

temperature, to test its accuracy, for had it given the same result as the Miller-Casella, it would have been a conclusive proof that the water was warmer below the depth of minimum temperature, instead of, as was supposed, remaining at that temperature. This time, however, when hove to the surface, the cogwheel attached to the propeller was missing, and the thermometer was in the same position as it was when sent down, consequently it did not register. On February 12, 1875, the machine being again in working order, the observations were proceeded with. The apparatus was first sent to the bottom in 2550 fathoms, No. 18 thermometer being again used, and it was afterwards sent to less depths with the following results:—

Depth in Fathoms.	Temp. by Miller-Casella.	Temp. by Negretti & Zambra, No. 18.	Depth at which temp. given by Neg. & Zam. was found by Miller-Casella.	Remarks.
50	74.5	71.0	80 fathoms	
100	68.0	70.0	85 "	
200	54.0	46.5	290 "	
2550	35.4	43.0	400 "	

“From this date the experiments with this instrument were continued as opportunity offered; the results are embodied in the table on the next page.

“It will be seen from the above and following tables that four thermometers have been under trial on board, Nos. 18, 30, 77, and 152, and that observations with each instrument have been taken at various depths, the results being briefly as follows:—With No. 18 five observations were made, four of which gave a higher reading than the protected Six thermometer, and one a lower reading; with No. 30 twelve observations were taken, ten of the results being higher than those obtained by the protected Six, and two lower; with No. 77 six observations were obtained, all the results being higher than those obtained by the protected Six; and with No. 152 twenty-five observations were obtained, ten of which were higher than the protected Six, fifteen of them agreeing within 1° with the results given by that instrument, and none being lower. Of the fifteen results given by No. 152, which agree so closely with the protected Six observations, it will be noticed that ten of them were taken at depths less than 400 fathoms, whilst the ten results that disagree were, with one exception, taken at depths exceeding 400 fathoms. It will thus be seen that, of forty-eight observations taken with these thermometers thirty were higher, three were lower, and fifteen similar to the observations taken with the protected Six instruments at the same depth.

“That the Negretti & Zambra instrument might occasionally show a lower temperature than the protected Six can easily be understood; for, supposing them both to stand