

the preparation of rare and difficult organic chemicals has brought about the establishment of a source of supply of organic reagents for research in colleges and universities and for industrial purposes. This was met by an industrial establishment<sup>2</sup> which set apart a separate section of its laboratory for this purpose.

It seems to me that the present emergency is still more urgent. A tremendous amount of time is lost by the chemist in looking through the literature in the libraries for the details of preparation and properties of known organic compounds. Beilstein's "Handbuch" is a compilation of all the organic chemicals existing at the time of its publication. The need of available sets of this standard work of reference is self evident.

To quote the editorial in part:

We would suggest and urge a reprinting of Beilstein under conditions which would make it available quickly to all organic chemists. To do this through the ordinary process of linotyping and proof-reading would be impracticable because of the present shortage of labor and the lack of knowledge of German on the part of linotypists and proof-readers accustomed to chemical literature. Fortunately, photographic methods are available, requiring a minimum of labor and insuring speed and absolute accuracy of reproduction.

To make the proposition definite we have obtained prices for zinc etchings from one of the largest engraving houses of New York City. For the 11,126 pages of Beilstein the cost of zinc etchings at standard prices would be \$30,040.20. For paper and press work (calculating on the quality of paper and charges for press work in publishing this journal), \$6,119.30 would be required for one thousand sets, making a total of \$36,159.50. Allowing for constantly advancing prices, and for royalty charges, \$40,000 should safely cover the entire costs, not including binding, of course.

Do we feel any qualms of patriotic conscience about such a reproduction? Well, we should worry! Germans are daily profiting in the conduct of the war through the utilization of American inventions, the submarine, the telegraph, the telephone, the machine gun and what not. Let some one donate \$30,000 and let the sets be sold at \$10 each (the ordinary cost is \$100) so that every or-

<sup>2</sup> SCIENCE, N. S., Vol. XLVII., pp. 91-92.

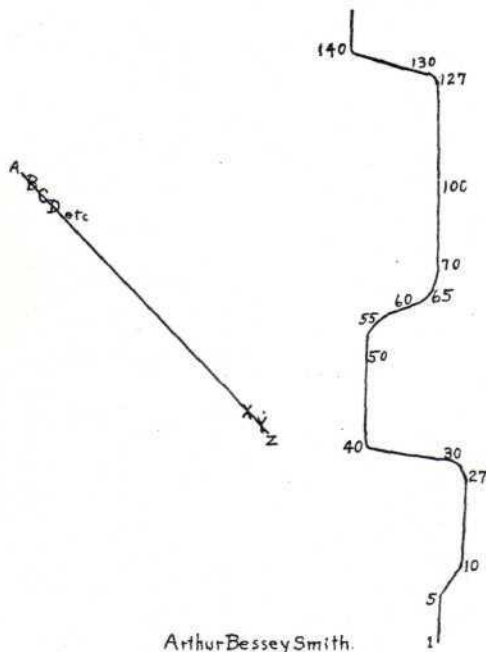
ganic chemist could have one right at his hand, then—let the Germans worry.

A donation for this worthy cause would be a lasting memorial to any man, and would place him among the great benefactors to the science of chemistry. Who is the philanthropist that will *immediately* set the zinc to etching?

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#### COLOR ASSOCIATION

TO THE EDITOR OF SCIENCE: The letter from David Starr Jordan<sup>1</sup> called to my attention a fact which I did not know before. On mentioning it to my laboratory assistant, Mr. Herbert Edward Clapham, he said that he, too,



Arthur Bessey Smith.

associated colors with the letters of the alphabet, but not with all, and that figures were also associated with colors. At my request he wrote out the following list.

A gray	O black	1 white
B light red	P brown	2 red
C black	Q — — —	3 light red
D pink	R — — —	4 gray

<sup>1</sup> SCIENCE, September 28, 1917, pp. 311-312.

E scarlet	S white	5 white
F pink	T red	6 white
G — — —	U golden brown	7 golden
H yellow	V gray	8 brown
I white	W — — —	9 red
J white	X — — —	0 black
K — — —	Y white	
L — — —	Z red	
M olive green		
N olive green		

Although I have never associated colors with letters or figures, from my earliest recollection I have always thought of letters and of figures arranged in the relative positions shown on page 395. The origin of this I do not know. It might have been something in the presentation of these things by my first teacher, or the manner in which little wooden sticks were laid out on my desk in the first number work. These little sticks, each about 3 mm. in diameter and 20 mm. long, had been split out of pine for me by my father. Occasionally I used to chew up one of them, because it tasted sweet.

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#### QUOTATIONS

##### WAR AND ENGINEERING EDUCATION

LAST week some 500 colleges opened their doors to receive some 150,000 students. These young men were inducted into the Students' Army Training Corps and have thus become candidates for commissions in the army. The part of the engineering colleges will be to train men especially for the Engineer Corps, the Signal Corps and the Chemical Warfare Service, and it may be noted with pardonable pride that the training previously given in engineering is considered the best preparation for these branches of the service. Under the new regime, however, the maximum time allowed for the full engineering course is two years, including work in the summer quarters, and the further training of men with advanced standing will be curtailed accordingly. Each college will be expected to outline its courses much on its own initiative, especially for men who have already spent a year or more in that institution.

At this stage of the development of engi-

neering education for war we are reminded of the work done by teachers in the engineering colleges beginning a year ago last May, when they were asked on about two weeks' notice to prepare to receive men for training in military aeronautics. While the lecture material and laboratory apparatus were collected and arranged under difficult circumstances, the officers in responsible charge in Washington were enabled to choose the best methods developed in the six different schools and thus quickly arrange a satisfactory training course. It is to be hoped, however, that the engineering colleges will not follow in the footsteps of the aviation schools in at least two respects. It seems undesirable to put civilian instructors in uniform and certainly a mistake to have them decorated with brevet officers' bars. An instructor with any character should have no trouble in gaining the respect of his classes in this serious undertaking. Again, in the matter of standardization we trust the engineering colleges will not make animated phonographs of their teachers.

It is quite evident that the War Department has outlined an excellent device for producing a high grade of men to lead the army. Those who are left behind in their college work are transferred to army cantonments, while those who complete their college courses with credit are sent to officers' training camps and there must prove their ability to handle men before they receive commissions. Only the most capable men will survive such tests.

While we are thus assured that the primary purpose of developing a high class of officers will be attained, it is interesting to speculate upon the effect of this intensive training on engineering education. Much of the preliminary work in mathematics, languages and science will be eliminated or curtailed, and we shall have an opportunity to view the results of this system of education, provided that the war lasts several years. On the one hand, it is doubtful if these men will have the training which will probably be required for meeting the tremendous problems of reconstruction. It would seem desirable, therefore, to encourage them to complete their engineering prepara-