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PHOTOS OF MARS SUPPORT THEORY OF LIFE THERE.

PROF. LOWELL OF INSTITUTE FINDS
MORE EVIDENCE TO THAT EFFECT.

Sent to South America to Get Best Pictures
of Planet.

Professor Percival Lowell, non-resident professor of astronomy at the Institute, founder of the Lowell Observatory at Flagstaff, Ariz., and the leading authority on the planet Mars, returned to Boston Tuesday, bringing with him some remarkable photographs of the neighboring planet.

These photographs were taken at the Lowell Observatory, and by the expedition sent out from the observatory at Alianza, in Chile, South America, and they corroborate the theory of Professor Lowell that Mars is the abode of intelligent life. Transparencies from these photographs have been placed on exhibition in the main hall of Rogers.

In the canal-like markings originally discovered by Schiaparelli, Professor Lowell finds not at all natural diversities of surface, but an artificially constructed irrigation system brought into existence to serve the needs of sentient beings. These canals, linking the polar snow water with the arid region of the equator, appear at springtime when the polar snows have melted; and as the water flows, bands of vegetation spring up, growing blue-green with the summer's crop, changing to a gold brown as the autumn comes on. The flow, as far as it can be noted, occurs twice a year, first from one pole, then from the other; it advances down the latitudes with a regular speed of 52 miles a day.

The canals are held to be narrow belts from 10 to 20 miles wide on the average. They form a closely reticulated system, characterized by straight lines and junctions, which, Professor Lowell maintains, puts the hypothesis of natural origin altogether out of the question.

One of the most remarkable features of the canals is that—in complete accordance with the theory—some of them appear to be double. For some time the canals were figured as they presented themselves to the telescopic observer. By some it was objected that the lines might be illusions of vision. But in the past few months Professor Lowell has had the satisfaction of obtaining photographs of the planet even better than those of two years ago, which amply confirm the appearances previously shown in his drawings.

The new evidence consists of two sets of pictures obtained by himself and Mr. Lampland at Flagstaff Observatory, and by Mr. E. C. Slipher at Alianza, in Chile, South America. The expedition to the Andes, led by Professor Todd, was organized by the Lowell Observatory. E. C. Slipher, one of the scientific experts of the observatory, accompanied the expedition, took with him apparatus devised by Mr. Lampland, and also availed himself, in the actual work of photographing Mars, of Mr. Lampland's suggestions as to the method. All the Mars work in South America was done by him.

The results achieved at Alianza, where at an elevation of about 4,000 feet the air is unusually steady, proved both remarkable and very interesting. Previously to this year it had been possible to show only single lines for the canals of Mars, but the plates taken at Flagstaff first and then at Alianza plainly bring out the doubling of some of the canals. It is regarded as an event in the history of the application of photography to observational astronomy that the first picture of a double canal on Mars—that of "Gihon"—was made at Flagstaff and then again in South America, under the auspices and direction of the Lowell Observatory.

All the photographs taken by Mr. Lampland and by Professor Lowell at Flagstaff, as well as the pictures obtained at Alianza by Mr. Slipher, being of the same region of the planet in each case, show complete agreement with the drawings of the planet hitherto made.

CORNELL AGAIN WALKS OFF WITH INTER- COLLEGIATE CROSS COUNTRY CHAMPIONSHIP.

TECHNOLOGY COULD ONLY LAND SEVENTH PLACE, ONE POINT BEHIND COLUMBIA
AND FOUR AHEAD OF PRINCETON.

Haskins of Pennsy Takes Individual
Honors and Breaks Record.

(By D. C. McMurtrie.)

PRINCETON, N. J., Nov. 27.—For the eighth time in nine years, Cornell came out victorious in the intercollegiate cross country race here today. At no time was the outcome of the race in doubt and the Ithacans won with little effort. Six of Cornell's men finished among the first thirteen out of a field of sixty-eight starters, giving the Ithaca university the small total of 39 points.

Pennsylvania repeated the story of last year's race by taking the individual

Tech's Bad Showing Due to Lack of
Training.

(By D. C. McMurtrie.)

PRINCETON, N. J., Nov. 27.—Beaten by the superior training and the larger experience of their opponents, Technology's representatives in the intercollegiate cross-country race here today secured seventh place in the team score for the Institute. R. Ellis, 1909, and J. N. Stephenson, 1909, furnished a big surprise by taking 24th and 25th places.

Technology was hardly a dangerous factor at any time in the race. Lack of previous experience, lack of that endurance which comes only from long and continued running, were the factors which caused the Institute's bad showing.

That this is true is shown by the fact that the two men who finished first and second, respectively, for Tech were the men who had trained the longest and the most consistently. Moreover, only three of the eight men on the team were members of last year's team.

Ellis, one of these three men, trained consistently last season, and did so again this year. Stephenson has been training hard for three years, and the result of that training was shown in the trials for the team, and again here today.

Callaway, captain of last year's team, did not come out until late this season, owing to the injury to his ankle which he suffered last season, and he not only was not in correct training, but he was forced to drop out of the race at the end of the second mile because of a recurrence of the old trouble with his ankle and knee.

The other man from last year's squad, Capt. Howland, has not been in good training all season, but nevertheless ran a gamy race today. Gimson, like



CAPT. H. H. HOWLAND

championship, and the second place for team honors with 61 points. Plodding through mud and water until he was besmeared from head to foot, Guy Haskins, Pennsy's fleet runner, finished first, running in superb form and breaking the tape fully 50 yards ahead of the second man.

Besides getting the individual honors, Haskins also shattered the time record for the course by over 19 seconds, the time of the race today being 35m 9 1-5s.

In the team championship Yale won third place with a score of 135. None of the Yale runners did particularly well, but the average of the team's work was good.

Syracuse furnished the surprise of the day by walking away with fourth place with a score of 173 points. This is the first year that Syracuse has entered a team in the race, and the achievement of "Tom" Keane is all the more remarkable on that account.

Fifth place went to Harvard with 182. Columbia finished sixth with 227, and only one point behind came Technology. Princeton had won both from Columbia and from Yale in dual runs earlier in the season, but the best the New Jersey men could do today was 231 points.

The day was perfect for the race, but the condition of the course was very poor. A heavy rain the day before had made the clay ground very sticky and the teams had to take extraordinary precautions to keep the running shoes from coming off in the mud. The course was slightly different from the one used last year, but was about the same length, 6 1-2 miles.

The start was made in a great puddle of water, and the men went off in a splash, fighting for the lead. The line at the start stretched out for 50 yards, but at the first hill the men had become well bunched. Throughout the first lap the runners held well together as no one was able to secure any considerable lead. The four front men, Ha'stead and Colpitts of Cornell, Whitey of Princeton, and Haskins of Pennsylvania were running nearly abreast.

(Continued on page 3.)

SOCIETY OF ARTS ORGANIZED TO IN- VESTIGATE PROGRESS.

PRES. ROGERS PLACED IT FIRST IN HIS
PLAN FOR THE INSTITUTE.

N. L. Cheney Will Speak December 5 on
Refrigeration.

In the "Objects and Plans of an Institute of Technology," published in 1861, President William Barton Rogers proposed to establish an institution to be called the Massachusetts Institute of Technology, having the triple organization of a society of arts, a museum of arts, and a school of industrial science.

Thus the Society of Arts was placed first in the plan of the Institute, and after the Institute was founded it was the most important of the three organizations. In the records of the society at that time the statement was always made, "Meeting of the Institute of Technology as the Society of Arts."

It elected a committee called the "Government," which was the governing body of the Institute, corresponding to the present Corporation. This committee met down town and gradually became independent of the society, re-electing itself at the expiration of its term.

Finally it was found that this self perpetuation was illegal. So another charter was secured from the State of Massachusetts legalizing the past actions of the Government and vesting the governing power in the Corporation.

At a meeting of the Society of Arts, Nov. 10, 1881, President Rogers said in the course of his introduction of General Walker to the public as President of the Institute and of the Society:—

"The Society of Arts has steadily performed good work, as is evinced by the character of the records which it can exhibit. It might have prospered more rapidly and have attained to what might have been called magnificent proportions, relatively speaking, had it not abstained with conscientious care from all exhibitions which might have the taint of commercial recommendation."

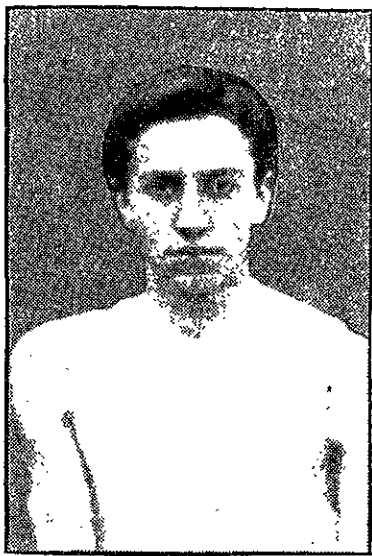
"It has carefully and sedulously abstained from these, and hence to-day it maintains its pure reputation as an institution for the promotion of mechanical science and the useful arts without any reference whatsoever to the mercantile interests of any of the individuals representing the Corporation."

"This is something to be said to its credit, because those who have been with me in this matter know how many have been the inducements, how many have been the temptations and seductions presented to deviate from this course of pure scientific and educational rectitude, and in no case has such a deviation, one hair's breadth, been ever permitted."

"Now, gentlemen, we have attained a point in the growth of the Institute which seems to demand a corresponding expansion in this department of the Institute. It cannot be severed from the Institute of Technology under any circumstances. It is properly growing, and I trust its future growth will justify the hopes that have been entertained in the early part of its history."

President Rogers organized the Society of Arts "for the investigation of the progress made in the industrial arts." It was proposed that the Institute in this character should promote scientific research by the exhibition at its meetings of mechanical inventions and new industrial processes. Also the society was to found a journal to advance the interests of the industrial arts and of education.

So the society, twice each month, invites some man prominent in the technical world to speak before it. These meetings are open to the public. The society has met with some difficulty in the publication of scientific discoveries because investigators generally prefer to publish their results in journals devoted to the sciences to which they appertain.



R. ELLIS

Callaway, had not been out long enough to get into training, while Batchelder and MacCreddie have not yet come to the limits of their possibilities. McCarthy did not come up to his standard because it was the first big race in which he had ever ran.

In the race today throughout the first three miles, Tech's men held well together, as the order in which they passed the mark will show: Ellis 21; Stephenson 31; Batchelder 36; MacCreddie 37; Gimson 41; Howland 44; and McCarthy 49. Callaway had been forced to drop out at the end of the second mile.

Ellis was the first Tech man to finish, having kept up a steady pace throughout the 6 1-2 miles. He was in 24th place, only 2m. 34 4-5s. behind Haskins. Stephenson followed him over the line one second behind.