A PAPER on the " Electrical Resistance and the Coefficient of Expansion of Incandescent Platinum," by E. L. Nichols, Ph.D., was read at the Cincinnati Meeting of the American Association for the Advancement of Science, August, 1881, fully reported in *Amer. Jour. Science*, November. In his discussion of the subject, the author after showing the discrepancies in the formulæ of resistances as obtained by Siemens, Benoit, Matthiesen, and other physicists, draws the following conclusions : —

1st. The formulæ in question are based for the most part upon unwarrantable suppositions, such as the constancy of the specific heat of copper and of platinum ; the constancy of the coefficient of expansion of the latter metal, and upon the accuracy of certain very doubtful values for the boiling points of zinc, cadmium, etc.

2d. That, aside from the inaccuracy of those data, the varying resistance of different specimens of platinum renders any formula for the calculation of temperature of that metal from its electric resistance applicable only to the identical wire for which the law of change of resistance with the temperature has been determined.

3d. That from the data at command we are not in position to calculate the temperature of an incandescent platinum wire from its change of resistance, nor from its length, nor indeed in any other manner, further than to express the temperature in terms of the length or the resistance of the wire.

4th. That, owing to the great variations shown by different specimens of platinum as regards its resistance, the determination of the expansion of the wire is to be preferred, whenever practicable, to the measurement of its conductivity.

CORRESPONDENCE.

To the Editor of " SCIENCE."

Dr. Rogers seems again to misunderstand, It was not his quotation from Faraday that, was objected to, but the use apparently made of it to support his strange " questioning of the dogma that 'gravity acts in versely as the square of the distance,' on the ground that if that force is weakened by the earth's being removed to aphelion, it could not again bring back the body to perihelion." Any attempt to sustain that position by the authority of Faraday must certainly be a failure. Your correspondent seems not to distinguish between the definition of the force of gravitation, to which Faraday pertinently objected, and the law of gravitating action to which I particularly referred, and concerning which Faraday says, in the sentence immediately preceding that quoted by your correspondent, " It will not be imagined for a moment that I am opposed to what may be called the law of gravitating action, that is, the law by which all the known effects of gravity are governed :"—the very " dogma " your correspondent assumed to question !

GEO. B. MERRIMAN.

November 2, 1881.

METEOROLOGICAL REPORT FOR NEW YORK CITY FOR THE WEEK ENDING NOV. 5, 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 AND NOVEMBER.	BAROMETER.						THERMOMETERS.										
	MEAN FOR THE DAY.	MAXIMUM.		MINIMUM.		MEAN.		MAXIMUM.				MINIMUM.					MAXI'M
	Reduced to Freezing.	Reduced to Freezing.	Time.	Reduced to Freezing.	Time.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Time.	Wet Bulb.	Time.	Dry Bulb.	Time.	Wet Bulb.	Time.	In Sun.
Sunday, 30..	29.893	29.910	o a. m.	29.826	12 p. m.	66.7	64.0	70	12 m.	65	12 m.	62	o a. m.	61	o a. m.	125.
Monday, 31..	29.750	29.826	o a. m.	29.702	3 p. m.	67.0	64.7	69	2 p. m.	66	2 p. m.	62	12 p. m.	62	12 p. m.	74.
Tuesday, 1..	29.846	29.918	12 p. m.	29.750	o a. m.	58.3	56.6	62	o a. m,	62	o a. m.	55	12 p. m.	54	12 p. m.	64.
Wednesday, 2..	29.949	29.992	9 a. m.	29.798	12 p. m.	55.6	55.3	57	1 p. m.	57	9 p. m.	53	7 a. m.	53	7 a. m.	66.
Thursday, 3..	29.591	29.798	o a. m.	29.446	12 p. m.	56.6	56.3	61	11 a. m.	60	11 a. m.	47	12 p. m.	47	12 p. m.	71.
Friday, 4..	29.586	29.850	12 p. m.	29.446	o a. m.	41.0	39.0	47	o a. m.	47	o a. m.	38	12 p. m.	37	12 p. m.	103.
Saturday, 5..	29.990	30.062	9 a. m.	29.850	o a. m.	48.3	45.6	56	4 p. m.	52	4 p. m.	36	5 a. m.	36	5 a. m.	104.

Mean for the week---------------------------------- 29.800 inches.
Maximum for the week at 9 a. m., Nov. 5th ----------- 30.062 "
Minimum " at 12 p. m., Nov. 3d ------------ 29.446 "
Range -- .616 "

Mean for the week---------------56.2 degrees ------------ 54.5 degrees. (Dry. Wet.)
Maximum for the week.at 12 m. 30th 70. " at 2 pm 31st, 66. "
Minimum " " 5 am. 5th 36. " at 5 am 5th, 36. "
Range " " ---- ---- 34. " -------------- 30. "

OCTOBER AND NOVEMBER.	WIND.						HYGROMETER.						CLOUDS.			RAIN AND SNOW				OZONE.
	DIRECTION.			VELOCITY IN MILES.	FORCE IN LBS. PER SQR. FEET.		FORCE OF VAPOR.			RELATIVE HUMIDITY.			CLEAR, 0 OVERCAST, 10			DEPTH OF RAIN AND SNOW IN INCHES.				
	7 a. m.	2 p. m.	9 p. m.	Distance for the Day.	Max.	Time.	7 a. m.	2 p. m.	9 p. m.	7 a. m.	2 p. m.	9 p. m.	7 a. m	2 p. m.	9 p. m.	Time of Beginning.	Time of Ending.	Duration. h. m.	Amount of water	
Sunday, 30.	w. n.w.	s. w.	s. s. w.	106	3	9.10pm	.512	.564	.577	94	79	84	9 cu.	8 cu.	10	0 am 4.45pm	4.30 am 12 pm	4.30 7.15	.09 .02	o o
Monday, 31.	s. w.	s. w.	e. n. e.	147	8	10.15 am	.577	.599	.562	84	84	94	10	10	10	0 am 9 am	4.30 am 12 pm	4.30 15.00	.17 .14	-- o
Tuesday, 1.	n. e.	n. e.	n. e.	215	5¾	7.50 am	.487	.422	.407	94	87	87	10	9 cu.	6 cu.	o am	8 am	8.00	.07	5
Wednesday, 2.	n. n. e.	e. n. e.	e. s. e.	150	1¾	10.00 am	.403	.436	.466	100	93	100	9 cu.	10	10	-----	----	-----	--	o
Thursday, 3.	s. e.	w.	n. w.	104	6¼	9.15pm	.466	.487	.403	100	94	100	10	9 cu.	10	3 am 8.30 am	8 am 12 pm	5.00 3.30	.05 .18	-- 10
Friday, 4.	w. n.w.	w, n.w.	w.	374	22⅔	6.40 pm	.248	.195	.194	100	67	81	8 cu.	9 cu.	o	o am	6.30 am	6.30	.29	o
Saturday, 5.	w.	s.	s. s. w.	230	7	10.30pm	.220	.282	.335	100	67	80	3cir.cu.s	3 cir.	o	-----	-----	-----	--	o

Distance traveled during the week. --------------------- 1,326 miles.
Maximum force--- 22¾ lbs.

Total amount of water for the week----------------------- 1.01 inch.
Duration of rain------------------------ 2 days, 6 hours, 15 minutes.

DANIEL DRAPER, Ph. D.
Director Meteorological Observatory of the Department of Public Parks, New York.