IT gives us great pleasure to announce the
election of Mr. Morgan Barney, 1900, to
the editorial board of The Tech.

Typical Theses.

COURSE XIII.

[A Progressive Speed Test on the Police Boat "Guardian"
of the City of Boston. By W. H. Allen, Jr.]

The object of this test is to determine the
distribution of the power developed by the
propelling machinery of the "Guardian." A
part of this power, only, is used up in over-
coming the skin and wave resistance of the
boat, the remainder being absorbed by the
internal friction of the engine and by the slip
and friction of the propeller.

The course over which the tests were made,
extends in a direct line with Sunken Ledge
Beacon and Boston Light, from a point where
the western end of Galloupe's Island and Deer
Island Light are in line, to a point where
Great Fawn Bar and False Spit Beacon are
in line. This course was selected in order to
give shelter from the wind, and a proper depth
of water, and to obtain the desired direction of
the tide, that is, to have the current as nearly
in line with the course as possible. It may
be stated here that the course has been accu-
ately surveyed by Messrs. Hosmer and Spear
of the Senior Class in the department of Civil
Engineering.

The tests made were as follows: The boat
was run at five different speeds, going over
the course ten times; one trial consisting of an
outward and inward run, in order to eliminate
the tide effect, thus showing the importance of
a good course; indicator cards were taken at
regular intervals, depending upon the speed of
the trial in question.

The time was taken by means of stop
watches, which gave the actual time of each
run; then the two runs of each trial were
averaged, which gave the mean trial.

A signal was given in the engine room just
as the boat crossed the line at the start and
finish, in order that the revolutions of the
engine might be ascertained, and also to de-
note the proper time to commence taking the
indicator cards.

Water-line measurements were taken before
leaving the dock and after the completion of
the tests. This was done in order to obtain a
mean water line from which the displacement
and wetted surface, during the trials, could
be calculated; thus taking into account the
weight of coal burned, and therefore allowing
for the change of trim due to this loss of
weight.

The general description of the "Guardian"
is as follows: the engine is of the triple ex-
pansion type, with three cylinders, 124, 19,
and 33 inches in diameter, by 24 inches stroke,
and designed for a boiler pressure of 165
pounds. The propeller is four bladed, hav-
ing a diameter of 7 feet 4 inches and an 11-foot
pitch. The hull dimensions are, over all,
112 feet; L. W. L., 102 feet; beam, 20 feet;
and draught, 8.5 feet to 9 feet.

With the preceding data at hand, every-
thing is given that is necessary to make the
entire calculation of the trial analysis. The
results and method of procedure will be fully
stated in the thesis itself.

The method that will be pursued is the one
developed by D. W. Taylor, Naval Con-
structor, United States Navy, which he has
applied to the United States Gunboat "York-
town."

Civil Engineering Society.

The last meeting of the Civil Engineering
Society was held on Monday evening, May
3d, in 22 Walker. Mr. F. P. McKibben, of
the Civil Engineering department, read a
paper on "The Erection of Metal Bridges." The
large number of men present felt amply
repaid for going, and listened to a bright and
forceful discussion of the evening's subject.
The paper was necessarily very much con-