

Prof. Penn Speaks on Topographical Mapping of U. S.

Hayden-Ickes Bill Commended

The name of Professor John C. Penn of the civil engineering department was added to the list of distinguished speakers of the W.C.F.L. educational radio series sponsored by the Institute. Professor Penn spoke last Saturday on the subject of topographical mapping of the United States with particular reference to the Hayden-Ickes Bill now pending in Congress. The program was the second in the new series in the field of civil engineering, the fourth series since the broadcasts began. The program was heard at the usual time from 7:00 to 7:15 p.m. Saturday evening. Mr. Alexander Schreiber, publicity director of the Institute, acted in his usual role of questioner and interpreter.

The Hayden-Ickes Bill provides a plan for a very necessary topographic mapping of the United States, Professor Penn pointed out. The recommendations for the bill have been issued from the offices of the Director of the United States Coast and Geodetic Survey of the Department of Commerce and the Director of the United States Geological Survey of the Department of the Interior to provide for the very necessary replacement of obsolete maps and for the mapping of as yet unmapped territory. "About forty-six per cent, or nearly one and a half million square miles is entirely unmapped," Professor Penn revealed.

Cost of Eighty Million

Specifically the bill does not provide for the mapping of all the unmapped area, yet contemplates a reasonable program of mapping of over a million square miles of territory. Such a program would take about twenty years to complete, and involve an expense of approximately eighty million dollars, four million dollars annually. Such mapping would be topographic, that is show differences in elevation such as contours of hills, distances above sea level and so forth in addition to representation of surface features as found in less extensive maps. As a justification for passing such a bill, Professor Penn argued: "The plan may be considered one to provide work for idle engineers and so-called white collar men. Or it may be considered in a worse light, another means of spending money. I use these words with a great deal of hesitation. I like to conceive the plan to be a worth-while public work that should be expedited . . . done now while men and money are available. I want to show that this project has merits all of its own, that it is economically sound."

Next Week—Highway Design

Mr. Schreiber closed the program by commenting: "It is the duty of engineers, like yourself, Professor Penn, and surveyors, to make their needs and the needs of the country known so that this plan can be properly carried out."

The civil engineering series will be continued at the usual time of 7:00 p.m. next Saturday. The subject of the broadcast will be concerned with highway design for safety in driving. The guest scientist who will participate was not announced.

Physics Classes Visit Rosenwald Museum

Members of the Physics classes were conducted through the newly opened West Wing of the Museum of Science last Friday, March 18. The tour, which was directed by special guides furnished by the Museum was held all afternoon, the students attending when their classes allowed them to take part. Queries pertaining to exhibits were explained by the guides and faculty members of the Physics department.

A feature of the tour was a preview of a Sound Section by Dr. Brown of the Museum staff. This portion of the museum is still in construction and is not open to the general public. The section contains various experiments illustrating fundamental principles of sound. Of special interest to the students was the Whispering Gallery. This specially constructed room was a source of amazement as members at one end of the room heard, with uncanny loudness, the voice of a fellow student some fifty feet away at the other end of the room.

Seniors Hear Purdue's Dean, Potter, Discuss 'Professional Development'

Last Tuesday saw a trek of the seniors to Science Hall to hear Dean A. A. Potter of the Purdue engineering school give an address on "Professional Development." This subject is of great importance to the graduating class as it will come to their attention in their jobs in a very short time.

As his first point, Dean Potter enumerated the statistics on the various engineering professions. He stated that there were some 212,000 engineers and surveyors in the United States alone, of which about one third belong to the American Engineering Council. He also told of the major engineering societies that have been founded for the purpose of advancing the profession and its functions.

Must Serve Community

After the preliminaries had been disposed of, the Dean swung rapidly into the discussion of what makes an engineer. He gave his definition of the professional man as "one professing to have acquired special knowledge, used by him either in guiding, advising, or instructing others." The first point to be brought out after this definition was the fact that the engineer can not, in this day and age, be just a man who knows a lot about technology. He must also be a man who is ready to serve the community at large, accept social responsibility, and to keep up with the work that is being done in his field. One thing the speaker stressed was the necessity for the adoption and obeying of a code of ethics for all engineers.

An enlightening discussion of the ways in which our form of government affects the engineer was next mentioned. This phase of the profession is one that is not often called to our attention, but one that is becoming of greater importance because the various state and federal agencies are now employing a considerable number of engineers.

Following this Dean Potter gave a challenge to the graduates of the near future. He outlined briefly a story of the world since the last great war, and of the great effects that that event has had on the world today. His picture was a rather sad one. The challenge was that the young engineers have it in their power to make the world a better place in which to live by using their knowledge to raise the standards of life all over the globe.

Must Have Personality

To assist the engineer in such a difficult task the following are necessary to him: a pleasant personality, the ability to work hard, a continuation of education, the possession of a thorough scientific background, a better than average knowledge of economic and social forces, and membership in the engineering society that includes his field of activity.

In closing his address, Dean Potter enumerated the things that are to be expected of the modern engineer, what his attributes and qualifications must be, and what his political and social outlook must include.

Research Foundation Continues Work in Science Applications

The Research Foundation was organized in 1936 for the purpose of aiding industry in the fields of pure and applied science. The foundation has proven its value to companies desiring investigation in technological problems. The success of the venture, a non-profit organization, has shown itself by the rapid growth of the departments until, at the present time, there are thirteen active research departments.

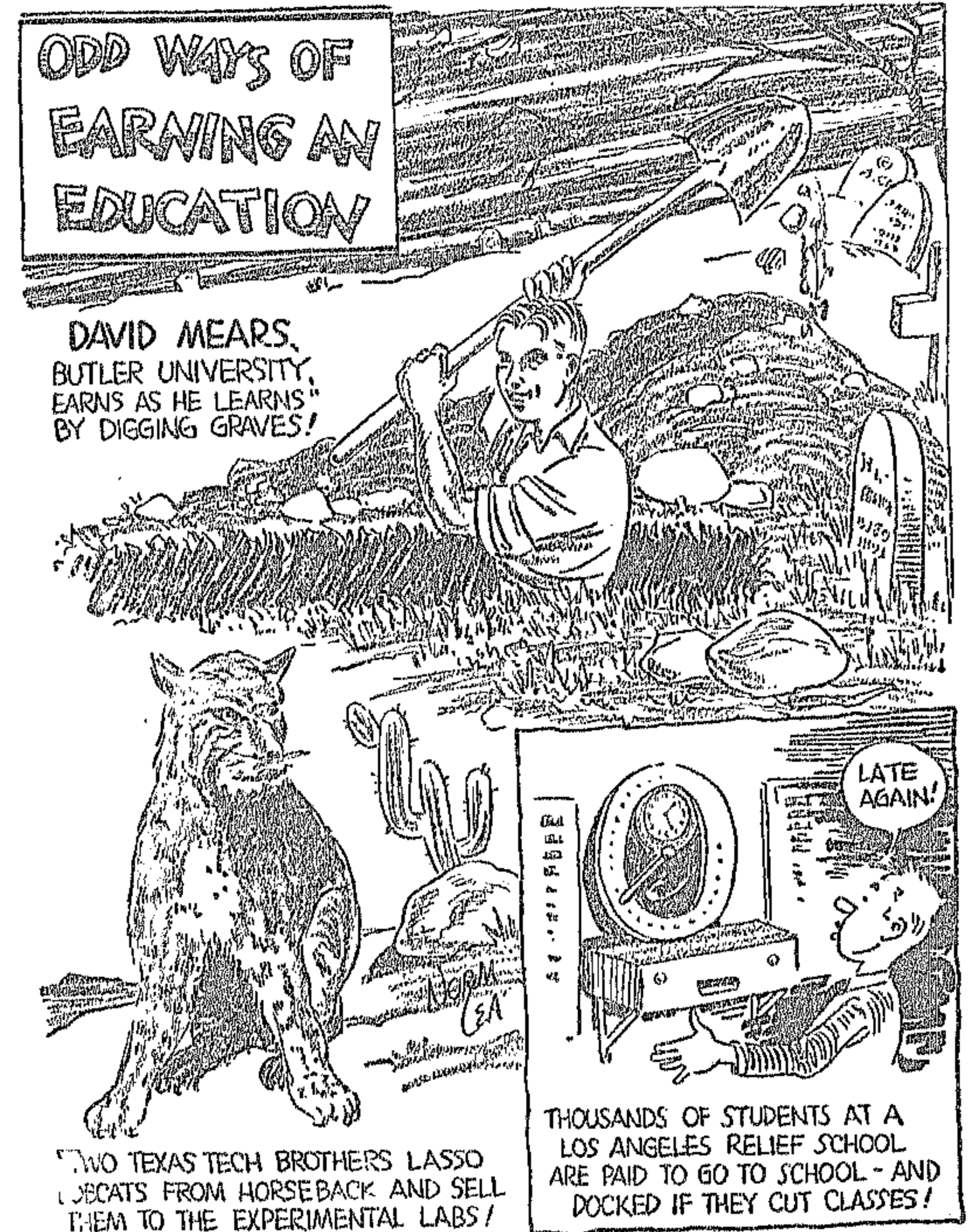
The following research activities are a few of those now in progress: Civil Research Engineering—has devoted time to the investigation of industrial treatment of water supplies which include filtration, precipitation, and settling and also a study of auxiliary equipment such as piping and pumping.

Coal Research Engineering — is concerned with the determination of output of heat from different varieties of coal. The coal is crushed to a standard one-quarter inch size and then compared for specific gravity with solutions of zinc chloride. Powdered coal is placed in the adiabatic calorimeter to determine its heating value. The powdered coal is ignited while in the water jacket. The rise in temperature of the liquid indicated the BTU output of a specific type of coal.

High Pressure Research Lab—Pressures in excess of any previous developed value have been studied because of their effect on matter. Under pressure of 580,000 pounds per square inch, a glass window in a cylinder is bent to a curvature

of four inches. Recent additions of equipment include a non-vibrating table in Soil Mechanics Lab which has legs that go down through sand and clay to bed rock. Also a new boiler capable of producing 2000

pounds of steam per hour is being installed in the Kent Transfer Laboratory. These are a few of the valuable additions that have gone to make the Research Foundation so indispensable to modern industry.



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Luckies — a light smoke

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