

REVIEW FOR APRIL FEATURES ARTICLE ON NIAGARA FALLS

Magazine Contains Subjects of
Meadow Reclamation and
Child Behavior

PICTURES APPROPRIATE

An infant phenomenon, only twenty-five to fifty thousand years old, is the subject of the feature article of the April issue of the "Technology Review." Discussing "Niagara's Wayward Youth," George A. Ricker, the engineer who built the Niagara Gorge Railroad, an account of which is given in the article, tells of the history of the falls, how nature helped build a railroad in the gorge, and the need and possibility of "nailing down Niagara."

Spectacular breaks in the contour of the falls have recently drawn public attention to this extraordinary cataract. Ricker gives the reason for the gradual upstream movement of the falls, and towards the end of his account tells why this erosion must be checked and suggests certain possible methods.

Niagara Once Small Stream

"Geologists are agreed," says Ricker, "that the Niagara River began its real work after the retreat of the ice sheet." There is evidence that shortly after the passing of the glacier the upper lakes found outlets through other rivers and only Lake Erie was drained by Niagara, then a small stream, very inferior to that of today in its ability to excavate.

Because of legal and other difficulties the building of the railroad was a difficult job, and Ricker recounts how these obstacles were overcome, and how in one particular case nature came to the aid of a harassed engineer. In the narrower part of the gorge, the tracks are securely founded on a rock shelf cut from Medina sandstone.

Nature Helps Engineer

At one point a tremendous steam of water was directed against the roadbed. Great rocks, then heavy timber cribs, could not stand the impact of the stream. Then, "One fine day when the pilot car ran down the road in the early morning two precious boulders, each the size of an eight room, two-story house, lay peacefully just outside the cribs, and the great hydraulic force of the water was effectively checkmated by the hard limestone in just the place it was needed."

Allen W. Rowe '01, Chief of Research at the Robert Dawson Evans
(Continued on Page Four)

BOSTON CITY CLUB BEATS CHESS TEAM

Y. M. C. A. and Boston Chess Club Will Be Final Games

Boston City Club defeated Technology's Chess team Friday night three and one half to one and one half, in the third from the last game of the season. William P. Montgomery '32 scored the only win and Frank W. Spier '32 captain of team played to a draw. One of the losses was a forfeit.

With an almost strangle hold on fifth place the team has had a peculiar mixture of good and bad luck this season. It has been beaten badly by the lowest teams in the league and has defeated the three leaders. Boston Chess Club and Boston Y. M. C. A. are the only remaining games and it will be necessary for the team to win both of them to get above middle position.

Infirmiry Solarium Is Impromptu Class Room

Although rather thoroughly bandaged up around the head, Professor Carle R. Hayward of Course III held a class for a group of eight seniors in the sun room of the Infirmiry Friday morning. The arrangement worked out all right despite the absence of some arm chairs and blackboards. So far as is known this is the first time that this room for invalids has been turned into a class room. Perhaps it was a case of "if the mountain won't go to Mohammed, Mohammed must go to the mountain."

Dr. Wilson Compton Defends Lumber's Place In Industry

Points Out Opportunities For
Engineer in Different
Lines of Research

"Wood by reason of its diversified natural qualities is capable of being the most universally useful of all the materials of industry," Dr. Wilson M. Compton, secretary and manager of the National Lumber Manufacturers' Association, said in an address before the student chapter of the American Society of Mechanical Engineers at Technology last Friday morning.

Dr. Compton, who is a brother of President Compton spoke on "Opportunities in the Lumber and Wood-working Industries for Technical Men." "It is truthfully stated," he said, "that wood, during the processes of conversion of the standing forest into the finished wood article, is with few if any exceptions, subject to greater losses than any other important raw material. In these two facts lie great present and potential opportunities for the applications of science and research in the wood industries."

Engineers Must Aid

"If the first condition is to be established and maintained, the second condition must be improved. If both conditions are to be met it will be accomplished by the younger generation, into whose hands the forest industries are now passing, and it will be done with the aid of laboratory research, applied science, and engineering."

Dr. Compton drew attention to the fact that of the two billion acres of land in the United States, originally nearly half was in forest. Today one fourth or about 500 million acres is forest land. The annual production of lumber in the United States is now about 30 billion feet, while a quarter of a century ago it was 40 per cent greater. Twenty years ago there were more than 40,000 sawmills in the country, and today there are about half that number.

Speaking of the annual drain upon the forests of the United States, Dr. Compton said that less than 35 per cent
(Continued on Page Four)

Fencers Defeat Vermont Team By Score of 9 To 8

Freshmen Win Also From East
Providence High in
Close Meet

In the last dual fencing meet of the year, the Technology fencers defeated Vermont University last Friday night in Walker. The score of this meet was 9-8, and Saturday night the freshmen won from East Providence High by a score of 5-4, this meet also being held in Walker.

Against Vermont, the foil matches were lost 6-3, and the epee was divided, each of the four men competing winning one match and losing one. However, M. I. T. won the meet by their superiority in the sabre taking all four of the encounters.

FraGiacomo Wins Four

FraGiacomo took four of the matches he was entered in, defeating Perelman of Vermont, 5-4, and Musgrove, 5-0, in the foils, and winning both his sabre matches from Basiliato and Wadworth by 5-2 and 5-4 scores, respectively. Kennedy won his two sabre matches from Perelman and Wadworth also, taking these by 5-1 and 5-3 counts. Hamilton accounted for victories in the foil and epee, and Shellard won one of his epee matches.

In the freshmen meet an interesting ending took place for the M. I. T. victory. East Providence High started off the meet by winning the first four matches in succession but the Beaver yearlings came back to take the next four in a row. This left one more match to decide the winner, and this match was between two brothers, A. Williams of M. I. T., and V. Williams of East Providence. The older brother came out ahead to win the meet for Technology.

Wells and Greenlie Win

Wells and Greenlie of Technology each won two of their three matches while A. Williams was able to take only the one mentioned. V. Williams of East Providence took his match from Greenlie. Tasco defeated both A. Williams and Wells in their respective matches, while Sherman succeeded in defeating only A. Williams.

BEAVER GYMNASTS WIN JUNIOR CHAMPIONSHIP

Substation Engineer Will Lead Discussion



MR. D. K. BLAKE

GUGGENHEIM FUND AIDS PROFESSORS

Foundation Announces Award
Of Fellowships To Dahl
and Scatchard

Announcement is made today by Henry A. Moe, Secretary of the John Simon Guggenheim Memorial Foundation, on behalf of the Trustees, that seventy-seven scholars, novelists, poets, sculptors, painters, and other creative workers have been awarded fellowships amounting to \$175,000. Two Institute Professors are included among those receiving fellowships.

Dr. Otto C. G. Dahl, Associate Professor of Electric Power Transmission will make studies of European practices in electric power transmission. Professor Dahl has received the degrees of S.B. and S.M. from the Institute. Dr. George Scatchard, Associate Professor of Physical Chemistry, will make studies in the theory of liquid solutions, in consultation with certain European scholars. Dr. Scatchard holds the degree of A.B. from Amherst College and Ph.D. from Columbia University.

Used for Research Work

Fellowships granted will be used to carry on research and creative work on three continents. Thirteen Fellows from the United States will go to various parts of Latin America, while ten Fellows from Latin America will come to the United States. The Fellowships announced today bring the total number of persons assisted since the establishment of the Foundation six years ago by former Senator and Mrs. Guggenheim to 372.

The Foundation is a memorial to a son of the founders, and its purpose is to improve the quality of education and the practice of the arts and professions in the United States; to foster research and to provide for the cause of international understanding. To further these purposes the Foundation offers Fellowships tenable abroad under the freest possible conditions, for research in any field of knowledge and for creative work in any of the fine arts.

Fellowships Open to Everyone

Fellowships are open to men and women whether married or unmarried, of every race and creed on equal terms. The amount granted to each Fellow is \$2500 a year. The Foundation has a capital fund of \$4,500,000, which was donated by Senator and Mrs. Guggenheim.

Technique Continues Redemption Campaign

Technique plans to continue its redemption campaign for another week since such a large number of sign-ups are being redeemed and because the men who are conducting the campaign are hard pressed by the work.

Mr. D. K. Blake To Lead Colloquium On Distribution

Noted Authority on Networks
Describes Substation
Difficulties

Mr. D. K. Blake from the Central Station Engineering Department of the General Electric Company will lead a colloquium of the Electrical Engineering Department from 2 o'clock until 4 o'clock this afternoon and tomorrow afternoon in room 10-275. "For the past eight years Mr. Blake has devoted himself to an intensive study of the problem of distributing electrical energy, and during that time has co-ordinated the activities of the General Electric Company in distribution engineering."

Upon that subject he has been a prolific writer and has contributed freely to its literature, notably a series of seven articles on "Low Voltage A-C Networks" in the General Electric Review during 1928. He is generally recognized as a leading authority on all matters pertaining to electrical distribution and is much in demand as a speaker who presents this subject in an unusually attractive manner.

Has Many Achievements

Numerous features which have facilitated the rapid expansion of the low voltage A-C network system owe their invention to Mr. Blake, and he was also the first to suggest the broad use of primary voltage networks for areas of lower load density. Recently he has been honored by the receipt of the Charles A. Coffin Foundation award for his contribution to the central station industry.

Students who desire a personal conference with Mr. Blake tomorrow morning should arrange with Miss Baker in room 4-202 before 9:30 o'clock for appointments.

Johnson Elected to Captaincy of '31-'32 Basketball Team

Harrison, Motter Get Charms
At Banquet For This
Year's Varsity

At a banquet held for the basketball Varsity of 1930-31, Harry L. Johnson '32 of Roxbury was elected captain for next year. He was chosen by the first seven men of this year's Varsity who comprised the first string all this season. No manager has been announced as yet for 1931-32.

Johnson was one of the regulars on the team all season switching with Coffey and Feustel at guard and forward respectively. Last year he was on the substitutes on the first string but did not play freshman basketball in his first year here. He was one of the five leading scorers for this year although he played guard in the majority of them. He is one of the most aggressive players that the team has produced in the last few years.

Harrison and Motter Receive Gifts

John T. Harrison of Belmont and David W. Motter of Steelton, Pa., both '31, the two who are lost through graduation, were presented with gold basketball charms by the members of the team. Motter and Harrison have both played three years of Varsity basketball at Technology and played also as freshmen in 1927-28 season.

Motter started originally as a guard, at which position he played his first year on the Varsity. He played in most of the games his sophomore year and was a regular starter the last two years as the first string center. Harrison, in his second year at M. I. T. played only in a few games but was substituting at forward for such men as Brig Allen and Bob Nelson. He was elected captain of this year's team through his superb work last year being high scorer for the team. In this respect, he also took honors for this season.

No manager will be elected for a while yet as recommendations have not been turned in to the Advisory Council.

TECHNOLOGY WINS OVER NINE OTHER TEAMS IN WALKER

Silver Plaque Is Presented to
Institute Team As First
Prize in Meet

LAWNSINE PLACES TWICE

Competing in a field of fifty-four entries, the Technology gym team won the New England Junior Gymnastic Championship Saturday night in Walker Gymnasium.

This meet, held every year, is the largest in which the Engineers participate. There were fifty-four men entered in the various events, which included all regular gymnastic events with the exception of the rope climb. The majority of these entries represented Technology, Bowdoin, Springfield College, and Dartmouth, but there were also clubs and organizations represented in the meet.

Three First Places Won

Three first places were captured by M. I. T. men, accompanied by three second and one third. The competition was very strong throughout the contest, and although the Institute team was behind the Dartmouth organization at the end of the first two events the Engineers gradually amassed points on the parallel bars, flying rings, and tumbling until they outstripped all others at the end of the meet.

Engineers Score

Technology owes most of the 25 points to Lawnsine, who won a first place on the flying rings and a second place on the side horse setting up 8 points to the total. Ericson won first on the parallel bars and Treadwell took second, adding 8 more points to the score. Abbott made first place in the tumbling, downing several fast tumblers from the colleges and gym organizations. Getting and Treadwell won second places in the horizontal bar and parallel bars, respectively, and Freeman placed third on the horizontal bar.

As prizes, the winning team was offered a silver plaque and first, second, and third placing men were offered gold, silver, and bronze medals, respectively. The silver plaque was
(Continued on Page Three)

A. E. S. TO PRESENT REMARKABLE MOVIES

Crashes in Naval Manoeuvres
To Be Shown to Club

Because of the success of the meeting held last Wednesday more free films on flying will be shown by the A. E. S. this evening at 7:30 o'clock in Room 4-270. The program will have pictures of the Seagull in flight and also of the Rhone gliding contest, a film which the society took itself. The problems of landing on a ship's deck will be illustrated better by scenes of crashes on the U. S. Langley' deck, taken during naval manoeuvres. All students are invited to attend.

Recently the A. E. S. joined the Association of Massachusetts Glider Clubs. This organization has for its members the most active glider clubs in the state. There are about fifteen clubs in the association and every so often joint meetings are held for the purpose of flying their planes.

Ample Protection Given To Bust in Trophy Room

As a spring deluge watered the newly sprung grass and the trees stood shivering in the driving rain, the bust of one of the past presidents in the Trophy Room of Walker stood protected from the elements. It stood with an overcoat buttoned up tight around the neck and draped closely about the pedestal as a sacrificing student braved the elements listening to the phonograph.

A Record of Continuous News Service For 50 Years



Official News Organ of the Undergraduates of M. I. T.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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In charge of this issue: Dayton H. Clewell '33

A CLOSED OPEN HOUSE

WITH the expiration of a few weeks Technology will again be at home to the public. This year, as past years, will probably see innumerable people thronging corridors and laboratories of the Institute, anxious to see a few of the strides of science in all its branches. Multitudes come, they see, but they probably do not conquer. There are many visitors who witness demonstrations that upon their completion have not the slightest idea of what has taken place. This is, perhaps, unimportant, for Open House is planned for outsiders, and the experiments selected more or less with the idea of entertaining as well as instructing, with the emphasis on the former.

It is perfectly true, however, that in addition to the visitors to Technology during Open House there are many members of the Faculty and student body that would relish an opportunity to witness, undisturbed by milling and pushing crowds, the careful displays worked out by the various departments. For example, a Course II student in his third or fourth year is well acquainted with the courses and laboratories covered by the Mechanical Engineering Department. If, however, he is the average student he has had but one year of Chemistry with possibly one term of Physical Chemistry. He would, then, very likely be vitally interested in seeing some of the chemical processes as used in industry explained and at work. This is but an example and a corollary could be drawn between all courses and departments. Students do not or should not feel particularly at ease crowding in to see the exhibits, perhaps in front of others who are guests of the Institute. Yet if one is to take advantage of the undisputable educational opportunity of Open House, there is no alternative.

Why not an Open House exclusively for students and Faculty? It would be very well to let it serve as a sort of dress rehearsal before the audience arrives—have it, say, the morning of the day that Open House formally commences, and during that morning let only those enter who can identify themselves as students or Faculty members.

WHAT'S THE DATE?

CALENDAR reform has been under discussion, intermittently, for a number of centuries. Several movements are under way at the present time; the League of Nations has placed the subject on its agenda for the next session, and is in the meantime making a conclusive study of its possibilities. Thus far, two plans have been proposed: one that retains the twelve month year but rearranges the days in the months, and another that substitutes a year composed of thirteen months of twenty-eight days each.

In the latter plan, the more radical of the two, the week is taken as the unit, and the year is arranged to contain thirteen four-week months, each of which begins on Sunday. The extra month, called "Sol", is inserted between June and July, and an extra day is placed between December 28 and January 1 to make the necessary total of 365. Every leap year an extra day is placed between June and "Sol." The other plan uses the quarter and half year for its unit. The first month of each quarter begins on Sunday, and has thirty-one days; the other two months begin on Wednesday and Friday respectively, and have thirty days each. As in the other plan, the extra leap year day is placed after June 30.

For calculations involving weeks and months, such as for pay checks, rents, and the like, the thirteen-month scheme might be a bit more apropos, but for most other purposes the number thirteen would be entirely too awkward to deal with. Opponents of this plan cite that the quarter and half year come at odd times, and that the year is too dead uniform. The twelve-month plan is superior to the present system in that the months are arranged in a more definite order, and that dates come on the same week day every year, simplifying to some degree calendar calculations.

That calendar reform is necessary, most people will agree. While the plan to be used need not be decided immediately, it must be decided at some time, and the matter should be the basis for considerable thought and discussion.

AS WE SEE THE MOVIES

THE FENWAY

Warner Oland, who for years been known to film-goers as a villain of all sorts, usually Oriental, has in "Charlie Chan Carries On" his first major sympathetic role. The story, by Earl Derr Biggers, is a mystery story somewhat above the average, and first appeared serially in the Saturday Evening Post; it gives Mr. Oland an excellent vehicle, of which he has made the most.

An around-the-world party furnishes the background. One of the members is murdered in London; Enter Scotland Yard. Two more murders are committed in France, and several others are attempted from time to time. One of the Yard's Inspectors, who is following the case, is shot while the party is in Honolulu, and his friend, Charlie Chan, of the Island police, carries on and gets his man.

This is one of the most interesting pictures to appear on the local screen for some time. While it is designed especially for Mr. Oland, he is not given undue prominence; of necessity he does not appear at all in the first part of the picture.

The supporting cast does an excellent job; it is unfortunate that the absence of programs and the fractional time their names were on the screen does not permit their mention. There were familiar faces among them, but no well-known names. The love interest in the story, while present, was soft-pedaled, giving a welcome relief. The picture follows the original story as closely as is possible, which is also somewhat unusual.

All in all, the picture is thoroughly worth seeing; the accompanying features, including that rarest of things, a good news reel, and a Marie Dressler-Polly Moran short subject, should assure a pleasant evening's entertainment.

METROPOLITAN

This week the "Met" offers a program which should satisfy every urge for light entertainment, beginning with a rather interesting picture featuring William Powell with all of his characteristic polished acting. "Man of the World" concerns the activities of a racketeer who carries on his unscrupled career in the heart of Paris. As the American who has chosen to follow such a course, Powell distinguishes himself, and with his supporting cast, Carole Lombard and Wynne Gibson, manages to place the picture on a par with the many others he has offered.

The story is fairly simple, but presents opportunities for bits of melodramatic acting. Powell is cast as a suave, debonair American—a man of culture and charm who is unable to

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THE OPEN FORUM

To the Editor of THE TECH:

Quite a while ago, Professor Rogers achieved fame if not fortune by giving the world some of his more profound reflections concerning snobs. His language was expressive. "Be a snob." His illustration, perhaps even a bit lurid, "Marry the boss's daughter." It is my belief that Professor Rogers was merely dressing up the good old advice to the effect of hitching your wagon to a star. The literal interpretation of his advice is much too grossly unlovely to be accepted. If it is accepted, it becomes merely conceit all too easily.

There is no one more conscious than myself of the excellent name Technology has made for itself, but there are indications that Professor Rogers' advice is being taken literally, and that maybe we have acquired a case of swelled-head. I mean that the recent article in THE TECH which set forth in lordly fashion what the Institute man desired in women was a bit "thick." It sounded conceited. If the girl who wrote the recent slightly inexact letter to "The Open Forum" had received a similar "line," I don't blame her for taking a crack at us.

To be sure, if a man spends his days and evenings all wrapped in things like the derivation of the formula for the longitudinal shear per unit length, those subjects are likely to form a large part of his articulate knowledge. That is fine. He is probably a better engineer for it. But if he springs them on an unsuspecting woman as choice bits of conversation, or alludes to his work as the ne plus ultra of professions, he probably sounds conceited, and he most certainly isn't being interesting.

It would be well, perhaps to realize that the engineer is not God's finest creation, and that there are a lot of people who don't give a damn about engineering, and why should they?

Yours for more discreet conceit,
H. R. WILLEY '32.

Institute Glassblower Uses Skill To Construct Intricate Apparatus

Worked for Famous Scientists While at General Electric Laboratories

For twenty-three years, Mr. J. E. Ryan, glassblower at the Institute, has been working at his ancient trade, and in this time has met and seen some of the most famous scientists of today, was gassed during the World War—at Washington, and has had a host of other unusual experiences.

During the seven and a half years he spent in the General Electric Research Laboratories at Schenectady, which are under the direction of Dr. Willis R. Whitney '90, he was personal glassblower to Dr. Irving Langmuir and constructed much of the special apparatus that Langmuir used in his experiments. He was the first to make, among other things, the high vacuum condensation pump invented by his famous chief. Langmuir's unflinching courtesy and willingness to give full credit to all his associates in his reports made him a pleasant employer.

Steinmetz Had Queer Personality

Although Steinmetz was also a member of the laboratory staff at that time, Mr. Ryan did not see so much of him, as he had his own research quarters. The glassblowing he did for him was chiefly exhaust system work.

Steinmetz liked to paddle about on the Mohawk River, on the shores of which his house stood, and he often anchored his boat opposite Mr. Ryan's cottage. On Saturdays and Sundays he could be seen sitting on his porch in a wicker chair, smoking alone. Indifferent to what opinion people had of him, Steinmetz was careless of his personal appearance, and as rumor has it, carried an iron watch.

As to that celebrated occasion when Steinmetz, seeing a "No Smoking" sign in the laboratory, exclaimed, "No smoking, no Steinmetz," Mr. Ryan

declares that Steinmetz often had a cigar in his mouth while in the laboratories, but that it was never lighted.

Has Seen Famous Scientists

Among the persons he has seen pass through the laboratories as visitors are the distinguished scientists Rutherford, Marconi and Millikan, and the famous actress, Maude Adams. During four of the years he spent there he was director of the annual General Electric Laboratories. The type of production varied from year to year, being sometimes a drama, a comedy or a minstrel show, and was given by members of the laboratory staff.

Gassed During War

When the United States entered the war, Mr. Ryan joined the Chemical Warfare Service, and was stationed at Washington in a laboratory working with poisonous gases. One day he was given a tube to work on which had not been washed out after being used in an experiment. Small traces of highly poisonous gases were still clinging to the walls of the tube and as a result of handling it, he was quarantined on sick leave for six weeks.

A rather unique method of warning was used in times of danger. Whenever any poisonous gases escaped, a klaxon was sounded, everyone put on gas masks and got out doors as soon as possible. Then safety engineers entered the building to locate and repair the source of trouble.

Was Dangerous Work

Mr. Ryan has seen fifteen or twenty persons removed from the laboratories, and in some cases they never returned. The laboratory staff was never told what happened to these cases. Toward the end of the war, however, conditions were safer.

Since September, 1930, Mr. Ryan has been at the Institute, coming here from Palo Alto, California. He constructed the apparatus used by Dr. Killian at the recent alumni dinner and demonstration. Chiefly, he is engaged in routine work, in the main for the Physics Department.

AWAY FROM THE GRIND

After the big week-end of the Junior Prom, social activities at the Institute declined somewhat, with only two dances being held during the past week-end. Psi Delta fraternity entertained Friday night, and the Baton Society held a dance Saturday evening.

The Red Moscow Dance of the Psi Delta fraternity held at its house on Bay State Road was attended by about 250 couples who enjoyed dancing to music by the Princetonians. The decorations were of a Russian character with a black and red color scheme predominating. Chaperones for the dance, which lasted from 9:30 till 3 o'clock, were Mr. and Mrs. R. H. Miller.

The sole dance Saturday evening was that given by the Baton Society for members of the Combined Musical Clubs, in the North Hall of Walker Memorial from 8:30 till midnight. The Technicians played for this affair which was well attended.

The University of Virginia is the only institution in the U. S. that is completely satisfied with the honors system.

At the University of Kentucky there is a new ruling whereby no cuts are allowed and no absences are excused unless the student can secure an excuse from the Scholarship and Attendance Committee on the day immediately following his absence.

PLAYLAND 1114 Boylston Street Boston, Mass.

Extends a Special Invitation to the Tech Students to an Evening in Playland

Five Ping Pong Tables in a room which may be chartered for private parties.

A 90-foot Archery Range, with free instruction.

Three Practice Nets and two Chip Shot Machines will provide the necessary spring practice for the opening of the season.

Our Golf Course, with many prize holes, will surprise you.

The sensational Liquid Gas Rifle Range is in operation at Playland.

Over 25 Games and Amusement Devices. Never a dull moment

Tournaments Arranged on Request

ADMISSION FREE

"Hello Girls" At Institute Serve Over 350 Phones

Four Operators Always Busy Making Connections for All Technology

While the telephone operators at the Institute have always been more or less of a mystery and not more than one man out of twenty could tell where the telephone office is located, most of them have had the experience of picking up a receiver to hear a girl's voice answer, "Technology."

Intent on tracing down these pleasant-voiced girls, a reporter finally found the office. It is a small bright room on the second floor of Building 10, overlooking the rear court. At the time of the discovery there were only two girls on duty; but there are four in all.

Four Operators Busy

At first thought it would seem that in a place of education like the Institute there would not be much to do at the switchboard, but the operators, Miss Ahern, Miss McDonough, Miss Green, and Miss Murphey, are kept busy in six-hour shifts from seven in the morning till eight at night.

During the short interview the operators were busy every minute, and as a general rule their time is pretty well taken up from the minute they go on duty until they are relieved.

Twenty Outside Lines

The reason for this is made clear when one considers that in Technology alone there are about three hundred and fifty separate lines, and that some of these lines serve as many as ten or twelve members of the instructing or administrative staff. In addition to these there are twenty outside trunk lines, with one Western Union wire and one Postal Telegraph line.

The operators handle all inside calls—that is they complete calls that are made in the Institute from one office or department to another. If a call is to be made to an outside exchange, the girls make the connection to the exchange, and the person making the call gives his number to the operator directly. If the Institute operators were to attempt to complete both inside and outside calls, more telephone facilities would have to be added.

Operators Talk and Work

The operators managed a few minutes' chat in between calls, and by keeping a careful watch on the flashing lights were able to keep up their end of the conversation and still give their customary capable service.

A new switchboard has been installed which to the inexperienced eyes of the reporter seemed to be a marvel of efficiency. The operators said that it is far different from the old ones—much easier to work and more modern. Certainly they manage the board with a speed and accuracy that seems marvelous to the amateur.

GYM TEAM LEADER HAS ENVIABLE LIST OF MEET VICTORIES

Captain Knapp Is Veteran of Four Years of Gymnastic Team Meets

WINNER OF SIX MEDALS

Having participated in more than thirty meets, having won six medals and the Junior New England Championship last year, having placed in the Intercollegiate of this year, and having done consistently good gym team work all four years, Knapp, captain of the Technology gym team, finishes his fourth year this season.

Knapp has won many first places in gymnastic meets in the East. Although he specializes only on the side horse and rope climb, he has totaled more than sixty points this year.

Won Many First Places

He has won many first places. On the side horse he has come out first in meets with Navy, Army, Temple, Bowdoin, and Dartmouth. On the rope climb he has taken first with Army, Bowdoin, Temple, Dartmouth and N. Y. U.

Last year Knapp won both the Junior and the Senior New England Championship meets. Winning the Junior New England meet prevented him from participation in the Junior Championship meet last Saturday, as it made him ineligible.

Won Six Medals

Knapp won four medals last year at the Junior and Senior Championship meets and in the Intercollegiate. This year he won two medals, both at the Intercollegiate held at Temple.

In all his three years of gymnastic work, Knapp has scored an average of sixty points or twelve first places in each of his Varsity years; in all, he has entered in about thirty meets.

He finds that all the teams of the Institute meets are about equal, with the exception of Princeton and Navy, who are usually exceptionally strong.

NORTHWESTERN GIVES COURSE FOR SLEUTHS

Noted Criminologists to Talk To Sherlock's Disciples

At least one college is going to do its bit to stem the tide of the crime wave. Northwestern University at Evanston, Ill., has announced a new course of lectures on modern methods of crime detection, which will include a study of the newest discoveries as well as the usual methods of criminological practice.

The uses of ultra-violet rays, the examination of firearms and bullets, and the so-called "truth serum," about which there has been a great deal of controversy in detective circles, will be among the subjects considered.

Several expert criminologists have been engaged as lecturers for the course, which is scheduled to start on April 13. Col. Calvin Goddard, noted ballistic expert, is in charge.

TECHNOLOGY WINS FROM NINE SCHOOLS

(Continued from Page One)
won by the Beavers as winning team. Getting of the Institute's squad, won second highest score of any competing man through his second in the horizontal bar and several other events and was presented with the silver medal.

Dartmouth Next High

Of the competing colleges, Dartmouth made a score of 13 and Springfield College made a total of two. The only clubs which placed were the Cambridge Y. M. C. A., which scored four points and the Taunton Y. M. C. A. which scored one.

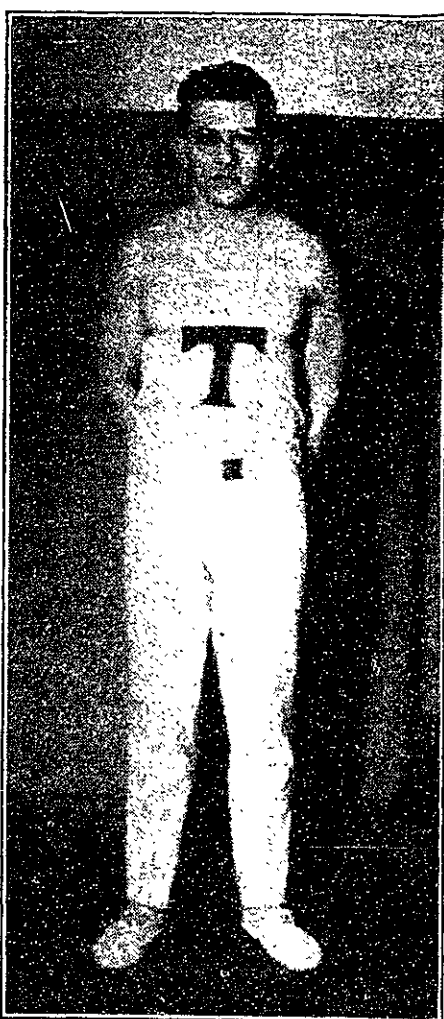
Hutton, Blakesley, and Harper, of Dartmouth won second in the flying rings, first in the side horse and first in the horizontal bar, respectively. Of the Springfield College entries, Babier and Pretka both took third places in the side horse and parallel bars. Estrella and Brown, representing the Cambridge Y. M. C. A., placed second and third in the flying rings and tumbling, respectively, and Reardon, from the Taunton Y. M. C. A., took third in tumbling.

Nine Teams Entered

In all, there were nine colleges and gymnastic organizations entered in the meet. The participating teams were: Dartmouth, Springfield College, Bowdoin College, Malden Turn Verein, Arbeiter Turn Verein, Boston Turn Verein, Taunton Y. M. C. A., Cambridge Y. M. C. A., and M. I. T.

Knapp, captain of the Beaver gym team, was ineligible to take part in the Junior Championship meet, as he had won a first place in it the preceding year. However, he is eligible to participate in the Senior Championship meet which takes place in about two weeks.

Captain of Successful Gym Team for 1930-31



STUART R. KNAPP '31

DR. STRATTON GOES FOR STAY IN EUROPE

Will Be U. S. Representative at Important Meeting

Dr. Samuel W. Stratton, chairman of the Corporation, left for Europe, Saturday, on the Steamship Leviathan for a month's stay in France. Dr. Stratton goes to Paris, where he will be the representative of the United States Government at the forthcoming meeting of the International Committee of Weights and Measures. This conference will be held at the International Bureau of Weights and Measures at Sevres, April 10th to the 22nd.

It will be remembered that Dr. Stratton was formerly engaged in a similar activity in the service of the government, as a director and founder of the U. S. Bureau of Standards at Washington. It was from there that he came directly to Technology.

Dr. Stratton will return to America immediately after the conclusion of the meeting at Sevres. He will be accompanied by Mr. Morris A. Parris.

ENGINEERS MAY NOW HAVE SPORT INDOORS

Rain and Night No Hindrance To Pleasure-Bent Men

Despite the fact that President Walker is reported to have said that the Institute is a place for men to work and not for boys to play, young engineers of the present day and time do occasionally take off a few minutes from work. Even now the days are getting warmer, and the urge to get out and spend a little time in recreation is becoming stronger.

The only thing that prevents the pleasure-loving engineer from indulging in his chosen sport is the fact that he may have classes right up till supper time, and this surely is enough to destroy any spring-brought sport urge.

However, this doesn't deter the really ambitious man. Yankee ingenuity has solved the problem, and Technology men may now slice and hook golf balls to their hearts' content, get their shooting eyes in trim with rifles, and even indulge in the ancient pastime of archery, all notwithstanding the fact that it may be dark as pitch and pouring rain outside.

Institute engineers are already taking advantage of these opportunities to get in their bit of recreation and Ping Pong tournaments have been held regularly. The devotees of the Pee Wee golf links find variety in a course which is completely changed every week. In addition, financially minded engineers try their hands on the trick holes in the course. There are five on which it is possible to win a prize.

But this isn't all. If the work-weary engineers are interested in getting up tournaments of any kind, the management offers to supply prizes for the winners. One has only to arrange for the contests and to see those in charge of Playland on Boylston Street, near Massachusetts Avenue, Boston.

The fad of night football has taken root at the University of Hawaii.

Faculty and Students Benefitted By Institute Photograph Service

Department Grows From Work Of One Man to Model Plant In Brief Period

Growing from an untried plan conceived in the face of a situation rapidly becoming intolerable, to a highly successful and going concern; from a professor's part time side-line to a business employing eight full time workers; from quarters in a corner of the photographic laboratory to the most complete and up-to-date commercial photographic plant of its size in the United States, all in the space of less than five years—that in brief is the story of the M. I. T. Photographic Service. The Service as now organized is a non-profit earning organization operating under the direct control of the Institute, for the convenience of the professors and students of the Institute. It is also unique in that it is probably the only commercial photographic plant in the world working in constant co-operation with a scientific laboratory of research and instruction.

For several years, previous to 1923, Prof. Louis Derr of the Physics Department, had made practically all the lantern slides and other photographs used around the Institute, and with his death in May of that year, there was no one capable of carrying on that work. In the next three years from 1923 to 1926, a number of men tried their hand at it unsuccessfully, failing mainly from lack of proper equipment.

Work Given to Prof. Hardy

Prof. A. C. Hardy, Associate Professor of Optics and Photography, was perhaps the logical person for the job, having both the technical knowledge and the proper equipment. In increasing numbers, his friends brought their

Manager of Institute Photographic Service



MR. FRANK CONANT

photographic jobs to him, and in equally increasing numbers, he was obliged to refuse them because he did not have the time to spare from his teaching.

As time went on, he gradually conceived, almost in his own defense, as it were, the idea of a photographic service which should be operated by the Institute, to make lantern slides, take pictures, and do other photographic work for the professors and

students at the Institute. However, there was neither a man to run such a service nor a place for him to work. Consequently, the idea had to be temporarily shelved.

Service Begun by Mr. Conant

Early in 1926, Mr. Russell W. Conant came to the Institute as instructor and assistant in physics. He was an experienced photographer, and Prof. Hardy saw in him the right man to carry out his idea. It was decided that by some shifting and relocation in the three photographic laboratories, it would be possible to release the middle and smallest one for the use of the Photo Service. The room was fitted up during the remainder of the summer, and when the fall term opened Prof. Hardy turned over the reins to Mr. Conant and launched the infant Photographic Service out into the world to sink or swim by itself. The question was: Would it swim?

Will a fish swim? The service, once started, grew with amazing speed and within a month Mr. Conant was swamped with orders and calling for help. Help came in the person of his brother, Mr. Frank H. Conant, who became and still is manager, devoting his full time to the work and receiving a salary from the Institute for his services.

Many Take Advantage of Work

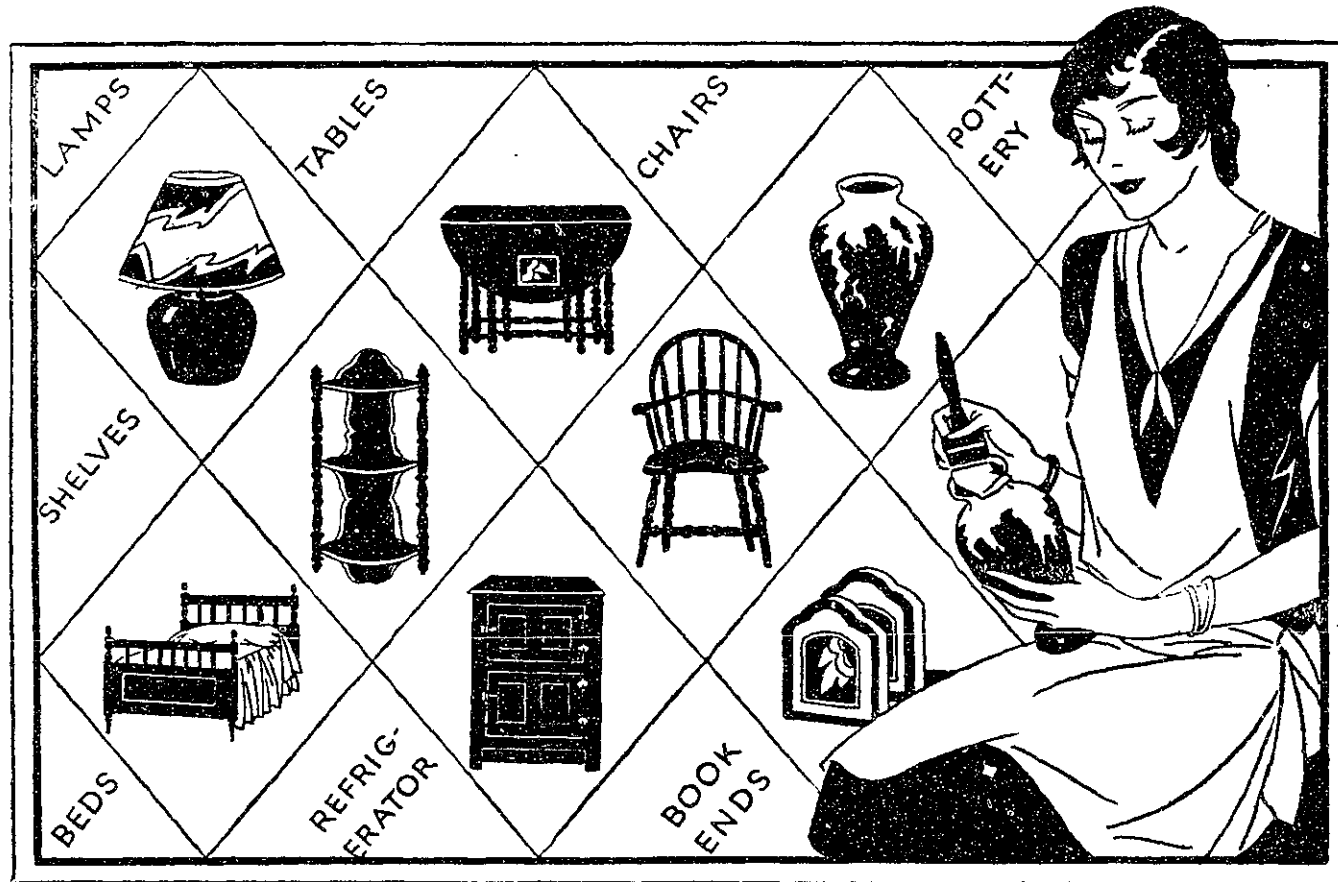
For the two Mr. Conants, those were chaotic times. More and more of the professors and students became aware of the existence of the service and began to take advantage of its low rates and skilled work. Add-

(Continued on Page Four)

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OFFICIAL BULLETINS

OF GENERAL INTEREST

Building Construction Mr. Thomas F. McSweeney '16
Monday, March 30, 10:00 A.M., Room 1-134

A course of illustrated lectures on "The History of the Art of Building" is being given under the auspices of the Department of Building Construction during the second term by Mr. Thomas F. McSweeney '16. Open to students and members of the instructing staff.

Colloquium Electrical Engineering Department
Monday, March 30, and Tuesday, March 31,
2:00 P.M., Room 10-275

Mr. D. K. Blake, Central Station Engineering Department, General Electric Company, will lead the colloquium on "Recent Developments in Electrical Distribution Practice."

Open to seniors, graduate students and members of the instructing staff.

Physics and Physical Chemistry
Harvard University and Massachusetts Institute of Technology
Monday, March 30, 4:45 P.M.,
Cruft Laboratory, Harvard University

Physical Colloquium. "A Case of Anomalous Rotational Energy of Molecules", Professor O. Gildenberg. "Television", Mr. C. H. Matz.

Open to students and members of the instructing staff.

Welding Mr. Peter P. Alexander
Monday, March 30, 4:00 P.M., Room 4-156

A series of lectures on "The Metallurgy of Welding and Its Industrial Application" is being given during the second term under the auspices of the Department of Mining Engineering and Metallurgy, by Mr. Alexander, Research Engineer, Thomson Research Laboratory, General Electric Company.

Open to students and members of the instructing staff.

CALENDAR

Monday, March 30

5:00 P.M.—Instrumental Club rehearsal, East Lounge, Walker Memorial.

6:00 P.M.—Alpha Phi Delta business meeting, Faculty Dining Room, Walker Memorial.

7:30 P.M.—Armenian Club play rehearsal, West Lounge, Walker Memorial.

Tuesday, March 31

5:00 P.M.—Banjo Club rehearsal, East Lounge, Walker Memorial.

5:00 P.M.—M. I. T. A. A. meeting, North Hall, Walker Memorial.

7:00 P.M.—Alpha Chi Sigma meeting, Faculty Dining Room, Walker Memorial.

Wednesday, April 1

8:00 P.M.—Armenian Club play rehearsal, West Lounge, Walker Memorial.

8:30 P.M.—Armenian Club formal dinner, North Hall, Walker Memorial.

Infirmary List

Weldon C. Cotton '33.
Peter Barry '34.
Professor Carle Hayward.
Howard H. Inray, Jr., '32.
William A. Kirkpatrick '32.
Lawrence W. Littrel, G.
James Parker, Employee.
Rose V. Ruch '33.

LOST

A book, "Transactions of the American Society of Civil Engineers," Vol. '93, 1929, was lost in the Cement Laboratory on Monday, March 16. The finder is requested to return the volume to the Central Library as soon as possible.

AS WE SEE THE MOVIES

(Continued from Page Two)
return to his home country because of an unfortunate past, one which causes him to prey upon the wealthy and unsophisticated tourists. Against his better judgment, he becomes vitally interested in an American girl, the niece of the man Powell is blackmailing. When he realizes he is falling in love with her, he tells his pretty accomplice that he is giving up his crooked life forever. Then he tells Carole Lombard his entire story and asks her to be his wife. At this point the other girl (Wynne Gibson) warns Powell that she will not permit him to go with another woman. Thenceforth the story proceeds rapidly to the end, a finish not without its dramatic touch.

The performances of these three principals are remarkably convincing, and contribute to an otherwise average plot. William Powell is as capable as ever, and carries his part with commendable acting.

On the stage is presented "Carnival of Youth," featuring the much advertised Benny Meroff who is given several opportunities to display his versatility. Arthur Martel offers an interesting organ number, and the stage show itself is equal to any that have been presented this year. Then there is the Grand Orchestra selection, "Tonal Hues," which is characteristic of "Met" overtures. In all, the Metropolitan offers this week a program of excellent quality, and one which may not be rivaled for some time to come.

Dr. H. W. McCastline, medical officer of Columbia University, states that the typical Columbia freshman does not smoke, drinks two or more glasses of milk daily, regularly eats his spinach and lettuce and prefers swimming as a sport.

PICTURE SERVICE BENEFITS INSTITUTE

(Continued from Page Three)
tional help was employed and a great deal of new equipment purchased; the service overflowed into the other laboratories. The men often worked until midnight in the attempt to get the work out quickly, but even at that, the best they could offer on amateur finishing was two day service, while commercial jobs took much longer.

The main cause for this was, of course, that the plant was very inefficient. The photographic laboratories had never had been designed for commercial production. There was no darkroom communication, the only connection between the rooms being through the outside corridors. Any form of modern straight-line production was out of the question.

In spite of all their difficulties, however, the service continued to grow, and in 1928 an experimental portrait studio was set up in a small room in the basement of building 2. The room was less than half the size of the present studio, without a window and with practically no ventilation. Steam pipes running through the room added their heat to that radiated by the powerful portrait lamps, and the room became insufferably hot. But the next year, they were awarded the contract for the Technique portraits.

Simultaneously with this, in November, 1929, Mr. Russell Conant left the Institute. The staff of the Service then was composed of Mr. Frank Conant and three assistants. With the awarding of the Technique contract, and the rush of other work that followed it, the staff was rapidly increased, until at one time there were twelve people working in the three photo labs. This was a condition that could not go on, so the new quarters which they now occupy were fitted up in the basement of the Homberg Infirmery Building. The Photographic Service was combined with a Photo-stat Service which had been organized some time before, and the two were moved into their joint quarters just before the start of the fall term in 1930.

The present plant was designed by Mr. Conant in co-operation with engineers of the Eastman Kodak Company; for efficient design and complete and up-to-date equipment, it is probably unsurpassed anywhere in the world. Work which comes into the office goes through a passageway directly into the developing room, and the developed negatives are placed in a special dust-proof drying cabinet, set in the wall between the developing room and the printing room.

WILSON COMPTON DEFENDS LUMBER'S PLACE IN INDUSTRY

Shows Where Opportunities Are Open for Research And Applied Science

4,000 INDUSTRIAL USES

(Continued from Page One)
cent goes into the manufacture of lumber. Nearly 40 per cent is used for fuel; only 4 per cent for miscellaneous products, such as fencing, cooperage, poles, posts, and piling. Another 10 per cent is destroyed by fires, tree diseases, and forest insects. He cited these facts as an indication of the stupendous physical opportunity for more complete utilization of raw material in the wood industries. They provide a great field for scientific exploration and for the talent of the technically trained man in lumber production, distribution, and consumption.

Speaking of the problems of distribution, Dr. Compton stressed the need for improvements in transportation and distribution methods which would place wood at the primary fabricating plant at lower cost. "Probably the greatest single recent advance in reducing the cost of lumber to the wood fabricator," he said, "is in the field of dimension cuttings. In this process the defects are cut out at the source of production; expensive transportation costs on waste are avoided; and cut-to-desired-dimension stock is made available to the wood fabricator." He predicted that despite present lack of standardization, and unwholesome competitive conditions, this advance is sound and will go forward.

Many Commercial Uses

Dr. Compton said that there are more than 4,000 industrial uses of lumber and wood of commercial importance. Most of them are fabricated products of the wood-using industries, although more than 60 per cent by volume of the lumber product is used in building. There are in the United States some 600 different species of trees. About 500 of these are known as hardwoods, and the remainder are evergreens. Not all of these trees, however, attain sufficient size for lumbering. The user of wood has available for his purposes about 100 different species, of which about 30 are important. Dr. Compton then considered the separate and distinguishable properties of the various woods, and their use for specific purposes.

Opportunities for Research

Discussing the utilization of woods, Dr. Compton said that in his opinion the largest opportunities for research, applied science, and engineering in this industry may be divided into seven classifications. These are:

First, the accurate determination of the mechanical, physical, and chemical properties of the important commercial domestic woods.

Second, detailed study of the mechanical, physical and chemical properties required in wood for each of its 4,000 diversified commercial or industrial uses.

Third, the physical or chemical treatment of those properties to increase their usefulness for those purposes and to improve their behavior in actual use, including proofing against fire, decay, stain, insect attack, shrinkage, warping, or other forms of deterioration.

Fourth, engineering studies of the exact needs in mechanical equipment and operation for the fabricating and chemical conversion processes.

Fifth, engineering and architectural studies of improved designs of wood construction and assembly of structural parts.

Sixth, the production of wood pulp products.

Seventh, scientific research in wood cellulose and lignin and ultimately the uses of wood chemical derivatives.

Dr. Compton emphasized the need for properly designed woodworking machinery to avoid unnecessary waste or loss in fabrication, and he added that more efficient apparatus for seasoning and treating wood to improve its properties is one of the needs of the industry. In conclusion Dr. Compton said that science and the industry together must explore the possibilities of improved utilization of wood.

Not Ready to be Discarded

"The lumber industry is becoming aroused to this fact," he said. "Those who have relegated the lumber and wood-using industries to early commercial discard have in my judgment reckoned prematurely. The greatest competitor of any industry today is change. No industry is immune. No industry, because of the wide range of qualities and adaptability of its products, has a greater opportunity in the long run to meet successfully this competition of change, than have the diversified wood industries."

Freshman's Attempt to "Fritz" Lecture Fails

Last week an enterprising freshman decided to "fritz" a certain well-known Chemistry Professor's lecture. Accordingly, just before the lecture he slipped into 10-250 and calmly (?) proceeded to pour nitric acid into the demonstration jars which were lined up on the table and filled with water preparatory to the coming lecture. He had put a little of the HNO₃ into about half a dozen of the jars when in walked... the professor! That gentleman came, saw, and then proceeded to say things... to the extent of which the freshman left the lecture room with considerable lack of dignity and no considerable lack of velocity. It is not recorded what the professor's feelings were, but we can imagine that he shudders apprehensively even now whenever he chances to think of the wild and weird results that would have been forthcoming in the experiments had he not walked into the lecture room and caught the culprit.

Possibilities Of Structural Timber Related by Dolge

Aldred Speaker Tells of Many Advantages Available Only in Wood

Ernest Dolge of Tacoma, Washington, gave a large Aldred Lecture audience a new insight on the characteristics and possibilities of structural timber last Friday afternoon and presented a number of facts in its favor which must have been unknown to those at all unfamiliar with the subject. Mr. Dolge was introduced by Dr. Wilson Compton who had spoken earlier in the day and the latter was introduced in turn by his brother, President Compton.

Commenting on the strength of wood, he said, "Wood is exceedingly strong for its weight, when properly selected and graded, timber is excellent structural material. It adjusts itself readily to atmospheric conditions with a minimum condensation of moisture. It retains its strength under extreme heat or cold. It absorbs shocks and regains its shape remarkably well. It resists reverse stresses effectively. Wood stresses have proved most resistant to earthquakes and tornado damage. Wood usually gives advance warning of impending failure under overload, giving ample time for escape from injury."

Support Large Loads

"Wood is particularly strong in compression parallel to grain," he said. "When dry, a Douglas fir column of dense structural grade 14x14 inches and 12 feet long will safely support two hundred fifty thousand pounds or an ultimate load of a million pounds. Jacoby tells of 96 Douglas firs that supported over ninety thousand pounds in the construction of a famous cathedral."

He cited the case of the wood ship that Admiral Byrd used in his expedition to the antarctic regions. The ship was built in 1882 but resisted the sharp jagged edges of countless icebergs with the greatest success after 34 years of service. Also the case of the Lake Ponchartraine trestle in which 97 per cent of the creosoted trestles are in service after forty-five years.

In conclusion he went on to say, "We find the most enthusiastic advocates of good wood among the engineers who are most familiar with it. Some engineers have told me that their knowledge of wood was so superficial that they often employed other materials with which they were more familiar notwithstanding a conviction that timber would have been better or more economical or both."

Need of Cooperation

"The National Lumber Manufacturer's Association in cooperation with the Forest Products Laboratory

NIAGARA FEATURE TECHNOLOGY REVIEW

Articles on Reclamation and Child Behaviour Included

(Continued from Page One)

Memorial for Clinical Research and Preventive Medicine is the author of "Causes of Misbehavior," an interesting and readable article on the possible endocrine factors in the behavior problems of childhood. Free from the distortion and sensationalism that mark so much modern writing on the ductless glands, Dr. Rowe gives an account of the ways in which disorders or abnormalities in the ductless glands will affect the personality and behavior of children.

Child Behavior Discussed

The analysis of cases and the difficulty of determining when and how much a child is abnormal in behavior is discussed. Many causes outside of endocrine disorders were found to enter into the cases, perhaps caused by these disturbances, as for instance metabolic disturbances shown by the children observed.

The gigantic project to reclaim the Hackensack Meadows in New Jersey and build a city there is discussed by William P. Cutter, a contributing editor to the Technology Review, in "City of Tomorrow." Because of the tremendous cost and legal difficulties of such an undertaking only the state can undertake the project.

City Carefully Planned

With a balanced apportionment of the land for business, industry, residence and recreation, the city, if built would embody all the advances and improvements that have been made in the planning of cities. The plan also includes a port, with a series of wharves and docks, and a ship canal made by straightening out the Hackensack River. The meadows at present are on the average only four feet above high tide, covered in times of flood, and overgrown with rank sedge. They are also a breeding place for particularly vicious species of mosquitoes.

As usual, the pictures and illustrations of the Technology Review are appropriately chosen and often beautiful. Deserving of special mention is the frontispiece, showing photographic studies of magnified plants, an illustrating Oscar Wilde's dictum that nature imitates art.

has quite recently conducted tests that established the most effective methods of securing rigidity in wood wall panels. Other tests with structural timbers are underway. The National Committee on Wood Utilization of the U. S. Department of Commerce has broadcast much helpful and constructive information.

SIMPLEX WIRES and CABLES

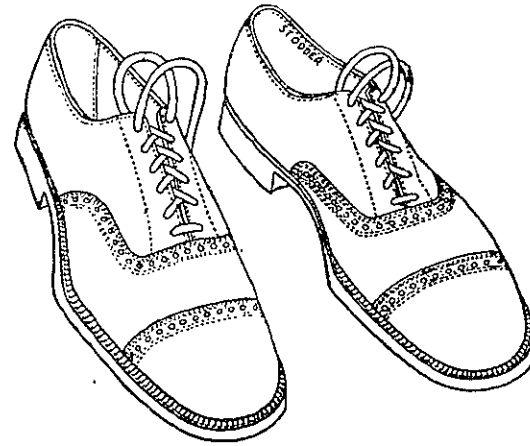
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