mixture (mass action.) Pure palladium, even in thin leaves, is not easily soluble in nitric acid, whilst all the other platinum metals are perfectly insoluble if in a moderately compact condition. Palladium cannot be isolated by agitation with mercury from a solution which, along with the platinum metals contain base metals, such as copper, lead, &c., since the mercury precipitates, not merely the palladium, but all the other platinum metals, forming probably amalgams. From the platinum metals thus precipitated by mercury, metal free from mercury cannot be obtained by distillation and subsequent ignition, since a part of the mercury forms a stable compound with the platinoids. —THEODOR WILM.

GLYCERIN.—Notwithstanding the low price which prevails for almost every description of raw produce and manufactured goods, there are a few articles which form notable exceptions. Perhaps one of the most remarkable of these is refined glycerin, which, within the last two years, has advanced from about £30 to £130 per ton avoirdupois for 30° B. This enormous advance is due partly to increased consumption, diminished production and the influence of speculation working on a market devoid of stocks. In view of the present position of the article and the prospect of a continuance of high prices for a considerable time to come, the attention of soapmakers is now being turned to the utilization of their waste "leys," and various new processes for recovering the glycerin contained in these liquors have lately been tried with more or less successful results. Apart from minor impurities, waste soap "leys" are generally found to contain glycerin, carbonate of soda or caustic soda, chloride of sodium, gelatin and albumen. One of the processes for recovering the glycerin which promises to be the most economical and the most successful begins with concentrating the liquor until the salts contained therein begin to crystallize. The liquid is then cooled and filtered to rid it of gelatin and albumen. It is afterwards made to absorb carbonic acid, which precipitates bi-carbonate of soda, and which is separated from the liquor in the usual way. After undergoing this process the liquor is then made to absorb gaseous hydrochloric acid until what remains of carbonate of soda has been converted into chloride, and further, until all, or almost all, the chloride of sodium has been precipitated and separated from the liquor in the usual manner. Arrived at this stage, the liquor contains water, glycerin and hydrochloric acid. The acid is then evaporated entirely and absorbed in water for using afresh. The dilute glycerin remaining can be purified by filtering it through animal charcoal or by concentrating and distilling it in the usual way.

AN INDUSTRIAL AND TECHNOLOGICAL MUSEUM.—An Industrial and Technological Museum of a very comprehensive character is in course of organization at Sydney. It is to include animal, vegetable and mineral produce in the crude and in the manufactured states: waste products, of whatsoever origin, foods with their constituents, and that necessary shadow side of the picture, their adulterations; educational appliances; sanitary apparatus and systems, models, plans, machinery, etc., for mining; agricultural machinery and manures; models, drawings, and descriptions of patents; a department of economic entomology; ethnological specimens, etc. One remark in the prospectus may call up a smile. The museum is intended to occupy a similar position to the South Kensington Museum. This might be construed to mean that it is to occupy a site as far out of the way of merchants, manufacturers, patentees, etc., as possible. We need scarcely say that the project has our best wishes.

METEOROLOGICAL REPORT FOR NEW YORK CITY FOR THE WEEK ENDING JULY 9, 1881.

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

JULY.	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, 3	29.974	30.100	0 a. m.	29.898	12 p. m.	77.3	67.3	87	5 p. m.	71	6 p. m.	65	5 a. m.	60	5 a. m.	139.
Monday, 4	29.861	29.898	0 a. m.	29.800	5 p. m.	71.6	67.6	85	1 p. m.	72	1 p. m.	70	5 a. m.	66	5 a. m.	136.
Tuesday, 5	29.850	29.906	9 a. m.	29.790	7 p. m.	77.3	70.7	85	5 p. m.	75	5 p. m.	68	3 a. m.	66	3 a. m.	138.
Wednesday, 6	29.828	29.902	12 p. m.	29.750	4 a. m.	82.7	75.0	88	4 p. m.	79	7 p. m.	74	5 a. m.	70	5 a. m.	147.
Thursday, 7	29.983	30.002	9 a. m.	29.892	12 p. m.	76.0	69.3	83	3 p. m.	71	3 p. m.	70	5 a. m.	68	5 a. m.	143.
Friday, 8	29.927	29.998	12 p. m.	29.836	6 a. m.	67.0	65.0	71	7 a. m.	69	7 a. m.	64	2 p. m.	63	2 p. m.	85.
Saturday, 9	30.059	30.090	12 p. m.	29.998	0 a. m.	70.3	66.6	80	4 p. m.	72	4 p. m.	63	6 a. m.	62	6 a. m.	140.

		Dry.	Wet.
Mean for the week	29.926 inches.	74.6 degrees	68.8 degrees.
Maximum for the week at 0 am., July 3rd	30.100 "	at 4 pm. 6th. 88. "	at 7 pm 6th, 79. "
Minimum " at 4 " 6th	29.750 "	" 6 am. 9th. 63. "	at 5 am 3rd, 60. "
Range	.350 "	" " 25. "	19. "

JULY.	WIND. DIRECTION. 7 a. m.	2 p. m.	9 p. m.	VELOCITY IN MILES. 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, 3	w. s. w.	w. n.w.	w. s. w.	180	2½	1.20 pm	.416	.558	.585	69	49	55	2 cir.	2 cir. cu.	2 cu. s.	-----	-----	-----	--	4
Monday, 4	n. n. w.	e. n. e.	w.	104	4	6.30 pm	.581	.644	.654	72	85	85	3 cir. s.	9 cir. cu.	9 cu.	1.30 pm	7.15 pm	5.45	.80	0
Tuesday, 5	n. e.	s. s. e.	s. w.	94	2½	8.30 pm	.622	.650	.717	85	59	70	9 cu.	3 cir. cu.	5 cir. cu.	-----	-----	-----	--	2
Wednesday, 6	w.	n. n. e.	n. n. w.	141	2	2.40 pm	.690	.836	.773	70	65	71	0	4 cir. cu.	2 cir. cu.	5.00 pm	5.15 pm	0.15	.04	1
Thursday, 7	n. e.	s. e.	s. e.	180	3	2.00 pm	.641	.610	.631	76	56	80	2 cir.	3 cir. cu.	10	-----	-----	-----	--	0
Friday, 8	s. e.	e. n. e.	n. n. e.	202	6¾	11.40 am	.682	.562	.536	90	94	84	10	10	10	9.00 am	2.00 pm	5.00	.06	4
Saturday, 9	e. n. e.	s. s. e.	s. s. e.	102	1	4.00 pm	.529	.648	.622	89	73	85	9 cu.	7 cir. cu.	10	-----	-----	-----	--	0

Distance traveled during the weeek	1,003 miles.	Total amount of water for the week	90 inch.
Maximum force	6½ lbs.	Duration of rain	11 hours.

DANIEL DRAPER, PH. D.

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