

	Percent total ash.	
Cannabis Indica.....	13.82	7.35% seeds
“ “	13.05	4.16% “
“ “	15.05	4.41% “
“ “	14.20	5.76% “
“ “	14.70	4.50% “
“ “	14.50	5.30% “
“ “	13.80	9.40% “
“ “	13.20	2.55% “
“ “	13.30	3.88% “
Maines, E. L., <i>JOUR. A. PH. A.</i> , Vol. 3, p. 424.		
Cannabis, African.....	18.80	
“ India.....	14.00 to 20.80	
LaWall, C. H., <i>PROCEEDINGS A. PH. A.</i> , Vol. 58, p. 751.		
Cannabis Indica.....	24.00, 18.04, 14.80, 9.60	
Digest of Comments on U. S. P. & N. F.		
1906—Roder, P.—Indian Cannabis.....	13.94	
1907— “ “ “ “	16.68—4 samples,	12.56 to 14.77
1909—Evans Sons Lescher & Webb, report one sample yielding.....	16.44	
1912—Riedel, J. D.* Cannabis, total ash.....	6.0 to 7.1 : acid insol.	2.4
Nitardy, F. W., “U. S. P. Bul. Sub-Comm. No. 5,” p. 27.... 12.0, 14.7		
*Probably seed.		

The use of American Cannabis has developed within the last few years. The above quoted results are almost entirely on the imported drug. Manufacturers report at this time that the American drug has almost entirely replaced the imported article. The results of this work seem to make it advisable that an acid-insoluble ash standard be adopted for Cannabis. Probably 4 or 4.5 percent would be satisfactory. The present standard of not more than 10 percent of fruits, seeds and other organic foreign matter should be retained and made more stringent, if conditions will permit.

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THE SIGNIFICANCE OF EDUCATION.*

BY WILLIAM H. CARPENTER,¹ PH.D.

In making any definition of education, or in attempting any predication of its purpose and results, we must, of course, at the beginning fully recognize the fact that in the life of the professional man, the lawyer, the physician, or the pharmacist, there are two elements involved, his education in his profession, on the one side, and his liberal education, on the other, or what we might properly call, at least from a certain standpoint, his special and his general education. My contention

* Parts of an address delivered at the Centennial Exercises of the Philadelphia College of Pharmacy and Science, June 14, 1921. Reprinted from *American Journal of Pharmacy*, August 1921.

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is that not for a moment is there any actual line of demarcation between the two. They are like two states of matter in flux that flow into each other until the whole is permeated by both and a new compound is formed that partakes of the nature of both elements, but yet in the end is neither. The lines of a professional education at the present time in its narrow sense of a special training for the practice of some one of its many phases are as a general thing well laid down, and the professional schools of the country of the best sort are more adequate in their equipment of men and methods and more reasonably sure of the competency of their professional product to understand and to cope with the problems of practice than ever before in our history. This is, however, but one part of the problem of education, for a man, and we must now be careful to say, in her share in the practice of the professions, a woman, who is trained in a profession alone, and no matter what that particular profession may be, is only half educated, for another half essentially important has been neglected. I should greatly doubt, however, when all is said, that any one of the good professional schools now walks consciously into such a slough of despond as to make its courses of instruction purely professional and nothing else, or at least does not base its professional training as a climax of formal education upon a basis of general culture. There are, nevertheless, from the very nature of the case, temptations to do so that must be borne in mind in the organization and conduct of every professional school, whether pharmacy, law, or medicine, or any other, that must be counteracted and discouraged. There is an insistent demand in an age that is distinctly materialistic for material results, and, in the characteristic hurry of the time, for their rapid production, and the young men and young women who are to go out into the world in the practice of a profession for themselves are confronted with a period of preparation, if care is not taken, too prolonged in age and expense to make it possible of accomplishment. These are real difficulties that confront every professional school in the proper carrying out of a scheme of education, and yet they must be rationally met or else that school has only half done its duty to those whom it has stamped with its approval at the end of its teaching. It may be true that the school in question has prepared its graduates to make a living, which, to be sure, is one of the ends of existence and a very important end indeed, since a good deal depends upon it for the part you play or even whether you are alive or dead, but in the more perfect equipment for life, and that is what we are considering, the fact of merely being able to make a living, although it is essential to most of us, or the acquisition of wealth which is but its sublimation, is but one element and not the only one in the whole plan of existence, for the end of all real education is not to make a living, but to live!

And what about this other half in a scheme of education, concerning which we have been talking with such confidence as an element of human life? A wise man has said that "the aim of education is the knowledge not of facts, but of values," in the sense that "values are facts apprehended in their relation to each other, and to ourselves." The matter could not have been better stated, for it is certain that the mere accumulation of facts, whatsoever kind they may be, does not constitute an education, or knowledge of them an educated man. It plays no part to you or to me as a criterion of education, as it is sometimes made to appear, whether

we know any part or all of a long list of what is, after all, but the uncorrelated material of education, and not the thing itself in its relationships and its proper adjustments into a body of knowledge which shall constitute a cultural whole. A man may have read through the whole *Encyclopedia Britannica* and have remembered its facts, and yet have failed wholly in securing an education in any real sense. Facts are no doubt the basis in essential ways of education. This is particularly true of the strictly professional part of education, where of necessity facts are the very bricks and mortar on which the superstructure of professional knowledge is built, but this presupposes no heterogeneous collection of the odds and ends of knowledge, but of the evaluation of the many facts with which a profession is necessarily concerned in their relation to each other and their fusion together into a connected product of immensely increased importance because of its cumulative force.

As to the true content of what is usually called a liberal education, although only too often it is illiberal in nature and amount, I again hold no specific brief. I have, however, a very definite opinion of what should constitute in the end that education which it is desirable to attain in order to give it its true significance in a scheme of living. Herbert Spencer's famous definition of biological life, "The continuous adjustment of internal relations to external relations," is much more widely applicable than to the mere functional existence of the body, for it applies alike to the mind and soul of man, and it is the great and transcendent purpose of a true education to awaken the mind and soul and to bring them into harmony and adjustment with the conditions of life.

Education, then, is not mere instruction in the subjects of the school or college curriculum, whatever they may be, science, the classics, mathematics, literature, or history. These in proper balance are no doubt, in some measure or other, the legitimate means to an end, but they are that only in their proper function as factors in a combined result more important than any one of them. And just where the emphasis in subject instruction should lie I do not know, and the schoolmen themselves who are most directly concerned with this phase of formal education are by no means agreed as to what the ultimate worth to a trained mind this or that subject should be. The field is so broad that it is only possible to delimit and choose, but the choice need not necessarily be in every instance the same, and doubtless at the best, and whatever has been chosen, it will only partially accomplish its object. I am not like the Scotchman of ancient memory who was open to conviction, but would like to see the man who could convince him, or the man who liked any color so long as it was red. My own preference would be the classics, for I am old-fashioned, a science, because I believe in the new, English language and literature, a modicum of mathematics and a good deal of history, but I am open to conviction that that is not the only way to state the case, and that under the special circumstances at hand other subjects, in other proportions, might be selected as well.

The end, however, of a formal education is clear. It is so to train the mind and the soul that there shall be a foundation at least of the true appreciation of the values of the things of life. No one is, of course, educated in school or college,

for education never ceases, now or at any time, in the normal existence of the individual. The student in the story that I have always considered somewhat apocryphal who rushed out of his college Commencement waving his diploma in the air and shouting : "Thank God, I am educated!" was entirely too sanguine of the actual result that had been attained even by a college course. The story does not tell of his future history, but I greatly fear that it was one of disillusionment, for he surely must soon have realized that he was only at the beginning and not the end of an unceasing quest.

It is the province of education to point out the direction of the quest for knowledge and for the truth that ages ago it was said "shall make you free"—free to discriminate between the true and the false wherever they may appear, in the narrower ethics of the practice of a particular profession as well as in the broader affairs of civic and national life; free to discover and to understand the false claims of charlatanism in all phases of life and in whatsoever guise, or disguise, they may clothe themselves for the befoolment of the crowd; free to value at their real worth the passing fads and foibles of the moment that are but the froth borne along on the top of the wave that presently will recede and leave the wider surface unruffled as before; in other words, free to recognize that truth, and truth only, is eternal, and that all else sooner or later in God's good time disappears wholly from the sight of men, that it ultimately vanishes—an intangible shadow without substance or reality—back into the infinite space from which it momentarily has emerged and is forgotten!

There has been no greater need at any time of the educated man, and no time like the present time to keep these things in mind. I have always remembered a phrase used by President Butler in the address delivered at the Columbia Commencement of 1917. At that time, the Great War was still in its throes of death and destruction, but it was pointed out by the speaker that the world was more than a world at war, it was a world in ferment. What he meant was that the political and social conditions that always follow in the wake of war, and as a consequence of it, were like the chemical decomposition of an organic compound, and veritably were in a state of fermentation.

What was said then in the midst of the mighty struggle that was still going on is unfortunately as true to-day as upon the day on which it was spoken. The world is still in ferment. Old standards of conduct have been obscured, and sometimes forgotten. Old ideas of duty have apparently been laid aside. Old traditions of righteousness have been displaced in high places. New ideas of individualism and self-determination have swept away the multitude, and a new world, in many respects unlike the old, has taken its place. In spite, however, of all that is new and disturbing in conditions of the present which have followed as a natural consequence the destructive forces of the war, destructive to human conditions as well as to human life, there are still in the new world that has come about the same fundamental standards of life and living. Whatever has been instilled and whatever has been lost, there are still as deeply entrenched as ever the eternal verities that are the basis of human action. Truth may be obscured, but it is not destroyed; honesty may be in eclipse, but it is only hidden; personal conduct that

controls the souls of men remains as it ever was, the fundamental fact of human and social existence. However much things seem to be in disorder and standards appear to be destroyed, at the bottom there is still the same basis of human action—action *as* an individual in living his own life for himself, action *in* the individual as he is a constituent and component part of the nation in which he lives. However the world may change, and however it has changed within your memory and mine, this is the fact that must remain still firmly fixed in our minds, that the old rules of conduct in the things of the mind and the soul are still always as they have been, and that these new conditions that confront us are often but the froth of the ferment, and the real, the fundamental facts of existence still remain, and will always remain the same. Life, as we have said, is infinitely more than organic existence. The life of all who are living to-day to enter into its fullest appreciation is not only the life of the body, but it is the life of the soul of man with its aspirations, its longings for results, its sacrifices and its achievements, and the men and women who go out into this new world from the professional schools to take their place in it should be equipped not only with a knowledge of the profession which they may have chosen for their own, but equipped also, as I think, with a knowledge of the value of the things of life to themselves as individuals, as I have tried to state it, and to the society in which they are to live and to act as its responsible members, and it should not be forgotten that these fundamental things that I have called to mind are the real conditions of a rational existence.

An individualism that thinks only of self and a determination that has only self for its object is, however, but half of the duty of man. A thought of self is necessary for self-preservation as a fundamental fact of existence, but the mind that stops there has only realized a part of the supreme significance of life, which not merely takes account of the individual to himself, but also in a broad and enlightened spirit makes him to himself a constituent and militant part of his environment and of his place in human society. In the background of it all is still, of course, the professional calling of the individual. A great philosopher, Francis Bacon, three centuries back expressed this matter in terms that cannot be better stated today: "I hold every man a debtor to his profession, from the which, as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves . . . to be a help and ornament thereunto." There can be, however, no thought to live for it alone, because, in the end, it is only one of the manifold parts of life.

A real education is more than a special equipment in any single direction of human energy, and its intention is to unfold to its highest potentiality the nature of man. The best definition that I have ever read of the true significance of such an education to the man who wears it as his crown of accomplishment is that contained in Huxley's "Essays," from which I copied it many years ago and have kept in sight as a precious possession. It is only a part of a longer statement of the position of man in the universe and his relation to it, but it bears directly on the present case, and this is what he says:

"That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure

all the work that as a mechanism it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength, and in smooth, working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself."

AS OTHERS SEE US.*

BY L. E. SAYRE.

It is sometimes quite profitable for one to look at himself as others see him. Like Dr. Jekyll and Mr. Hyde we are said to have two natures, and it is always pleasant if the observer sees the bright side. No matter, we get a better perspective of ourselves even if the focus is concentrated upon the cloudy side of our personality. It is the same with institutions as with individuals.

Our institution, I mean the American Pharmaceutical Association, has its outside and inside critics, who see us from a different angle from that of many others who are equally interested in the development of the Association.

Some of our critics who are prone to emphasize what they consider faults, characterized as lack of commercial interest, be it said have as much at heart the interest and growth of pharmacy as those who see no occasion to do otherwise than focus their attention upon what they consider the professional and altruistic side, believing that this policy leads to that kind of progress for which the Association stands and that commercial faults, if any, are sure to take care of themselves. Professional pharmacy claims the support and patronage of the commercial group of the vocation. The professional side of any vocation is more difficult to sustain than the commercial side. This will, perhaps, be conceded. Institutions, like individuals, are inclined to be materialistic. Commercialism in pharmacy is a sturdy and vigorous wrestler, while professionalism, in its very nature, is directly the very opposite. It seems to claim the right of calling, in time of need, for the help of the sturdy commercialist. Indeed commercialism and professionalism are so interdependent in pharmacy that one cannot well do without the other.

These prefatory remarks are made to pave the way for what the writer may be permitted to say in regard to that which he feels should be said at this period—a critical period—in the life of our Association. It seems to him that the Association has come to a time when more attention should be manifested by others than those who are now carrying the burden, in what is termed professional pharmacy—this being the selected field for this organization. Looking toward the future it seems that the younger and newer element, which, fortunately, is rapidly growing, should enter upon a vigorous campaign of patronage and support of this aim and purpose. While the membership includes all branches and phases of pharmacy, the various groups are tacitly, at least, advocates and defenders

* Read before Section on Education and Legislation, A. Ph. A., New Orleans meeting, 1921.