trouble, punish with severity faults that the patient fortitude of reason might have prevented.

But fortitude presupposes strength of mind, and is strength of mind to be acquired by indolent acquiescence? By asking advice instead of exerting the judgment? By obeying through fear, instead of practising the forbearance, which we all stand in need of ourselves? The conclusion which I wish to draw is obvious; make women rational creatures and free citizens, and they will quickly become good wives, and mothers; that is--if men do not neglect the duties of husbands and fathers.

Discussing the advantages which a public and private education combined, as I have sketched, might rationally be expected to produce, I have dwelt most on such as are particularly relative to the female world, because I think the female world oppressed; yet the gangrene which the vices, engendered by oppression have produced, is not confined to the morbid part, but pervades society at large; so that when I wish to see my sex

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become more like moral agents, my heart bounds with the anticipation of the general diffusion of that sublime contentment which only morality can diffuse.

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The Battle for 20th Century Education

Does Psychology Matter More Than Sociology?

Selections from My Pedagogic Creed

John Dewey

Dewey's primary objective in this article is to elucidate the way that humans are influenced by both social and psychological factors. While he believes that both are extremely influential, he claims and defends the idea that education necessarily includes both factors, and schools are primarily social.

I believe that all education proceeds by the participation of the individual in the social consciousness of the race. This process begins unconsciously almost at birth, and is continually shaping the individual's powers, saturating his consciousness, forming his habits, training his ideas, and arousing his feelings and emotions. Through this unconscious education the individual gradually comes to share in the intellectual and moral resources which humanity has succeeded in getting together. He becomes an inheritor of the funded capital of civilization. The most formal and technical education in the world cannot safely depart from this general process. It can only organize it; or differentiate it in some particular direction.

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I believe that the only true education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself. Through these demands he is stimulated to act as a member of a unity, to emerge from his original narrowness of action and feeling, and to conceive of himself from the standpoint of the welfare of the group to which he belongs. Through the responses which others make to his own activities he comes to know what these mean in social terms. The value which they have is reflected back into them. For instance, through the response which is made to the child's instinctive babblings the child comes to know what those babblings mean; they are transformed into articulate language, and thus the child is introduced into the consolidated wealth of ideas and emotions which are now summed up in language.

I believe that this educational process has two sides—one psychological and one sociological; and that neither can be subordinated to the other or neglected without evil results following.

Reflection Question

Is this possible If sociology and psychology en up being inconsistent with each other?

Of these two sides, the psychological is the basis. The child's own instincts and powers furnish the material and give the starting-point for all education. Save as the efforts of the

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educator connect with some activity which the child is carrying on of his own initiative independent of the educator, education becomes reduced to a pressure from without. It may, indeed, give certain external results, but cannot truly be called educative. Without insight into the psychological structure and activities of the individual, the educative process will, therefore, be haphazard and arbitrary. If it chanced to coincide with the child's activity it will get a leverage; if it does not, it will result in friction, or disintegration, or arrest of the child nature.

I believe that knowledge of social conditions, of the present state of civilization, is necessary in order properly to interpret the child's powers. The child has his own instincts and tendencies, but we do not know what these mean until we can translate them into their social equivalents. We must be able to carry them back into a social past and see them as the inheritance of previous race activities. We must also be able to project them into the future to see what their outcome and end will be. In the illustration just used, it is the ability to see in the child's babblings the promise and potency of a future social intercourse and conversation which enables one to deal in the proper way with that instinct.

I believe that the psychological and social sides are organically related, and that education cannot be regarded as a compromise between the two, or a superimposition of one upon the other. We are told that the psychological definition of education is barren and, formal—that it gives us only the idea of a development of all the mental powers without giving us any idea of the use to which these powers are put. On the other hand, it is urged that the social definition of education, as getting adjusted to civilization, makes of it a forced and

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external process, and results in subordinating the freedom of the individual to a preconceived social and political status.

I believe each of these objections is true when urged against one side isolated from the other.

Reflection Question

What might Dewey mean by the previous sentence?

In order to know what a power really is we must know what its end, use, or function is; and this we cannot know save as we conceive of the individual as active in social relationships. But, on the other hand, the only possible adjustment which we can give to the child under existing conditions, is that which arises through putting him in complete possession of all his powers. With the advent of democracy and modern industrial conditions, it is impossible to foretell definitely just what civilization will be twenty years from now. Hence it is impossible to prepare the child for any precise set of conditions. To prepare him for the future life means to give him command of himself; it means so to train him that he will have the full and really use of all his capacities; that his eye and ear and hand may be tools ready to command, that his judgment may be capable of grasping the conditions under which it has to work, and the executive forces be trained to act economically and efficiently. It is impossible to reach this sort of adjustment save as constant regard is had to the individual's own powers, tastes,

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and interests—say, that is, as education is continually converted into psychological terms.

In sum, I believe that the individual who is to be educated is a social individual, and that society is an organic union of individuals. If we eliminate the social factor from the child we are left only with an abstraction; if we eliminate the individual factor from society, we are left only with an inert and lifeless mass. Education, therefore, must begin with a psychological insight into the child's capacities, interests, and habits. It must be controlled at every point by reference to these same considerations. These powers, interests, and habits must be continually interpreted—we must know what they mean. They must be translated into terms of their social equivalents—into terms of what they are capable of in the way of social service.

ARTICLE II. WHAT THE SCHOOL IS.

I believe that the school is primarily a social institution. Education being a social process, the school is simply that form of community life in which all those agencies are concentrated that will be most effective in bringing the child to share in the inherited resources of the race, and to use his own powers for social ends.

I believe that education, therefore, is a process of living and not a preparation for future living.

I believe that the school must represent present life—life as real and vital to the child as that which he carries on in the home, in the neighborhood, or on the playground.

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I believe that education which does not occur through forms of life, forms that are worth living for their own sake, is always a poor substitute for the genuine reality, and tends to cramp and to deaden.

I believe that the school, as an institution, should simplify existing social life; should reduce it, as it were, to an embryonic form. Existing life is so complex that the child cannot be brought into contact with it without either confusion or distraction; he is either overwhelmed by the multiplicity of activities which are going on, so that he loses his own power of orderly reaction, or he is so stimulated by these various activities that his powers are prematurely called into play and he becomes either unduly specialized or else disintegrated.

I believe that, as such simplified social life, the school life should grow gradually out of the home life; that it should take up and continue the activities with which the child is already familiar in the home.

I believe that it should exhibit these activities to the child, and reproduce them in such ways that the child will gradually learn the meaning of them, and be capable of playing his own part in relation to them.

I believe that this is a psychological necessity, because it is the only way of securing continuity in the child's growth, the only way of giving a background of past experience to the new ideas given in school.

I believe it is also a social necessity because the home is the form of social life in which the child has been nurtured and in

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connection with which he has had his moral training. It is the business of the school to deepen and extend his sense of the values bound up in his home life.

Reflection Question

Can social and psychological necessities also be moral necessities?

I believe that much of present education fails because it neglects this fundamental principle of the school as a form of community life. It conceives the school as a place where certain information is to be given, where certain lessons are to be learned, or where certain habits are to be formed. The value of these is conceived as lying largely in the remote future; the child must do these things for the sake of something else he is to do; they are mere preparations. As a result they do not become a part of the life experience of the child and so are not truly educative.

I believe that the moral education centers upon this conception of the school as a mode of social life, that the best and deepest moral training is precisely that which one gets through having to enter into proper relations with others in a unity of work and thought. The present educational systems, so far as they destroy or neglect this unity, render it difficult or impossible to get any genuine, regular moral training.

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I believe that the child should be stimulated and controlled in his work through the life of the community.

I believe that under existing conditions far too much of the stimulus and control proceeds from the teacher, because of neglect of the idea of the school as a form of social life.

I believe that the teacher's place and work in the school is to be interpreted from this same basis. The teacher is not in the school to impose certain ideas or to form certain habits in the child, but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these influences.

I believe that the discipline of the school should proceed from the life of the school as a whole and not directly from the teacher.

I believe that the teacher's business is simply to determine, on the basis of larger experience and riper wisdom, how the discipline of life shall come to the child.

I believe that all questions of the grading of the child and his promotion should be determined by reference to the same standard. Examinations are of use only so far as they test the child's fitness for social life and reveal the place in which he can be of the most service and where he can receive the most help.

ARTICLE III. THE SUBJECT-MATTER OF EDUCATION.

I believe that the social life of the child is the basis of concentration, or correlation, in all his training or growth. The

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social life gives the unconscious unity and the background of all his efforts and of all his attainments.

I believe that the subject-matter of the school curriculum should mark a gradual differentiation out of the primitive unconscious unity of social life.

I believe that we violate the child's nature and render difficult the best ethical results by introducing the child too abruptly to a number of special studies, of reading, writing, geography, etc., out of relation to this social life.

I believe, therefore, that the true center of correlation on the school subjects is not science, nor literature, nor history, nor geography, but the child's own social activities.

I believe that education cannot be unified in the study of science, or so-called nature study, because apart from human activity, nature itself is not a unity; nature in itself is a number of diverse objects in space and time, and to attempt to make it the center of work by itself is to introduce a principle of radiation rather than one of concentration.

Reflection Question

Are Dewey's assumptions about science and nature sound?

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I believe that literature is the reflex expression and interpretation of social experience; that hence it must follow upon and not precede such experience. It, therefore, cannot be made the basis, although it may be made the summary of unification.

I believe once more that history is of educative value in so far as it presents phases of social life and growth. It must be controlled by reference to social life. When taken simply as history it is thrown into the distant past and becomes dead and inert. Taken as the record of man's social life and progress it becomes full of meaning. I believe, however, that it cannot be so taken excepting as the child is also introduced directly into social life.

I believe accordingly that the primary basis of education is in the child's powers at work along the same general constructive lines as those which have brought civilization into being.

I believe that the only way to make the child conscious of his social heritage is to enable him to perform those fundamental types of activity which make civilization what it is.

I believe, therefore, in the so-called expressive or constructive activities as the center of correlation.

I believe that this gives the standard for the place of cooking, sewing, manual training, etc., in the school.

I believe that they are not special studies which are to be introduced over and above a lot of others in the way of relaxation or relief, or as additional accomplishments. I believe

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rather that they represent, as types, fundamental forms of social activity; and that it is possible and desirable that the child's introduction into the more formal subjects of the curriculum be through the medium of these activities.

I believe that the study of science is educational in so far as it brings out the materials and processes which make social life what it is.

I believe that one of the greatest difficulties in the present teaching of science is that the material is presented in purely objective form, or is treated as a new peculiar kind of experience which the child can add to that which he has already had. In reality, science is of value because it gives the ability to interpret and control the experience already had. It should be introduced, not as so much new subject-matter, but as showing the factors already involved in previous experience and as furnishing tools by which that experience can be more easily and effectively regulated.

I believe that at present we lose much of the value of literature and language studies because of our elimination of the social element. Language is almost always treated in the books of pedagogy simply as the expression of thought. It is true that language is a logical instrument, but it is fundamentally and primarily a social instrument. Language is the device for communication; it is the tool through which one individual comes to share the ideas and feelings of others. When treated simply as a way of getting individual information, or as a means of showing off what one has learned, it loses its social motive and end.

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I believe that there is, therefore, no succession of studies in the ideal school curriculum. If education is life, all life has, from the outset, a scientific aspect; an aspect of art and culture and an aspect of communication. It cannot, therefore, be true that the proper studies for one grade are mere reading and writing, and that at a later grade, reading, or literature, or science, may be introduced. The progress is not in the succession of studies, but in the development of new attitudes towards, and new interests in, experience.

I believe, finally, that education must be conceived as a continuing reconstruction of experience; that the process and the goal of education are one and the same thing.

Reflection Question

How would those who claim that the ends of education are more than the process object to this claim?

I believe that to set up any end outside of education, as furnishing its goal and standard, is to deprive the educational process of much of its meaning, and tends to make us rely upon false and external stimuli in dealing with the child.

ARTICLE IV. THE NATURE OF METHOD.

I believe that the question of method is ultimately reducible to the question of the order of development of the child's powers

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and interests. The law for presenting and treating material is the law implicit within the child's own nature. Because this is so I believe the following statements are of supreme importance as determining the spirit in which education is carried on:

1. I believe that the active side precedes the passive in the development of the child-nature; that expression comes before conscious impression; that the muscular development precedes the sensory; that movements come before conscious sensations; I believe that consciousness is essentially motor or impulsive; that conscious states tend to project themselves in action.

I believe that the neglect of this principle is the cause of a large part of the waste of time and strength in school work. The child is thrown into a passive, receptive, or absorbing attitude. The conditions are such that he is not permitted to follow the law of his nature; the result is friction and waste.

I believe that ideas (intellectual and rational processes) also result from action and devolve for the sake of the better control of action. What we term reason is primarily the law of orderly or effective action. To attempt to develop the reasoning powers, the powers of judgment, without reference to the selection and arrangement of means in action, is the fundamental fallacy in our present methods of dealing with this matter. As a result we present the child with arbitrary symbols. Symbols are a necessity in mental development, but they have their place as tools for economizing effort; presented by themselves they are a mass of meaningless and arbitrary ideas imposed from without.

2. I believe that the image is the great instrument of

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instruction. What a child gets out of any subject presented to him is simply the images which he himself forms with regard to it.

I believe that if nine-tenths of the energy at present directed towards making the child learn certain things were spent in seeing to it that the child was forming proper images, the work of instruction would be indefinitely facilitated.

I believe that much of the time and attention now given to the preparation and presentation of lessons might be more wisely and profitably expended in training the child's power of imagery and in seeing to it that he was continually forming definite, vivid, and growing images of the various subjects with which he comes in contact in his experience.

3. I believe that interests are the signs and symptoms of growing power. I believe that they represent dawning capacities. Accordingly the constant and careful observation of interests is of the utmost importance for the educator.

I believe that these interests are to be observed as showing the state of development which the child has reached.

I believe that they prophesy the stage upon which he is about to enter.

I believe that only through the continual and sympathetic observation of childhood's interests can the adult enter into the child's life and see what it is ready for, and upon what material it could work most readily and fruitfully.

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I believe that these interests are neither to be humored nor repressed. To repress interest is to substitute the adult for the child, and so to weaken intellectual curiosity and alertness, to suppress initiative, and to deaden interest. To humor the interests is to substitute the transient for the permanent. The interest is always the sign of some power below; the important thing is to discover this power. To humor the interest is to fail to penetrate below the surface, and its sure result is to substitute caprice and whim for genuine interest.

4. I believe that the emotions are the reflex of actions.

I believe that to endeavor to stimulate or arouse the emotions apart from their corresponding activities is to introduce an unhealthy and morbid state of mind.

I believe that if we can only secure right habits of action and thought, with reference to the good, the true, and the beautiful, the emotions will for the most part take care of themselves.

I believe that next to deadness and dullness, formalism and routine, our education is threatened with no greater evil than sentimentalism.

I believe that this sentimentalism is the necessary result of the attempt to divorce feeling from action.

ARTICLE V. THE SCHOOL AND SOCIAL PROGRESS.

I believe that education is the fundamental method of social progress and reform.

I believe that all reforms which rest simply upon the enactment

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of law, or the threatening of certain penalties, or upon changes in mechanical or outward arrangements, are transitory and futile.

I believe that education is a regulation of the process of coming to share in the social consciousness; and that the adjustment of individual activity on the basis of this social consciousness is the only sure method of social reconstruction.

I believe that this conception has due regard for both the individualistic and socialistic ideals. It is duly individual because it recognizes the formation of a certain character as the only genuine basis of right living. It is socialistic because it recognizes that this right character is not to be formed by merely individual precept, example, or exhortation, but rather by the influence of a certain form of institutional or community life upon the individual, and that the social organism through the school, as its organ, may determine ethical results.

Reflection Question

What implications does the previous paragraph have on the idea of having responsibility for your own character?

I believe that in the ideal school we have the reconciliation of the individualistic and the institutional ideals.

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I believe that the community's duty to education is, therefore, its paramount moral duty. By law and punishment, by social agitation and discussion, society can regulate and form itself in a more or less haphazard and chance way. But through education society can formulate its own purposes, can organize its own means and resources, and thus shape itself with definiteness and economy in the direction in which it wishes to move.

I believe that when society once recognizes the possibilities in this direction, and the obligations which these possibilities impose, it is impossible to conceive of the resources of time, attention, and money which will be put at the disposal of the educator.

I believe it is the business of every one interested in education to insist upon the school as the primary and most effective interest of social progress and reform in order that society may be awakened to realize what the school stands for, and aroused to the necessity of endowing the educator with sufficient equipment properly to perform his task.

I believe that education thus conceived marks the most perfect and intimate union of science and art conceivable in human experience.

Reflection Question

What would it mean to unify art and science?

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I believe that the art of thus giving shape to human powers and adapting them to social service is the supreme art; one calling into its service the best of artists; that no insight, sympathy, tact, executive power is too great for such service.

I believe that with the growth of psychological service, giving added insight into individual structure and laws of growth; and with growth of social science, adding to our knowledge of the right organization of individuals, all scientific resources can be utilized for the purposes of education.

I believe that when science and art thus join hands the most commanding motive for human action will be reached; the most genuine springs of human conduct aroused, and the best service that human nature is capable of guaranteed.

I believe, finally, that the teacher is engaged, not simply in the training of individuals, but in the formation of the proper social life.

I believe that every teacher should realize the dignity of his calling; that he is a social servant set apart for the maintenance of proper social order and the securing of the right social growth.

I believe that in this way the teacher always is the prophet of the true God and the usherer in of the true kingdom of God.

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Reflection Question

What are the principal elements of Dewey's philosophy of the ends and means of education?

Attributions

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What does Psychology Demand?

Selections from

Edward Thorndike

In this introductory chapter, Thorndike explains the ways that psychology can inform the practice of education. Specifically, he talks about the way that stimulus and response can be used to produce the desired changes in pupils.

The Teacher's Problem: The Aims, Materials and Methods of Education.

The word Education is used with many meanings, but in all its usages it refers to changes. No one is educated who stays just as he was. We do not educate anybody if we do nothing that makes any difference or change in any-body. The need of education arises from the fact that what is is not what ought to be. Because we wish our-selves and others to become different from what we and they now are, we try to educate ourselves and them. In studying education, then, one studies always the existence, nature, causation or value of changes of some sort. The teacher confronts two questions: 'What changes to make?'

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and 'How to make them?'

Reflection Question

is there good reason to remove the first question from the domain of the educator?

The first question is commonly answered for the teacher by the higher school authorities for whom he or she works. The opinions of the educational leaders in the community decide what the schools shall try to do for their pupils. The program of studies is planned and the work which is to be done grade by grade is carefully outlined. The grammar-school teacher may think that changes in knowledge represented by the ability to read a modern language ought to be made in boys and girls before the high-school, but the decision is rarely his ; the primary teacher may be obliged to teach arithmetic although her own judgment would postpone giving the knowledge of numbers until the fifth or sixth grade.

What changes should be made in human nature by primary, grammar and high schools and why these and not other changes should be the aim of the schools, are questions usually answered under the heading 'Principles of Education.' How most efficiently to make such changes as educational aims recommend, is a question usually answered under the headings 'Principles of Teaching,' or 'Methods of Teaching,' or 'Theory and Practice of Teaching,' or 'Educational Psychology.' This

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book will try to answer this latter question, —to give a scientific basis for the art of actual teaching rather than for the selection of aims for the schools as a whole or of the subjects to be taught or of the general result to be gained from any subject. Not the *What* or the *Why* but the *How* is its topic.

It is not wise however to study the *How* of teaching without any reference to the *What* or the *Why*. If a teacher does not appreciate, at least crudely, the general aims of education, he will not fully appreciate the general aims of school education; if he does not appreciate the general aims of school education, he will not fully appreciate the aims of his special grade or of any one special subject; if he does not have fairly clear ideas of what the year's work as a whole or of what each subject as a whole ought to accomplish for the scholars, he will not know exactly what he is about in any particular day's work. The teacher must be something more than the carpenter who follows without reflection the architect's plan, or the nurse who merely administers the physician's prescriptions. His relation to the administration of the school system and the program of studies is more like that of the builder who is told to make the best house he can at a cost of ten thousand dollars, using three laborers, a derrick and such and such tools and providing especially for light, ventilation and protection against fire. Superior authorities say, 'Make the best boys and girls you can, using arithmetic, geography, school regulations and so on, providing especially for knowledge, good habits of thought, worthy interests, bodily health, noble feelings and honest, unselfish conduct.' The builder must often study how to dig a foundation, how to erect a frame, how to lay a floor and the like with reference to what is to be built; the teacher should often study how to utilize inborn tendencies, how to form habits, how

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to develop interests and the like with reference to what changes in intellect and character are to be made.

Reflection Question

Is this construction metaphor accurate or is teaching more accurately described by another metaphor?

The teacher should know about educational aims and values as well as about such principles of teaching as directly concern his own activities in the classroom. The next three pages will accordingly outline the essential facts concerning the ideals which, in the opinion of the best qualified thinkers, should be followed in American education, and throughout the book due attention will be given to such facts about the ends the teacher should seek as he needs to know to improve his teaching.

The Aims of Education.— Education as a whole should make human beings wish each other well, should increase the sum of human energy and happiness and decrease the sum of discomfort of the human beings that are or will be, and should foster the higher, impersonal pleasures.

Reflection Question

What kind of ethical framework can underly these aims?

These aims of education in general—good-will to men, useful and happy lives, and noble enjoyment—are the ultimate aims of school education in particular. Its proximate aims are to give boys and girls health in body and mind, information about the world of nature and men, worthy interests in knowledge and action, a multitude of habits of thought, feeling and behavior and ideals of efficiency, honor, duty, love and service. The special proximate aims of the first six years of school life are commonly taken to be to give physical training and protection against disease; knowledge of the simple facts 'of nature and human life; the ability to gain knowledge and pleasure through reading and to express ideas and, feelings through spoken and written language, music 'and other arts; interests in the concrete life of the world; habits of intelligent curiosity, purposive thinking, modesty, obedience, honesty, helpfulness, affection, courage\and justice; and the ideals proper to childhood.

The special proximate aims of school life from twelve to eighteen are commonly taken to be physical health and skill; knowledge of the simpler general laws of nature and human life and of the opinions of the wisest and best; more effective use of the expressive arts; interests in the arts and sciences, and in

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human life both as directly experienced and as portrayed in literature; powers of self-control, accuracy, steadiness and logical thought, technical and executive abilities, cooperation and leadership; habits of self-restraint, honor, courage, justice, sympathy and reverence; and the ideals proper to youth.

With respect to the amount of emphasis upon different features of these general ideals, the best judgment of the present rates of practical ability somewhat higher and culture of the semi-selfish sort somewhat lower than has been the case in the past. No sensible thinker about education now regards the ability to support oneself as a mean thing. Every one must gain power at school as well as at home to pull his own weight in the boat, to repay in useful labor what the world gives him in food and shelter. The cultured idler is as one-sided as the ignorant and clownish worker and may be even more of a danger to the world. The schools must prepare for efficiency in the serious business of life as well as for the refined enjoyment of its leisure.

The best judgment of the present gives much more weight than has been the case previously to health, to bodily skill and to the technical and industrial arts. The ideal of the scholar has given way to the ideal of the capable man—capable in scholarship still, but also capable in physique and in the power to manipulate things.

Very recently thinkers about education have dwelt more and more upon the importance of aiming not only to prepare children for adult life and work but also to adapt them to the life of childhood itself. Aim more to make children succeed with the problems and duties of childhood and less to fit them for the

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problems and duties of twenty years after; let education adapt the child to his own environment as well as to some supposed work of his later years—such are the recommendations of present-day theories of education.

In actual practice aims often conflict. A gain in knowledge may mean a loss in health; to arouse ideals may mean less time for drill in correct habits; in zeal for the development of love of the beautiful the interest in the dry, cold facts of science may have to be neglected. The energy of any teacher, and of scholars as well, is limited. All that can be expected is that none of the aims of school education shall be wilfully violated and that energy should be distributed among them all in some reasonable way.

The degrees of emphasis on the different proximate aims vary (1) with the nature of the individual to be educated and (2) with the nature of the educational forces besides the school which are at work. Thus (1) the emphasis in a school for the feeble-minded is not the same as in an ordinary school; the emphasis in a high school representing a selection of the more ambitious, intellectual and energetic is not the same as in a school where the selection is simply on the basis of the ability of the parents to pay tuition. (2) The emphasis in a primary school attended by the children of recent immigrants will differ from that in a school in a suburb inhabited by American professional and business families. A high school in a farming community in the Southwest should not pattern its ideals after those proper to a school in New York City.

Reflection Question

Is the previous paragraph a justification for oppression?

The Special Problem of the Teacher.— It is the problem of the higher authorities of the schools to decide what the schools shall try to achieve and to arrange plans for school work which will attain the desired ends. Having decided what changes are to be made they entrust to the teachers the work of making them. The special problem of the teacher is to make these changes as economically and as surely as is possible under the conditions of school life. His is the task of giving certain information, forming certain habits, increasing certain powers, arousing certain interests and inspiring certain ideals.

The study of the best methods of doing so may be carried to almost any degree of detail. The principles of teaching may mean the general principles applicable to the formation of all habits or the highly specialized rules of procedure for forming the habit of correct use of *shall* and *will*; they include the laws valid for the acquisition of any knowledge and the discussion of the particular difficulties in teaching the spelling of *to*, *two* and *too*. But the problem is always fundamentally the same:—Given these children to be changed and this change to be made, how shall I proceed? Given this material for education and this aim of education, what means and methods shall I use?

Psychology and the Art of Teaching

The Scientific Basis of Teaching.—The work of teaching is to produce and to prevent changes in human beings; to preserve and increase the desirable qualities of body, intellect and character and to get rid of the undesirable. To thus control human nature, the teacher needs to know it. To change what is into what ought to be, we need to know the laws by which the changes occur. Just as to make a plant grow well the gardener must act in accordance with the laws of botany which concern the growth of plants, or as to make a bridge well the architect must act in accordance with the facts of mechanics concerning stresses and strains, or as to change disease into health the physician must act in accordance with the laws of physiology and pathology, so to make human beings intelligent and useful and noble the teacher must act in accordance with the laws of the sciences of human nature.

The sciences of biology, especially human physiology and hygiene, give the laws of changes in bodily nature. The science of psychology gives the laws of changes in intellect and character. The teacher studies and learns to apply psychology to teaching for the same reason that the progressive farmer studies and learns to apply botany; the architect, mechanics; or the physician, physiology and pathology.

Stimulus and Response.—Using psychological terms, the art of teaching may be defined as the art of giving and withholding stimuli with the result of producing or preventing certain responses. In this definition the term stimulus is used widely for any event which influences a person,—for a word spoken to

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him, a look, a sentence which he reads, the air he breathes, etc., etc. The term response is used for any reaction made by him. -a new thought, a feeling of interest, a bodily act, an; mental or bodily condition resulting from the stimulus. The aim of the teacher is to produce desirable and prevent undesirable changes in human beings by producing and preventing certain responses. The means at the disposal of the teacher are the stimuli which can be brought to bear upon the pupil,-the teacher's words, gestures and appearance, the condition and appliances of the school room, the books to be used and objects to be seen, and so on through a long list of the things and events which the teacher can control. The responses of the pupil are all the infinite variety of thoughts and feelings and bodily movements occurring in all their possible connections. The stimuli given by the teacher to arouse and guide the pupil's responses may be classified as:—

1. Stimuli under direct control.
 - A. The teacher's movements,—speech, gestures, facial expression, etc.
2. Stimuli under indirect control.
 - A. The physical conditions of the school,-air, light, heat, etc.
 - B. The material equipment of the school,-books, apparatus, _specimens, etc.
 - C. The social conditions of the school,- the acts (including spoken words) of the pupils and the spirit which these acts represent.
 - D. The general environment,-acts of parents, laws, libraries, etc.

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The responses may be classified as:—

- A. Physiological responses, such as deeper breathing, sounder sleep, vigorous exercise and the like.
- B. Responses of knowledge, such as connecting a sense stimulus with an appropriate percept, abstracting one element from a complex fact or making associations of ideas.
- C. Responses of attitude, such as the connection of attention, interest, preference and belief with certain situations.
- D. Responses of feeling, such as connecting sympathy, love, hate, etc., with certain situations.
- E. Responses of action or of conduct and skill, connecting certain acts or movements with certain mental states.

The Value of Psychology.—If there existed a perfect and complete knowledge of human nature,—a complete science of psychology,—it would tell the effect of every possible stimulus and the cause of every possible response in every possible human being. A teacher could then know just what the result of any act of his would be, could prophesy just what the effect of such and such a page read or punishment given or dress worn would be,—just how to get any particular response, of attention to this object, memory of this fact or comprehension of that principle.

Of course present knowledge of psychology is nearer to zero than to complete perfection, and its applications to teaching must therefore be often incomplete, indefinite and insecure.

The Ends and Means of Education

Reflection Question

If Thorndike's characterization of psychology is accurate, can psychology have first principles?

The application of psychology to teaching is more like that of botany and chemistry to farming than like that of physiology and pathology to medicine. Anyone of good sense can farm fairly well without science, and anyone of good sense can teach without knowing and applying psychology. Still, as the farmer with the knowledge of the applications of botany and chemistry to farming is, other things being equal more successful than the farmer without it, so the teacher will, other things being equal, be the more successful who can apply psychology, the science of human nature, to the problems of the school.

Reflection Question

What are the principle elements of Thorndike's philosophy of the ends and means of education?

Attributions

A complete copy of Thorndike's book can be found [here \[https://edtechbooks.org/-uHq\]](https://edtechbooks.org/-uHq)

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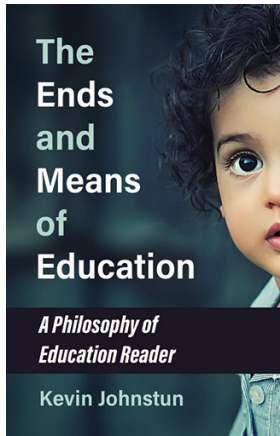
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Kevin holds an MS in Instructional Psychology and Technology and a BA in Philosophy both from Brigham Young University. His research interests have frequently centered at the intersection of philosophy and education. This includes co-authoring articles about Kuhnian perspectives in education research and Kantian perspectives on student autonomy.

While compiling the selection for this article, Kevin drew on his connections in both the philosophy and education worlds to find historical pieces that were foundational in both realms.



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