

lake opposite the town only on 30th; navigation not yet open in Southampton. Latter part of the month very warm; vegetation rapid after it had begun, but the spring is considerably later than usual. Wind storms, 16th, 17th, 18th, 20th, 23rd. Fog on lake, but not in town, on 28th. Snow 1st, 3rd, 4th. Rain 16th, 18th, 20th, 23rd, 24th, 27th, 28th.

HAMILTON.—On 1st, hail and snow. 2nd, trees and fences covered with ice. 7th, frogs and pigeons announced. 9th, woodpecker seen. 10th, rainbow at 5.15 P.M. in E; earthworm mound first observed. 17th, Burlington Bay clear of ice. 19th and 20th, a storm of lightning, thunder and rain; freshest very severe and widespread. 22nd, dandelion and burdock seen. 23rd, soft maple in bloom. 27th, thunder. High winds, 3rd, 5th, 6th, 9th, 15th, 16th, 17th, 20th, 21st, 22nd, 23rd, 26th, 29th. Fogs, 19th, 20th. Snow, 1st, 3rd, 12th, 13th. Rain, 1st, 16th, 17th, 18th, 19th, 20th, 21st, 24th, 27th, 28th. The frequency of the aurora during this month has been remarkable. On 4th, arch and a few streamers. 5th, arch, streamers and waves. 8th, auroral light and a few streamers. 9th, arch and streamers. 10th, a faint light and a few streamers. 15th, a grand sight—at 9.50 P.M., corona completed, but continued for a few seconds only. The auroral light moved S, and at 10 P.M. approached within 15° of SH, bright flashes in E and SW; one long bright cloud 5° wide stretched from E to W along the Z. Crimson vapor observed in E and SW. At 10.10 P.M., movements of streamers very rapid all round the H, higher towards E, lower in SE. Crimson vapor at 10.15, and bright spots all round the heavens; at times all seemed to start and stream from the Z. The effort to re-form the corona repeatedly put forth, but abortive. Waves faint and gentle in SE at 10.20; at 10.23, a faint corona nearly completed; at 10.30, phenomena fainter, though there were bright patches in many places; at 10.55, waves, streamers and another effort to form the corona; after this time all seemed to subside gently.

PEMBROKE.—On 7th, severe squall from N, with snow from 11.15 to 11.30 A.M. 8th, shower of sleet from 8.30 to 9 A.M. 15th, shooting star to NE near Z at 11 P.M. 23rd, at 10.30 to 11.30 A.M., and at 4.30 P.M., hail, turning into rain on the wind changing to SE; thunder at 10.45 P.M. 26th, frogs first heard; ice broke from shore. 28th, first crossing in boat, partly over ice. 30th, ice completely broken up, but much still remaining where the current is not strong. The greater part of the snow gone by 21st, but considerable quantities in shady places till end of month. Wind storms, 3rd, 5th, 8th, 10th, 17th, 22nd. Fogs, 19th and 20th. Snow, 2nd—7th, 9th. Rain, 15th, 17th, 19th—21st, 23rd, 24th, 27th.

PETERBOROUGH.—On 2nd, hail. 5th, swallows reported seen about three miles up the river, but not by observer. 7th, at 9.35 P.M., observed meteor in WZ behind the clouds, i. e. several times while passing clear spaces; the clouds were lit up as from sheet lightning. 12th, swallows first observed in town. 13th, snow still in large patches in open country. 16th, snow in great measure disappeared. 17th, martins or large house-swallows first observed. 19th, snow in long drifts still visible in open country; frogs first heard to-night. 24th, snow finally disappeared from open country; ice generally gone from the lakes. Snow, 1st, 2nd, 3rd, 4th, 5th. Rain, 17th, 18th, 19th, 20th, 21st, 27th. Auroras as follows: 5th, auroral light showing above clouds. 6th, from 8 to 9.50 P.M., auroral light, with a few streamers occasionally. 7th and 8th, auroral light appearing over clouds. 9th, auroral light first showing through clouds—clouds soon dispersed, disclosing NH and NZ covered with auroral light, in some places in large irregular patches—a few spindles and streamers here and there appearing and disappearing, springing sometimes from masses of light and sometimes from H. 10th, aurora showing over clouds at 8.15 P.M.; soon after a few streamers appeared. 15th, faint streamers discerned pointing to Z; sky cleared by degrees about 11.30 P.M.; aurora at Z and reaching down towards W and EH—the flashing of the auroral light very remarkable—towards morning a broad band, irregular in shape, was formed from E to W to within 14° of H on each side; aurora continued all night, and there was no auroral light observed at NH during night. 30th, faint auroral light at 8.25, which had entirely disappeared by 9 P.M.

SIMCOM.—On 9th, rumbling sound as of an earthquake between 9 and 10 A.M.; the observer conjectures it may have been caused by the explosion of a meteor; the sound lasted for about ten seconds, and seemed to come from the north. On the evening of 15th, a very brilliant auroral light was visible through the clouds; it extended from NE to NW, and varied in intensity; the greatest brilliancy was at 8.30 P.M., but the clouds prevented any accurate observations being made. A very violent storm of rain and hail, accompanied by thunder and lightning, on Sunday night, 18th—19th; the flashes of lightning unusually vivid and frequent. Lightning, thunder and rain also on 20th. Wind storms, 1st, 5th, 16th, 17th, 21st. Fog, 19th. Snow on 3rd. Rain, 1st, 16th, 19th, 20th, 21st, 29th.

STRATFORD.—On 17th, mill pond free from ice; first frogs heard. 18th, severe storm of lightning, thunder and rain began at 8.30 P.M.; the lightning and thunder continued till 2 A.M., and the rain till 4 A.M. of 19th; the flood in the river was so high that the mill dam was partially destroyed. 20th, lightning, thunder and rain. Wind storms, 1st, 3rd, 4th, 16th, 17th, 18th, 20th, 21st. Fogs, 13th, 19th. Snow, 1st, 3rd, 4th, 6th, 7th, 13th, 21st. Rain, 16th, 17th, 18th, 19th, 20th, 23rd, 24th, 27th, 28th, 29th.

WINDSOR.—On 5th, Detroit River open for navigation from lake to lake. 15th, lunar halo. 17th, rainbow at 6 P.M.; lunar halo; meteor from NE towards E. 19th, lunar halo. 24th, lunar halo. Lightning, with thunder and rain, on 18th, 19th, 28th. Thunder with rain on 23rd. Wind storms, 1st, 4th, 5th, 6th, 7th, 15th, 16th, 17th, 20th, 21st, 27th. Fog, 12th. Snow, 1st, 2nd, 3rd. Rain, 5th, 7th, 16th, 17th, 18th, 19th, 20th, 23rd, 26th, 27th, 28th, 29th.

VI. Papers on Statistics and Science.

1. SIZE AND POPULATION OF LONDON.

A late English paper says:—

"It is not easy to define where London begins and ends. The 'London' of the Registrar-General extends, east and west, from Paplar to Hammersmith, and from Woolwich to Wandsworth, and north and south from Norwood to Stamford Hill and Hampstead.

The area of London thus defined is 77,997 acres, or 122 square miles, equal to 31,503 hectares, or 316 kilometres. The area of London is equal to a square of a little more than 11 miles, 18 kilometres to the side. The people live in 400,778 houses, each inhabited on an average by 7.8 persons. The Registrar-General, by whom these statements are given, remarks that, though the streets are irregular and often narrow, the elevation of the houses is not often so lofty as to cover the streets with unhealthy shadows. The population of London at the present time is about 3,150,000. About 3,637,000 people live within 15 miles of Charing Cross, the police district. The mean density of population in London is expressed by nearly 100 people to a hectare, 40 to an acre, 25,655 to square mile; the population density of the capital being 100 times the density of the United Kingdom. The average elevation of the ground on which the population of London live is 39 feet, or 11.9 metres, above Trinity high-water mark in Plumstead marshes to 429 feet above high-water mark in Hampstead.

"The estimated increase of population in London in 1868 is 44,263, whereof 40,836 consisted in excess of births over deaths, the rest being due to migration. Eight companies supply London with water from the Thames and the Lea, supplemented by wells. The quantity supplied in 1863 was equal to a ton a day for every house; correcting for supplies to factories and to streets, the domestic supply is equivalent to twenty-six gallons (twelve decalitres) daily to each person. The sewerage of London is approaching completion. The sewers constructed have already produced excellent effects. They are sufficient to carry off the rainfall in the common year, except on about 12 days, when the sewerage flood is thrown bodily into the Thames through overflow weirs. But it has to be said, as yet, that the water supply is not in every house; it is intermittent; and the water, not always pure, is never soft; the air also is often charged with smoke; and the sewage is not entirely removed from all the dwellings."

2. EXTENT OF THE LONDON CHARITIES.

More than two pages of the *Times* have been filled with a condensed statement of the statistics of London charities, distributing alms to the amount of £2,000,000 sterling; a statement which threw a *Times* leader-writer into a state of "bewilderment, incredulity, disgust and despair." Three of these sensations may vanish in time, but the last will remain. London charities are beggary in excelsis. The crossing sweeper with his broom at the next corner, is the exact type of the Honourable Secretary with his £300 a year salary, sending out his thousands of circulars, and collecting guinea subscriptions from all parts of the kingdom, to educate his own family and demoralise a few more beggars, who give him this employment. These are the vaunted charities of London—her pride and boast; and it costs one-half the money collected to get the other half, and half of that to spend it. The foundations are worse, but people do not care much for them. Seven hundred years ago some good old soul left a house and garden in the city as a perpetual maintenance for three poor women and a cat. The property is worth now £40,000 a year. Three poor women and their cat—friends of the trustees—are maintained; and the rest of the income, £39,650 per annum, is expended in salaries on the uncles, aunts, cousins, appointed as secretaries, treasurers, chaplains, visitors, &c., who see to the proper distribution of alms, catechise the old women, and stroke the cat.

3. WONDERS OF MINUTE WORKMANSHIP.

In the 20th year of Queen Elizabeth a blacksmith named Mark Scalot made a lock consisting of eleven pieces of iron, steel and brass, all of which, together with a key to it, weighed but one grain of gold. He also made a chain of gold, consisting of forty-three links, and having fastened this to the above mentioned lock and key, he put the chain about the neck of a flea, which drew them all with ease. All these together, lock and key, chain and flea, weighed only one grain and a half. Oswaldus Norhingerus, who was more famous even than Scalot for his minute contrivances, is said to have made 1600 dishes of turned ivory, all perfect and complete in every part, yet so small, thin, and slender, that all of them were included at once in a cup turned out of a peppercorn of the common size. Johannes Saad, of Mitelbrach, carried this wonderful work with him to Rome, and showed it to Pope Paul, who saw and counted them all by the help of a pair of spectacles. They were so little as to be almost invisible to the naked eye. Johannes Ferrarius, a Jesuit, had in his possession cannons of wood, with their carriages, wheels, and other military furniture, all of which were also contained in a peppercorn of the ordinary size. An artist named Claudius Gallus made for Hippolytus d'Este, Cardinal of Ferrara, representations of sundry birds sitting on the tops of trees,