

the magnitude of the three-fold task: the acquiring of the essentials of knowledge that is of most worth; the adjusting of one's mental machinery so that it may be warranted to run, and the setting of one's moral life to the high mark of *preferring truth*, however it may clash with one's deepest prejudices and dearest opinions. The present compromise is a case of unstable equilibrium and as such it cannot be maintained.

The fundamental cause of this unsettled and transitional condition is the lack of agreement as to what a college is for. This absence of any clearly defined theory affords at once a prized opportunity for outsiders who know very well what they wish to accomplish. The unpeaceful activities of the community have invaded the college.

It is readily admitted that a student should be informed about modern social movements. The main facts of their origin, purpose, growth, and prospects may well be considered in a course in sociology; but this is by no means the same thing as engaging practically in them. What usually happens is that the student is induced to take part in the work of a given movement whilst remaining ignorant of its genetic antecedents and relationships. The same person later, when out of college, will with alacrity help to engineer a charity ball but she will quite fail to study the deep lying conditions that have made her charity ball an apparent necessity. We do not want, on the one hand, unpractical students retiring to a corner to read Plato and Goethe in the original, pedantic rather than intellectual; nor on the other, restive young persons who patronize as much of the world as they can reach, and call it "ministering." Let us have rather those who are modest and far-seeing enough to spend four years in serene, unshaking preparation. The battle will keep. Sorrow will not be gone from the earth, neither will ignorance nor injustice by the time you are really ready to go into the fight. The soldier is commended for obeying without asking the reason why. You are to know every reason why. This is what we mean by education. Thus there is only one word to say to the good folk at the gate, the "movements" people: "Hands off; stay out. In due time we will join you."

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ERRORS IN THE TEACHING OF SCIENCE.

Ethelbert Stewart in the Chicago Daily News of March 4.

While I was talking to a little group of high school boys very recently it developed that they were enthusiasts over chemistry and biology and had met to exchange ideas upon these favorite studies. They had reached the stage when some

connection between chemistry and biology seemed vital to them.

Just as perpetual motion is the dream of a young machinist, each newly arrived chemist wants to make an egg that will hatch. To the inquiry: "Is there not some impassable gap between the chemical constituents of the mechanism of life and life itself?" the answer was prompt. "No; if the chemicals forming an egg can be put together in the same proportions and subjected to the proper heat for twenty-one days there is no reason why it should not hatch."

"Except that it does not hatch," was ventured tentatively.

"It never has been done carefully enough," was the reply.

It was admitted that this question never had come up in just this form in school.

"You believe, then, that there is nothing in the universe that cannot be reduced to its chemical constituents and expressed in chemical formula?" was asked.

They unanimously agreed that they could not imagine anything which could not be so expressed.

"What is your chemical formula for God?" was asked.

Quick as a flash one of them replied, "Superheated HO⁴ will express that fairly well, I think," and in the eyes of the other boys he was a hero.

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Now, what is the trouble? These boys were never exactly taught that in school and yet practically all of them learn it and believe it. Not only boys, but girls.

In teaching the material processes and working of natural laws everything back of these processes is ignored. The teacher in chemistry teaches how certain elements act upon one another to produce certain combinations and infatuates his boys and girls with laboratory experiments. He does not directly say there is nothing in the universe that cannot be analyzed and explained by the laws of chemical attraction and combination. He says nothing about it. In everything he does take up he finds chemistry, nothing but chemistry. By indirection the child learns to exclude from his mind what the teacher excludes from his teaching. Finally, he agrees with the earlier teaching of Tyndall, that "in matter we have the promise and the potency of all life."

In the biological laboratory, in the history class, everywhere causes and finalities are ignored and only methods and processes are studied and these in such a manner as to produce the impression that they constitute the whole not only of knowledge but of fact.

Only the mechanism of facts, only the organism of life, are studied or taught, and yet, consciously or unconsciously, these are so taught as to make the children believe they constitute all.

Let us concede that this is the *how* world and not the *why* world. Let us concede that we send our children to school to learn how to do things, how to study, how to think, and that final answers to final whys never can be ascertained in this world. Nevertheless, is it wise to ignore the why in teaching the how? Is it at all dangerous to suggest that as there is no answer to the why in the how, maybe the how is not all there is of it?

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It is natural enough for the machinist to get so interested in the mechanism of the locomotive he forgets that without steam the piston and cylinder are but so much impotent iron. It is possible for him to get so lost in the blue-print drawing of the various parts that he forgets the locomotive as a whole, and the draftsmen behind the blue print, and the purpose behind it all.

Teachers of children should not forget that the things which they ignore in teaching, the child's mind is likely to deny as nonexistent.

This is not so serious with children of parents who have a university education, but as soon as the child is educated beyond the point the parent reached, that moment the parent's influence is gone in educational matters. The washerwoman who refuses to send her girl to high school "to learn to look down on her mother" is not more helpless than the average man who has finally to admit to his child that he can no longer assist it in getting its lessons. Once admit that "you have gone beyond where I was when I had to leave school" and all power to influence is destroyed.

Having studied only in books, it is only what comes from books that counts with the school boy or girl. The maturer years, the experiences of life, the broader comparisons which experience brings, count not with a child until it has lived them for itself. The parent, therefore, cannot offset this negative teaching of a positive atheism in the high schools.

It is all well enough to say that materialistic atheism is a sweat the boy must go through, and like the measles, the younger he has it the quicker he will recover and the less harm it will do him. Some of us doubt this.

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The remedy lies solely with the teachers as individuals. It is not necessary to put "the Bible in the public schools," nor to teach creeds or sectarianism or cults to remedy this trouble. Teachers need but impress upon each mind that the schools are teaching only the *how* and not the *why*; that the how is not the whole of the problem; that biology teaches only how organisms have developed, the path of evolution, not the why of evolution; that chemistry is not concerned with the reason one substance has "an affinity" for another, but only with the fact, and that back of all

chemistry there is a problem so big we have not yet even estimated its circumference.

Will not the high school teachers of Chicago agree among themselves to do something to stop this nightmare of materialistic atheism to which they are subjecting our boys and girls?

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DR. JOHN BASCOM ON SEGREGATION.

Published in *The Daily Cardinal*, at the University of Wisconsin, April 13, 1908.

I observe that the question of a modification of coeducation, in what has come to be called a segregation of the sexes, is under discussion in connection with the University of Wisconsin, and that a committee of the faculty has it in consideration. This change may be offered as a slight, formal one, but I much fear it may prove a serious, retrograde movement; that, instead of turning out to be a wise concession to an unfortunate but unavoidable sentiment, it may be regarded as a concession that coeducation is, at least in part, a failure, and may thus prepare the way for an indefinite retreat toward the earlier state of separate training.

Coeducation is not a thing of compromises or of half way measures. It is a thing of primary principle and of wide reaching rightfulness. We are not to be caught vibrating in a debatable land, between one or another, a lesser or a greater, difference in the claims of the sexes, but are to reach and retain a permanent equilibrium in which we have ceased to discuss the right of man or woman fully and freely to avail himself or herself of all approaches to knowledge. The encroachments of segregation will ultimately alter the entire spirit of the university.

The present form of coeducation in the university covers the ground in the most direct and simple way, and can hardly be altered without raising again the questions which were under warm dispute years since, and were then answered with immediate reference to the fundamental rights of both sexes. These questions were met on the broad ground that a state university should give the best opportunity of education to all the young people of the state, and offer them under conditions open and available to all. The two ideas of opportunity and equality, to be held without carping were uppermost. This simple and adequate result cannot be departed from without endangering the peace, and ought not to be modified except in view of a principle as general and as important as the one on which this reconciliation of claims was made to rest. No right is more sacred than the right to develop and to use one's own powers under all the advantages which an enlightened community provides for this purpose.