

THE TECH

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PRICE THREE CENTS

CIVIL ENGINEERS HEAR METCALF

Gave Much Valuable Advice
About Contract and
Day Labor

MANY CHARTS SHOWN

Trip to Quebec During Junior
Week to Study Failure
Of Quebec Bridge

Wednesday afternoon Mr. Leonard Metcalf, 1892, spoke on municipal improvements. Sewage and water supply were his chief topics.

Mr. Metcalf has been connected with the finance committee investigations in this city, and while making investigations he studied the municipal improvement question thoroughly. His lecture was supplemented with charts which showed the condensed results of his studies both here and elsewhere.

The first part of his talk Mr. Metcalf gave over to advice concerning contracts. The test contract, in general, is one which has been bid on in open competition. It is advisable, he said, in municipal work to award the contract to the lowest bidder, and to protect the city from incompetent contractors by demanding a large bond. In no case should any contract be awarded which has not had competitive bids. This practice, Mr. Metcalf said, is one of the most dangerous, to all concerned, that ever arises in modern municipal problems.

Labor problems, the most difficult that a municipal engineer ever has to face, were next touched upon. Mr. Metcalf contrasted day labor and that done by contractors. He spoke upon this phase of the municipal improvement, paying particular attention to the economic side. The principle arguments of the advocates of day labor are: first the saving to the city of the contractor's profits, second, the utilization of home labor, and lastly the prevention of the evil of a contractor, who uses lower grade materials in order to make profit. Of these arguments the first two are easily answered, all the saving of contractor's profits are overbalanced by the loss due to unskilled labor, and home labor is not only unskilled, but is often labor absolutely unfitted for the position it occupies. The last argument is the only one that would hold water, but all the advantages obtained from it would be easily outweighed by the defects in the system. "It is advocated," said Mr. Metcalf, "principally by politicians and labor unions."

Contract labor, on the other hand, while having distinct disadvantages also has some great advantages. The principle one being that of knowing how the cost is increasing.

The economical side of the time systems were contrasted and from the results obtained in several parallel cases, the day labor cost from twice to three times that done by contract.

Depreciation of efficiency was shown by comparing the cost of ditch digging for sewers since 1895 the efficiency for the same amount of money has fallen to one-half what it was previous to that date. Mr. Metcalf laid this directly at the door of organized labor and politics. He said in closing: "Labor unions instead of increasing the efficiency of labor by shorter hours and higher pay, have decreased it greatly. The waste of time is the same, and since men work for shorter hours, the percentage loss in efficiency is greater."

L. D. Nisbet 1909, closed the meeting with the announcement that the next talk to be given would be by Dean Burton, on the summer school. A trip to Quebec for the purpose of studying the Quebec bridge failure will be made during Junior week. It will probably last about five days. If enough men go, reduced rates can be obtained from the railroad, which would bring the entire trip within the neighborhood of \$35.

FIVE MEN HIT BY THE POINT SYSTEM

Allen, Whitaker, Finnie are
Among Those Affected
By the Rating

SYSTEM BEGINS WORK

Nisbet Presents Resolutions On
Wearing of Hats and
Lounging

Five men were required to drop offices on account of the point system at a meeting of the Institute Committee yesterday afternoon. They are R. H. Allen 1909, member of the Executive Committee of the Institute Committee, and a principal in the Tech Show, 14 points; H. E. Whitaker 1909, M. I. T. A. A., vice-president of Electrical Engineering Society, Advisory Council M. I. T. A. A., Senior Portfolio Committee, 13 points; J. I. Finnie 1909, chairman of Union Dining Room Committee, and principal in Tech Show, 15 points; D. R. Stevens 1911, Institute Committee and associate editor of the Tech, 12 points, and O. B. Denison 1911, chorus Tech Show, and associate editor of the Tech, 11 points.

Beside these men it was recommended that C. J. Belden 1909, and A. Campbell 1912, both principals in the Tech Show and members of the Institute Committee be required to obtain a leave of absence from the Institute Committee until after the Tech Show season.

A recommendation that the manager of the Track team may be a member of the M. I. T. A. A. Advisory Council, with the latter office to count as one point in this case, was passed over until another meeting, as it was thought that the matter needed further investigation.

In accordance with a motion passed at the last meeting L. D. Nisbet 1909 presented the following resolutions pertaining to the wearing of hats in the Union living room:

Whereas, It has pleased the Corporation of the Massachusetts Institute of Technology to give to the students of the said Institution a new Union, and

Whereas, The students have expressed their thanks to the said corporation for the Union, and

Whereas, The students have resolved that "By their actions at all times they will show their appreciation for said Union," and

Whereas, It is the opinion of the Institute Committee that the students are not living up to their resolve. Be it

Resolved, By said committee, to request the students to show a deeper reverence for the Union, viz., removal of hats in the living room, refraining from unsightly lounging and otherwise giving the Union the appearance of a lobby, and it is further resolved that a copy of these resolutions be printed in the Tech, and if it becomes necessary be spread upon the walls of the Union.

It was reported that the matter of sanitation in the Institute buildings had been referred to Bursar Rand and that plans are being considered for the betterment of the ventilation in the Union.

A motion was passed providing for the printing of a number of circulars containing the point system ratings, together with a description of the Institute Committee and what it has done, these circulars to be distributed among the undergraduates and the incoming freshman class.

D. R. Stevens 1911 resigned his position on the committee on account of the point system.

Mr. O. L. Peabody, one of the assistants in the technical analysis laboratory, has resigned to take a position with the Forbes Lithograph Company of Revere, Mass. Mr. J. R. Nichols 1908, has been appointed to take the place of Mr. Peabody for this year.

LANGENBECK TALKS TO CHEM SOCIETY

Authority on Pottery Tells
Of the Methods of
Manufacture

CERAMICS THE SUBJECT

Nominations for Officers of the
Society are Received
Dinner in April

At the meeting of the Chemical Society, held last Wednesday evening at the Union. Dr. Karl Langenbeck spoke on Ceramics. Dr. Langenbeck is an authority upon this subject, having studied in Germany, at both Zurich and Berlin. He was formerly superintendent of the Rookwood Pottery, Cincinnati, and has been consulting chemist and manager of several potteries, tile and mosaic works. He is also the originator of "Rookwood" faience and aventurine glazes.

Dr. Langenbeck opened his talk by pointing out the large future for chemists in the ceramic industries. The broad and general chemical education gives the student an open and original mind, which is not generally possessed by the graduate of the ceramic course offered by some of the colleges. The graduate of the ceramics course is more apt to become interested in the heavier clay industries, such as brick-making, than in the finer pottery work requiring more skill.

The term ceramic involves the fixing of the clay product by fire. Mere moulding is only a fictile art. The ceramic industry is exceedingly wide in scope, including, at one extreme, the making of common building brick, and, at the other, the manufacture of expensive decorative pottery.

The advance in decorative ceramics has always depended less upon purely technical ideals than upon aesthetic taste. In the eighteenth century, when the Portuguese brought to Europe white porcelain from China, white porcelain became the fad; and when Blucher discovered the secret of the Orient, his discovery was considered to be of the greatest importance. Now, white porcelain is thought to be too glaring, and pigments are added to the pottery. Other prejudices were for plasticity and for smoothness of grain, but experience has shown that some portion of coarse, rocky material improves the pottery. In fact, very good pottery may be made from ordinary mud.

Technical invention has played a more important part in developing the building brick industry. To solve the main problem—economy of fuel—Hoffman invented a series of kilns, so arranged that the heat given off from one kiln is utilized in the next. This system is much in use in England, but the cost of construction of these kilns has prevented their extensive adoption in America.

In order to glaze the clay, silicates of alkaline earths and alumina are added to the clay. When the clay is baked, a very thin layer of glass gathers upon the surface of the pottery. This glaze may be transparent or rendered opaque by the addition of tin oxide to the silicates. If the coefficients of expansion of the pottery and of the glaze differ perceptibly, either crazing (cracking of

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A. A. GOULD PRESIDENT

At a meeting Wednesday noon, the Newton High School Club elected the following new officers: President, A. A. Gould, 1910; Secretary, M. C. Sherman, 1910 and Treasurer, J. Fuller, 1911.

A new constitution was adopted and the members present signed this and also paid their yearly dues.

A committee was appointed to arrange for the annual dinner the second week in April, at which the retiring president, F. M. Green, 1909, will act as toastmaster.

EARTH IS SLOWLY LOOSING WATER

Professor Percival Lowell
Speaks at Fifth
Lecture

PROGRESS OF ICE CAP

Development of Ice Cap and the
Drying up of Earth Talk
Of the Afternoon

Professor Percival Lowell at the fifth lecture on the "Evolution of Worlds" spoke on the sun-sustained stage of a planet's history.

There were two stages of the development of the earth, the first stage being the time when the earth was covered with clouds and the second stage being the time after the clouds had cleared up and the sun began to act as a source of heat.

During the first stage the seasons were all in one, there was no summer or winter, the day was like to the night except that the nights were somewhat darker than the days. After the clearing of the clouds from the sky the seasons began and the difference between day and night became marked.

During the beginning of this second stage of evolution the earth was being slowly cooled off, and as the water on the earth cooled life began, first by fishes, and then as the earth itself cooled the fishes developed into amphibious creatures, which finally developed into reptiles of immense sizes. Following the start of animal life on the earth, trees of a fern-like nature began to grow, and the same trees are represented in the public gardens today by the larches.

The sun's heat now became a factor in the development of the earth and the study of the amount of heat which reaches the earth, and the way in which it is regulated is important. The fact that the air is very important in the regulation of the amount of heat which reaches the earth has not been known to many people, not even to geologists.

In the study of heat on planets it has been discovered that the air shuts off two-thirds of the heat which comes from the sun. Astronomers have been mistaken in regard to the moon and the planet Mars in believing that only a small amount of heat reached those planets, as has been thought. The temperature of the moon at the noon hour is about 350 degrees above zero, and at night 350 degrees below zero, and Mars is as hot as the earth.

The cause of the ice cap is another point in the discussion of the development of the earth, and the real reason of the ice cap has finally been attributed to increased precipitation of snow during the winter and remaining over into the summer. An increased precipitation on temporarily elevated ground, with each of these elevated points as a center of development, was the manner of the progress of the ice cap, with the ice proceeding towards the north pole instead of from it, as was formerly supposed.

Finally, the earth is drying up, and will follow the way of the moon and,

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CALENDAR

FRIDAY, MARCH 26.

8 P. M.—Union night.

SATURDAY, MARCH 27.

1 P. M.—Hockey team elects captain.

2.30 P. M.—Track work at Field.

8 P. M.—Finals—Intercollegiate fencing at New York.

SUNDAY, MARCH 28.

6.45 P. M.—Dr. A. P. Fitch at Y. M. C. A. meeting.

MONDAY, MARCH 29.

3 P. M.—Track work at Field.