

## TECHNOLOGY NEWS

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### Curriculum—

As expressed on a previous occasion in these columns the managing board is of the opinion that many compulsory courses exist at Armour more from the stigma of tradition than from necessity or desirability. It is our belief that a fundamental change is necessary in the curriculum with a view to increasing pure science courses and permitting greater freedom in a program selection. Courses as shop, for example, which treat only of particular methods or operations rather than with principles should be minimized.

We propose to show:

1. If the change we advocate is supported by engineers and teachers and substantiated in industry, then we are justified and have a right to present it.
2. That the change is substantiated.
3. What this will mean for Armour.

Student Criticism of the curriculum often fails at the outset simply on the right to present comment, the argument supporting refusal inevitably maintaining that the incompetence, in experience and position of the student fail to qualify him as an unbiased judge. Such statements unquestionably lead to suppression of criticism in general, and the retardation of curriculum change, regardless of urgency or necessity. The argument against student comment fails in that good criticism, along with bad, is condemned. Since constructive comment is desirable, who, providing their proposals are founded on sound principles are better justified to comment than students—who after all are affected by the whole business?

### Pure Science—

Pure Science courses should be considered the basis of the curriculum for the following reasons:

- a. Basic science, more difficult to learn than the manipulative techniques, should be concentrated on while the faculty can help.
- b. The most economical expenditure of student time will be effected by a concentrating on the things which colleges can do best, namely, the teaching of fundamentals. Industry with its greater financial facilities can best handle special techniques and applications of fundamentals.
- c. Colleges should not attempt to compete with industry in any of their training. Duplication is heinous. Industry, has emphasized over and over and over again in the S.P.E.E. and engineers' journals that they will teach special techniques and want colleges to teach fundamentals.
- d. Finally, we present what one of the largest industries in the world says through its engineers—those actually in engineering. From the A.S.M.E. Journal, April, 1937, Mr. C. J. Freund from Detroit University summarizes the results of an engineering education survey—submitted to engineering leaders in the automobile industry. Each of several topics is treated distinctly, and we select one, treating it completely, thus eliminating danger of quoting out of context.

To the vice-presidents and officers in charge of engineering at Pontiac, Chrysler, GM Corporation, Chevrolet, Graham Paige, Packard, Cadillac and Ford, the question—"Which college studies do you now find useful in your work"—was submitted. These men in turn referred the question to the 199 leading men in their departments. In an overwhelming majority the men responded. Only those subjects receiving several votes were eliminated. The tabulation is:

### College Studies that 199 Automobile Engineers Consider Useful in Their Work

Mathematics .....	98
Physics .....	58
Mechanics .....	54
Engin. Design .....	31
English .....	22
Drawing .....	20
St. of Materia. ....	19
Chemistry .....	18
Elec. Eng. Courses .....	13
Mech. Eng. Courses .....	12
Shop Prac. ....	12
Thermo-Dynamics .....	11

The sweeping response accorded pure science subjects substantiates beyond all question our position. Interpretation is unnecessary. Facts tell a story more powerfully than any comment.

### Program Selection—

We believe a division of the engineering curriculum should be effected into several topics and the existence of each major topic as a minor in each of the other majors. By greater program selection we mean the freedom of the student to select, if he so desires and is capable, one of the majors and with it the corresponding minor. For example in electrical engineering, the division would be into power and communications. Power would be a major of its own with communications as a minor and conversely. The student would make his choice as to either branch, with the qualification that should any uncertainty exist as to his ability or liking, he be given the standard course similar to the one now existing.

This would be a desirable scheme for the following reasons:

- a. If college courses in engineering are fundamental the really basic principles of mathematics and physics are common throughout, and if the particular major represents the particular interest of the student he will learn more effectively because of a genuine rather than artificial interest.
- b. The argument that students risk their futures in taking a given field of study with the fear that subsequent employment will not be in that field, does not hold water. The acquiring of deep fundamental knowledge can hardly be considered a risky procedure. Such knowledge will inevitably be useful, if for nothing else, as a guide in acquiring rapidly a corresponding knowledge in any field of endeavor.
- c. Finally, while we do not justify our position by that existing in liberal arts colleges, it is nevertheless true that educators have considered the method of majors and minors worth while over a period of years and from all appearances will continue to do so.

Our proposals are not new, the application is new but the idea is basic and fundamental.

J.C.A.

## Don't Wait! Call Her Up NOW GET THAT DATE FOR THE SENIOR INFORMAL

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- Lou Breese and His Band
- The Drake, December 20, 1.75

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 Fresh Fruit Flavors At All Times

1 second = 1 3/4 years  
 Q.E.D.

## What kind of Math do you call this?

It sounds crazy—but let's see how it would be perfectly possible in the telephone business. Suppose an improved method is devised that clips just one second from the time required to handle one toll ticket in the accounting department. Apply this method throughout the Bell System—handling an average of some 55,000,000 toll tickets each month—and it would effect a monthly saving of nearly 1 3/4 year!

A second saved here, an unnecessary step cut out there—on such close attention to "little" things rests the Bell System's ability to provide the finest, fastest, cheapest telephone service in the world.

Why not telephone home often?  
 Long Distance rates to most  
 points are lowest any night after  
 7 P. M. and all day Sunday.