

By EUGENE WORCESTER

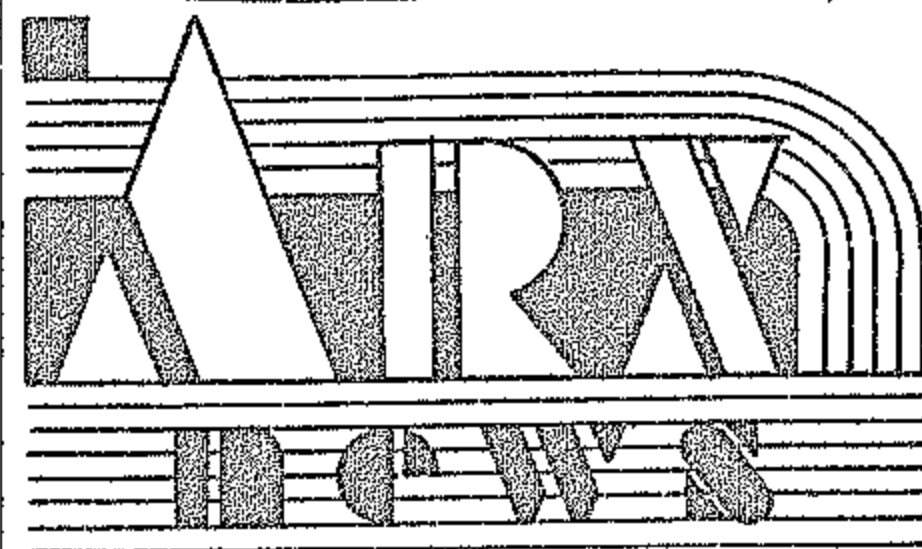
THE AMERICAN railroads evaluate themselves to the extent of upwards of twenty-six billion dollars. They represent perhaps, the greatest single investment in the country. Their equity is held greatly by insurance and banking firms which are in turn owned by individuals. They employ over a million people and pay wages amounting to almost two billion annually. Yet this colossus of industry is in an economically unhealthy condition. Burdened with extremely high fixed and operating costs, depreciation and competition further add to the railway's problem of trying to make ends meet. It were well to state that not all railroads are in the same bad condition; a few are making good profits, but on the whole their condition is weak.

SEVERAL SIGNIFICANT factors are contributory to the present predicament facing the nation's railroad executives. First, the low business level and contingent decreased volume of production has reduced the transportation demand. This factor is applicable to most every industry. With less production, there is less goods to transport. Further, with the immense drop in exports and imports there is little demand for the railroad and its facilities at the nation's wharves. A decade or two ago, when the railroads had a virtual monopoly of transportation facilities, their high rates forced the decentralization of large industries into district plants to cut down the price of the delivered product, of which the manufacturer felt too great a part included transit costs. This movement in industry greatly lessened the former transportable volume of produce and the number of railroad miles over which it was formerly carried.

THE INCREASED use of oil and gas instead of coal, and the transportation of both by pipe lines between the field and the consumer has left a large number of oil tank cars to rust in freight yards. It is more economical today for the manufacturer to distribute from district factories with trucking facilities than to operate from a large base and pay high railroad rates on long distance hauling. The tax, pension, and interest burden is of no small magnitude in the railroad budget either.

WHAT THEN can the railroads do to restore themselves to a financially healthier condition? One plan suggested, but presently abandoned due to union pressure and the report of the Federal Fact-Finding Board, is to cut all wages fifteen percent. The fixed costs of railroads are high. The army of executives and experts, operators and maintenance men which they employ, draws a large bi-weekly pay check. The capital frozen in equipment and property is tremendous. Undoubtedly, a 15% wage slice would reduce operating costs, but it would reduce the spending and purchasing power of a million families equally. Incidentally, \$1700 a year, the average railroad employee's salary, is far below the income quoted by Washington's experts as that necessary for a comfortable and normal being. The railroad brotherhoods threaten striking in the event of recourse to this policy, although their actually doing so is unlikely.

ANOTHER SURE aid would be an increase in business handled by the railroads. But how, is the question. The railroads are now operating far below their point of diminishing returns. Every extra car loaded is an added profit to them. Their lines and operators could handle considerably more traffic with little added effort or expenditure. An empty train is just as expensive to move as a loaded one, while road beds depreciate as quickly when not in use as when trains operate over them. A question of economics then arises as to whether an increased volume at a reduced rate of carriage would yield a greater income and consequent profit, than the present smaller volume at high freight rates. A drastic freight rate slash would win back much of the trade lost to trucking, but the return per loaded car would, of course, be less. One can't both have his cake and eat it. This principle might be applied to pas-



Big news of last week was the annual initiation of frosh into that great fraternal body, the Armour Architectural Society. 'Twas a gala occasion, just like all of the other Arx social events—we like ourselves, anyway, eh Arx?

Firstly, there was a sketch competition, which was very neatly done with juniors and sophs giving the sketches that certain umph! . . . Blue-stein took off his pants and put on a very fancy red skirt under the gaze of a fellow female frosh. Stares proceeded to take his pants off in front of the same female Arx and when informed jumped backwards and away. . . . Big-shot Salzman took over the meeting when all ye Arx were outside. . . . Wheel-barrow race was very interesting, wasn't it, frosh? . . . Biedermann's team won. . . . The frosh practiced up on their swinging, Piper was some flat foot floggie; Bluestein in his skirt cut quite a figure with the boys. . . . The boys were very nimble in fountain jumping, succeeding in splashing onlookers. . . . Crowds on State Street were fascinated by the frosh's doings. . . . The paper rolling feat was very interesting and to look at the countenances of the citizens, I could see that this was their high spot of the day. Many a weary soul was, I suppose, spirited and able to carry on as a result of seeing our merriment. . . . At the banquet the sketches were given critics by some sophs in the best facetious manner. . . . Biedermann was Mr. van der Rohe; Miller, Rodgers (he says: "no"); Mann, Dornbusch (very good except . . . the isometric doesn't show construction); Stowell, Mell (well, son); Pointek, Hilbersheimer; Alschuler, Peterhans; Blum, Harper; Salzman, Kreihbiel. . . . It was the high spot of the entire banquet. . . . Speyer was presented his prize in the Scarab sketch competition. . . . He was asked to say a word by Rea; he was very gracious and said four words: "Thank you very much!" . . . One of the profs began his speech: "I don't know I think!" is zat so? . . . Toastmaster Mandel read a list of the new Scarab program of their activities for the mutual benefit of the entire student body of Arx. . . . Singing and beer topped the banquet off.

Overheard: "Who called that shoe-leather a steak; why insult the cows, they have enough to worry about." BOZ-ARTS.

senger rates as well, where bus lines and now the airplane are dividing the profits.

THE THEORIST offers a broad reorganization plan whereby all the railroads would be consolidated, and under Federal jurisdiction and management, somewhat as they were during the war, and would be in the event of another war (which we all hope will not present itself). A plan would, of necessity, needs be devised to equally distribute the equity of the consolidated roads among the present bond and stockholders of the individual roads. Excess roadbeds between terminals would be retired, thus reducing the reader's overhead now plaguing competing companies between cities where one road bed would suffice. Chicago and St. Louis make an excellent example. Trains would not run empty one way and half empty on return. Old employees would be at once retired and supported with a pension from federal funds. Rates would be stabilized and equalized. Such a plan as this is outright socialization of the railroads. There are objectors to this plan and they have numerous supporters in the banking and insurance interests.

THE RAILROAD problem is a very present and great one, and whether the government intends to subsidize them with a very low rate loan of a billion or two, is still to be seen. No doubt, an increase in business activity and an advisable rate reduction price policy by agreement of the unions and the railroads, will offer a temporary easement to the situation.

Vagtborg Journeys To Eastern Cities; Visits Many Firms

Carrying its members throughout the country during the past month, the business and activities of the Research Foundation show clearly the nation-wide scope of its contacts. The east and middle west have figured most prominently in the dealings of the Foundation, but concerns as far west as California have shown a desire to become associated with it.

Confers with Mellon Institute

A good deal of the traveling has been done by Mr. Vagtborg, who in consulting with firms, attending conferences, and visiting various schools and institutes has gone to New York, Pittsburgh, Columbus and Detroit within the last month. The New York trip concerned a possible new subscriber, the Continental Carbon Company. The problem of where to obtain new personnel of a caliber high enough to meet the demands of the long term projects to be conducted, led him to Pittsburgh where he conferred with the Mellon Institute of Industrial Research, a contemporary organization which has been doing research work for twenty-five years, and with Carnegie Tech. From there he went to Columbus, Ohio, where a similar discussion took place with the Batelle Memorial Institute and Ohio State University.

In Detroit Mr. Vagtborg attended a meeting of the American Engineering Council which was conducting a forum on "Research Inventions and the Engineer." The purpose of this gathering was to get the views of engineers, research men, and patent attorneys on the proposed changes in the patent laws and to give these views to the government as an opinion on the matter.

Peebles Attends A.S.T.M.

Mr. Peebles, head of the insulation laboratories of the Foundation, is going east to Pittsburgh next week to attend a meeting of the insulation committee of the American Society for Testing Materials at the Mellon Institute. Dr. Jakob, heat transfer laboratory head, goes to Lafayette, Ind., on Nov. 31 and Dec. 1 to give a series of special lectures to the faculty and students of Purdue.

Dr. Poulter talked before a large audience of W.S.E. members on the subject of "Research In Extreme Pressures." He explained the results and problems connected with the work and described the experiments he has performed.

A.I.E.E. Visits Wisconsin Steel Company On Inspection Trip; Examine Controls

Last Friday, Mr. J. H. Miller of the Wisconsin Steel Company delivered an address to the A.I.E.E. in preparation for the inspection trip in the afternoon. Equipped with complete blue prints of the mill, Mr. Miller was able to give the electricals a good idea of the layout of the plant. He also discussed the engineering problems of the rolling mills and their solutions at the Wisconsin plant.

The inspection trip in the afternoon was attended by practically all of the junior and senior electricals. The faculty was represented by Dr. Reed. The trip started promptly at 1:30 and lasted almost four hours.

Techawks were first shown through the coking plant where Pennsylvania coal is converted into blast furnace coke. The by-product recovery plant was the next subject of interest. Even the calloused electricals then admitted there were some points to chemistry.

The blast furnaces were then shown the visitors. At this point some senior found a "constant torque" motor and proceeded to mystify the more ignorant members of the electrical class with a discussion of this piece of machinery.

A blooming and rolling mill proved to be the most interesting part of the trip. The 3000 k.w. motors and their crackling relay racks made all gasp in astonishment. The payoff came when the large motors were brought up to full speed and then reversed in a few seconds. These motors were used in the plant to drive the rollers which move three to five ton ingots down the mill.

The last half of the group was treated to a special show when a two-ton, \$1500 roller broke. The half hour necessary for repairing the damage was well spent in examining the mill.

Harvester Co. Shows Deisel Film to Mechs

Following a short business meeting last Friday at 10:30 in Science Hall, a three reel movie was shown to the A.S.M.E. The movie, loaned by the International Harvester Co., was composed of the following parts: the first, "Earth Moving" depicted man's struggle against the forces of nature in moving earth from place to place. It dealt chiefly with the difficulties encountered in road building and the hazards overcome in land leveling. Before a road is built the land must be cleared and leveled. Powerful tractors are used to clear a path through wood, across plains, and over hills and mountains. The road bed itself is leveled off and the excess dirt and rock is carried away in large trucks.

The second part, "Profitable Power" showed how power may be used to lighten man's burden. The chief means of power were Diesel engines. Some of the things for which they were used were, running amusement units, refrigeration units, for purveying water for irrigation purposes, and for propelling boats and locomotives.

The third reel, "Power for Oil Wells," was the story of the source of modern heat, light, and power. It showed the work which must be done in order to obtain oil. First of all, the land must be cleared and slush pits must be dug. Then the shaft for the well must be drilled through hundreds of feet of limestone and bed rock before reaching the oil. Finally, the well is "blown" and the oil is ready to be pumped.

The oil is pumped from the wells and is shipped across the continent in pipe lines which are buried beneath the surface of the earth. The trenches for these pipe lines are dug by various earth moving machines. Most of the machines used for furnishing this power are run by Diesel engines and are an economical means of accomplishing wonders.

Before the movie was shown, president P. F. Henriksen announced that a smoker was being arranged by the juniors. "This smoker," he said, "will take place before the holidays, as is the custom for the A.S.M.E." A call was made for student speakers, and any one who is interested in presenting a short talk should make arrangements with H. C. Soukup.

The inspection trip to the Hot-Point Co. last Thursday was attended by thirty seniors.

Stoopbrain Super-Stars in Opera and Auto Show; Praises Curves of Models

By ART HANSEN

Deer Sally,

Happy Halfwit, eminent goon, wonce asked of Apellia Core, a like ditto, quote—who wuz that tunnel I saw yew withe laste nite?" "That wuz know tunnel," shea replied, "that wuz my husband—he's a bore."

Wel, the ougho show waz las weak and I had a gud time thiz yeer az I did laste yeer. I stil remember those graceful bodies withe well-rounded curves, shining lamps, swel paint jobs and surging power of—those gals hoo demonstrated at sum of the exhibits. They were keen, and thee knew models thiz yeer ought to bea keener—the cars I mean. Sumthing knew thiz yeer iz overdrive and drive over. I think that the overdrive iz on the cars, because the girls owr the wons that say—"drive over and sea me sumtime. Brink the Cadillaccraz." There new hairdress iz shure crazy—on the womins haid, I refer to. Anyway, its awl crazy—but nice work if yew can get it.

Wel, withe the long awaited Student Union almost completed, the lunch rume wil bea shifted from itz skyscraper Blue Rume down to the lower level of the Ynion building. I hope their policy iz slightly altered, because I heerd sum fellows muttering that wonce a toasted cheeze sandwich had cheeze in it, but now—Also, the phrase "tissue-thin" originated in the Armore Tech lunch-rume wear it iz incorporated in its policy. Another fellow exclaimed that the milk muste hav just cum from the cow, it wuz stil warm. Another sed that hea wished they wuld just put labels on the tee and cofee spouts, so hea could tel wich wuz wich, but that it didn't recily matter

az hea culdn't tel won frum another anyhow. Wel, wea live and . . . The championship skool touchball team is going tew play the U. of Chicago champs—but I sugest they play their regular football team. The Armore touchbawl team blocks and passes. So do the Chicago Maroons. The Armore team scores. So does Chicago. Armore wins games. But Chicago ?!?!?

Wel, deer little wild mountain rose, Thanksgiving wil sune bea hear—next weak in fact. Wonce agin wea honor our forefathers, giv thanks fore owr blessings of the past yeer, and as usual, stuff owrselves withe stuff. Tew bad thousands of innocent little turkeys muste bea slaughtered. And ducks, and geese. Gosh, geeses owr funny little animals. Reminds mea of the olde days wen I used tew goa hunting withe yew and Ethebelda. Wat a sweet girl shea wuz. She reminds mea of that poem—"A woodland dell, a maiden bare; no wonder Old Sol likes to glare, unquote. However, moste womin are more like—"Ashes to ashes, dust tew dust; If it weren't for paint, womin wuld rust."

Among other things, my latest fad iz super-ing at the opera. They cawl us supers cause wea are super, I guess. The other nite I wuz on stage at the Chicago Civic Opera. Suddenly, the whole house started to applaud. And then darned if sum guy naymed Torrence Bibbett didn't stand in front of mea and start to sing. Of course the audience realized my excellent performance and although I wuz hidden by thiz guy they continued to clap. (Hm-m, kum tew think of it, those Philadelphia balley danzers weren't bad).

Wel, must close, Yures, Stoopbrain Bliss.

Opening of 'Journey's End' Announced for January 6

Final date for the production of *Journey's End* has been set for January 6 by M. G. Christopherson, director of the Armour Players. Since the play has a running time of two hours it will be presented in the evening, rather than at 10:30, Friday, as were productions of the past. Tickets will go on sale at a moderate price, following the Thanksgiving vacation.

The dramatists were fortunately able to cast characters to type and also obtain many good actors. Several men cast in leading roles are new to the stage of Armour and are showing their merit at the many rehearsals that have been held.

While the acting end is progressing very rapidly, stage construction has been delayed since the stage is not available as yet. Most of the work in this direction has been done in the way of collecting properties and discussing layouts.

LECTURES—

(Continued from page one)

general determinants. The only non-trivial applications were discovered by Dr. Oldenburger, and were published in various mathematical journals, in particular, the last issue of the Transactions of the American Mathematical Society. Recently he found that three dimensional determinants arise automatically in a simple way in a study of ordinary determinants. He is giving a report on these results in a paper to the American Mathematical Society on November 25, in Cleveland, Ohio. An extensive study of these determinants is now being made at the University of Kiev, U.S.S.R.

In his second lecture on November 17, Dr. Oldenburger discussed the "Geometric Aspects of Symbolic Dynamics" and showed how the mathematical physicist treats the word "motion." The modern study of dynamics was started by Poincaré, brother of the French Premier and one of the greatest mathematicians the world has ever known. It was continued by Birkhoff of Harvard, Morse of the Institute for Advanced Study, and others. The most recent point of view was developed by Morse.

All of the lectures in the series are open to all students in the institute, and they are invited to attend.

Senior Committees to Discuss Bids This Week

The announcement committee composed of R. E. Dixon, R. I. Jaffee, C. V. Peterson, W. A. Wagner, C. W. Reh, W. A. Ryan, and R. A. Winblad met last week for the purpose of electing a chairman. After several trial ballots R. E. Dixon was elected.

A list of possible manufacturers for the announcements were suggested by the members of the committee. These manufacturers will be contacted by the members in about two weeks. Another meeting will be held today at 12:20 in Room B Main where the specifications from which the manufacturers will present their bids will be tentatively outlined.

The jewelry committee, composed of A. M. Zarem, chairman, R. B. Boertitz, S. P. Finnegan, D. W. Jacobson, B. F. Oswald, J. J. Ratto and R. R. Tullgren, held several meetings last week to discuss the different samples submitted by the various firms. The rings will be similar to last year's rings due to the fact that Armour's ring has been standardized. The plan of the committee is to improve the quality, if not the design, over previous years.

Keys will also be on sale this year, as has been the practice in former years. Student preference for a ring or a key seems to be split about evenly, so the both are being made up for approval.

NEW SOCIETY—

(Continued from page one)

be gained is through technical publications or public lectures of this sort. The broadened purpose of the Western Society of Engineers would in no way conflict with the workings of the present societies. As suggested by the present societies. As suggested by one of the speakers, the slight expenses of an enterprise of this sort could be covered by an assessment on each of the engineering societies at Armour.

In addition to these points, the various advantages of supplanting the W.S.E. by the A.S.C.E. were discussed at length. One of the advantages mentioned was the fact that the most important schools in the United States are numbered in the student chapter roll of the latter organization. These schools include M.I.T., C.I.T., Purdue, and Case School of Applied Sciences.