

and but three small gifts. President Schurman's report, extending to 57 pages, is followed by appendices filling 117 pages, which give reports from other executive officers, the courses and attendance, and the publications by the University officers.

#### DISCUSSION AND CORRESPONDENCE.

##### ORGANIC SELECTION.

TO THE EDITOR OF SCIENCE: It seems to me that Professor Poulton's conclusion of the very interesting discussion on 'Organic Selection,' published in SCIENCE, October 15th, involves a serious confusion of ideas. He advocates the theory that natural selection confers on organisms the power of reacting adaptively to external forces. It is easy to conceive the effect of natural selection on an organism, assuming that the power of adaptation pre-exists; but it is incomprehensible that any amount of advantageous crossing should give the power of adaptation itself to an organism that does not already have it. Professor Poulton's arguments against that power being a property of a living organism are, I think, inconclusive. He dwells on the remarkable fact that physical forces awake responses which have to do with organic relations; but what of it? This shows only how powerful the tendency is. It is clear that any substance, animate or inanimate, reacts according to its own nature. If you drop a lighted match on to a pile of shavings, or on gunpowder, or into water, or on to a dog, certain pretty definite phenomena will occur in each case; yet the stimulus is the same; the recipient only is different. In the three earlier cases the results will be physical; in the case of the dog we reach the sphere of sensation. If the experiment be performed on a man we involve the moral sphere also, as he will either swear or refrain from swearing.

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##### A GASOLINE LAUNCH FOR FIELD WORK.

TO THE EDITOR OF SCIENCE: Last winter several papers and magazines, including SCIENCE (Vol. V., No. 119), noted the fact that I

was constructing a gasoline launch for facilitating the study of paleontology and stratigraphic geology at Cornell University. Feeling that the results of this undertaking have been satisfactory in every way, and may be of interest to other investigators and teachers, I take pleasure in furnishing the following notes: First, as to what has been accomplished during the summer with this launch; second, why a naphtha or gasoline launch is preferable to one propelled by steam.

July and August were spent on a long voyage from Ithaca to lower Chesapeake Bay and return, going *via* Erie Canal, Hudson River, Raritan River and Canal, Delaware River, Delaware and Chesapeake Canal, Chesapeake Bay and its many inflowing rivers. The special object of this expedition was to collect large quantities of Eocene and Miocene mollusca from Maryland and Virginia. Four students and myself constituted the party. During September a shorter excursion was made along the Erie Canal to Troy, N. Y., where Archæan, Cambrian, Ordovician, Silurian and Devonian outcrops were visited, either as they were found along the canal or at no great distance to the north or south. During term time the launch is being used for taking classes to fossiliferous outcrops along Cayuga Lake.

Now, a word as to why gasoline is preferable to steam:

1. Cost.—(a) Any well constructed boat 30 feet long, with a 6-horse power gasoline engine will run 800 miles on two barrels of oil; cost about \$9.00 on an average, *i. e.*, a little over a cent a mile; (b) while on government waters no licensed engineer or pilot is required. With a few days' practice, under the direction of one acquainted with the engine, one learns his engine thoroughly and can as easily go up the Potomac to Washington as navigate his own mill-pond.
2. Freedom from government inspection.
3. There being no boiler or fire, the boat is light, roomy and cool.
4. When stopping at an outcrop no gasoline is being used. The whole machine is at a stand-still, dead. But to start up and get under full speed requires less than a minute.

There are many other interesting points that ought to be touched on here, but space will