was left open to objection. This may be accounted for by the fact that there was shown to me his article *minus two paragraphs*—the last paragraph on page 458 and first on 459. Therein *inertia* alone was represented as *bringing back* the planet from aphelion to perihelion. That the planet, traveling its orbit from perihelion to aphelion, as it were *diagonally against* the central attraction of the sun, would find its velocity and momentum diminished sufficiently to be made to return, I do not doubt; but that on the *second* round, it would reach the farthest limits of its first round, I do not think there is any reason to believe. The tendency would be to bring the orbit into a perfect circle very speedily. In the polarity, which is a factor of magnetism, we find a needed *regulative* agency. Do we say that this agent is too insignificant? Nevertheless may it not be, in the words of Faraday, the "*very small change* in some unknown condition of the bodies" involved in the operation, which is all-sufficient for what is required of it? We recognize the force of Faraday's objection to the popular definition of gravity, viz.: that *alone* it is incompetent, and contradicts the law of conservation—except as we add to it *something more*. That something more we fully believe to be that electrical or magnetic constituent which Faraday says "exerts an appointed and essential influence over every particle of matter."

QUERY.—Is it wise or philosophical to recognize a cosmical force of incalculable energy, and yet in our theory of the cosmas make no practical account of it whatsoever?

H. RAYMOND ROGERS.

DUNKIRK, N. Y.

The death of Mr. Charles A. Spencer, of Geneva, N. Y., has caused universal regret, and in many respects it may be considered a national loss, for as a representative of America's skilled opticians his position was unique. As a pioneer he was the first to manufacture Microscope objectives in the United States, and at once developed a skill in the manufacture of these minute and delicate glasses, which he maintained to the last. Spencer was no copyist, his inventive genius and thorough knowledge of the optical principles involved in the making of objectives enabled him to keep in the van of all those who devoted themselves to the same art.

The greatest triumph of Spencer was in the enlargement of the angle of aperture of his objectives, in which respect he was always in advance of the best European makers, but he will always be remembered as a conscientious worker, who never permitted an objective to leave his hands which was not worthy of the maker.

EXCHANGES AND WANTS.

WANTED.—Tables of the Parabola for Cash. E. E. Barnard, Nashville, Tenn.

SECOND-HAND MICROSCOPES wanted, also objectives. Name price for each. B., office of "SCIENCE."

FOR EXCHANGE.—Large English Mahogany Cabinet for mounted slides, apparatus and books, for best 1-8th or 1-10th objectives. Address C. R. T., office of "SCIENCE."

METEOROLOGICAL REPORT FOR NEW YORK CITY FOR THE WEEK ENDING OCT. 22, 1881.

Latitude 40° 45′ 58″ N.; Longitude 73° 57′ 58″ W.; height of instruments above the ground, 53 feet; above the sea, 97 feet; by self-recording instruments.

OCTOBER.	BAROMETER. MEAN FOR THE DAY. Reduced to Freezing.	BAROMETER. MAXIMUM. Reduced to Freezing.	BAROMETER. MAXIMUM. Time.	BAROMETER. MINIMUM. Reduced to Freezing.	BAROMETER. MINIMUM. Time.	THERMOMETERS. MEAN. Dry Bulb.	THERMOMETERS. MEAN. Wet Bulb.	THERMOMETERS. MAXIMUM. Dry Bulb.	THERMOMETERS. MAXIMUM. Time.	THERMOMETERS. MAXIMUM. Wet Bulb.	THERMOMETERS. MAXIMUM. Time.	THERMOMETERS. MINIMUM. Dry Bulb.	THERMOMETERS. MINIMUM. Time.	THERMOMETERS. MINIMUM. Wet Bulb.	THERMOMETERS. MINIMUM. Time.	MAXI'M In Sun.
Sunday, 16	30.116	30.218	10 p. m.	30.000	2 a. m.	68.0	63.0	76	2 p. m.	67	2 p. m.	62	12 p. m.	56	12 p. m.	138.
Monday, 17	30.104	30.212	0 a. m.	29.918	12 p. m.	63.0	60.3	66	12 p. m.	65	12 p. m.	59	4 a. m.	54	4 a. m.	105.
Tuesday, 18	29.760	29.918	0 a. m.	29.678	2 p. m.	67.0	62.6	78	2 p. m.	68	2 p. m.	51	12 p. m.	48	12 p. m.	131.
Wednesday, 19	30.092	30.118	11 a. m.	29.908	0 a. m.	50.0	45.6	55	2 p. m.	45	2 p m.	45	6 a. m.	44	7 a. m.	120.
Thursday, 20	30.031	30.098	0 a. m.	30.000	2 p. m.	51.3	49.3	56	3 p. m.	52	3 p. m.	47	1 a. m.	45	1 a. m.	125.
Friday, 21	30.179	30.200	9 a. m.	30.068	0 a. m.	53.7	50.3	61	3 p. m.	55	5 p. m.	44	7 a. m.	44	7 a. m.	128.
Saturday, 22	30.142	30.208	9 a. m.	30.100	5 p. m.	57.0	52.7	67	4 p. m.	59	5 p. m.	46	7 a. m.	46	7 a. m.	122.

Mean for the week	30.060 inches.	Mean for the week	Dry. 58.5 degrees / Wet. 54.8 degrees.
Maximum for the week at 10 p. m., Oct. 16th	30.218 "	Maximum for the week at 2 pm 18th	78. " at 2 pm 18th, 68. "
Minimum " at 2 p. m., Oct. 18th	29.678 "	Minimum " " 7 am. 21st	44. " at 7 am 21st, 44. "
Range	.540 "	Range " "	34. " 24. "

OCTOBER.	WIND. DIRECTION. 7 a. m.	2 p. m.	9 p. m.	Distance for the Day.	FORCE IN LBS. PER SQR. FEET. Max.	Time.	HYGROMETER. FORCE OF VAPOR. 7 a. m.	2 p. m.	9 p. m.	RELATIVE HUMIDITY. 7 a. m.	2 p. m.	9 p. m.	CLOUDS. CLEAR, 0 OVERCAST. 10 7 a. m.	2 p. m.	9 p. m.	RAIN AND SNOW. DEPTH OF RAIN AND SNOW IN INCHES. Time of Beginning.	Time of Ending.	Duration. h. m.	Amount of water	OZONE. 0 10
Sunday, 16	w. s. w.	n. n. w.	n. e.	178	2½	1.50 am	.542	.542	.451	94	60	73	0	7 cir. cu.	3 cu.	-----	----	-----	--	3
Monday, 17	e. n. e.	e. n. e.	s.	138	1¼	6.00 am	.412	.497	.562	77	83	94	8 cir. cu.	10	10	-----	-----	-----	--	0
Tuesday, 18	s. e.	w. n. w.	n. n w.	240	12¼	11.00 pm	.612	.550	.404	89	57	93	8 cu.	9 cu.	0	-----	-----	-----	--	6
Wednesday, 19	n. n. w.	n. e.	e. n. e.	234	6¼	5.50 am	.262	.243	.247	84	56	71	0	6 cir. cu.	8 cu.	-----	-----	-----	--	0
Thursday, 20	n. e.	e. n. e.	s. s. e.	111	1½	2.30pm	.284	.349	.348	85	80	93	9 cu.	5 cir. cu.	0	-----	-----	-----	--	0
Friday, 21	n. w.	n. e.	s. w.	65	¼	1.15pm	.288	.297	.391	100	55	87	0	2 cir. cu.	0	-----	-----	-----	--	2
Saturday, 22	w. n. w.	s. w.	s. w.	134	2¼	3.20pm	.311	.330	.396	100	53	76	0	0	0	-----	-----	-----	--	0

Distance traveled during the week	1,100 miles.	Total amount of water for the week	.00 inch.
Maximum force	12¼ lbs.	Duration of rain	0 hours, 00 minutes.

DANIEL DRAPER, Ph. D.

Director Meteorological Observatory of the Department of Public Parks, New York.