

Frost, 14th, 15th, 17th, 21st, 30th. Wind storms, 1st, 12th, 28th. Fogs, 4th, 8th, 11th, 23rd, 24th. Rain, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 27th, 28th, 29th. Difference of mean temperature from average of 12 years (September) - 1.05.

HAMILTON.—Lightning, 11th, 27th. Frost, 14th. Wind storm, 28th. Fog, 24th. Rain, 3rd, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 29th.

SIMCOE.—Wind storms, 12th, 18th. Rain, 1st, 5th, 6th, 12th, 18th, 22nd, 25th.

WINDSOR.—Lightning and thunder with rain, 19th. Lunar halo, 9th. Meteors, (2) 23rd, (3) 25th, (2) 27th, (2) 30th. Frost, 16th, 21st. Wind storms, 1st, 4th, 15th, 18th, 29th. Fogs, 9th, 10th, 23rd. Rain, 3rd, 7th, 12th, 19th, 22nd, 24th, 28th, 29th.

## VI. Papers Relating to Science.

### 1. AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

A correspondent of the *New York Observer* thus summarizes the labours of the *Savans* at the late meeting of the Association at Portland, Maine:—

"I feel great perplexity in selecting so few from the 156 papers entered for reading at the American Association. Many interesting and able papers are unintelligible without the inspection of objects or drawings; others are mainly addressed to the eye. Others really interest only those who are prosecuting investigations in certain fields. But there is enough left to embarrass one in the selection. And a hasty sketch cannot be expected to keep to the order in which a deliberate editing would place them."

"*Safety at Sea.*—Prof. Rogers, of Harvard Observatory, showed that the ratio of wrecks is increasing. While in ten years, from 1848 to '58, the increase of British shipping was 38 per cent., British wrecks had increased 59 per cent. between 1852 and '62. Later the increase of shipping from 1858 to 1868 was 44 per cent., and the wrecks from 1856 to 67 was 57 per cent. In 1869, with an actual decrease of shipping of 4 per cent., the wrecks increased 21 per cent. The percentage of wrecks by preventable causes is about 70. Thirty-three times as many insured vessels are wrecked as uninsured.

"Difference of longitude is shown by the difference between the sun and the chronometer; the error of a good chronometer may cause an error of nineteen miles in twenty days. To this we may add the errors of sextant observations, which are likely to exceed two miles. Navigators will not believe that they are as inaccurate as this, and many vessels are lost from over confidence.

"*Toads.*—The most amusing paper of the whole session was by the Rev. Dr. Hill, of the First Church in Portland, ex-President of Harvard and of Antioch. A venerable toad of his had a favourite location under a bee-hive, and every over-laden bee that fell near him was a sure prey, till, at length, the toad lost an eye. Then, for quite a while, the tongue missed its mark, and the bee was not secured without repeated attempts. Practice at length remedied the difficulty, and he finally lassoed his bee at every trial. Our toads do not use their hands in cramming down an uncomfortably large mouthful, as those in England do, but thrust the projecting part against something. In the doctor's smooth walk one was obliged to throw his heels up in the air and rest his whole weight upon the projecting part of a locust (commonly called a grasshopper, but incorrectly, for all grasshoppers are green). In the case of an enormous earthworm which was escaping when nearly swallowed, the doctor's tired toad served a *ne excat* on it, by grasping it through the walls of his own abdomen with a hind foot.

"*Snakes.*—Mr. G. Brown Goode, Curator at Middletown, Ct., has ascertained beyond a peradventure that young snakes of many oviviparous species take refuge when alarmed in the old one's throat and stomach. This is not ascertained of any oviparous species; but in an English lizard the same has been once observed.

"*Doses of Medicine.*—Mr. H. W. Wiley, of Indianapolis, advises the diluting of all strong medicines to a uniform dose before selling them. (Some do not like large doses. Apothecaries are already too prone to dilute; and the precise strength of a diluted substance is hard to discover.) He would have all prescriptions in metric weights and measures, which are simpler and safer. Mr. E. B. Elliot, of the Treasury Department, proposes a 'tergram'—a third of a gramme—as a temporary means of stepping from old measures into new. Five grains, drops, or minims, make almost exactly a tergram; 30 tergrams are a decagram (not decigram, which is 100 times smaller). 100 tergrams are an ounce nearly, and 30 ounces a kilo, or kilogram (double pound). This is near enough for all medical purposes, and is an ingenious means of facilitating a change in which we must advance or be dragged. Mr. Elliot is having a *vern*-measure constructed, in which the unit shall be a ten millionth of the earth's radius, as the metre is of its quadrant. A circle must be twice as many metres in circumference as it is verms aëross; it will be convenient to tin-plate workers. He proposes this as an astronomical measure: 10,000,000 verms=1 radial (earth's semi-diameter); 1,000 radials=a kiloradial; 1,000 kiloradials=a bikilo-

radial, &c. The moon is at a distance of 40 radials, the sun 23 kiloradials. The distance of the nearer stars is to be estimated in trikiloradials, the more distant in quadrokiloradials, and the stellar clusters quintokiloradials. [To all this the objection is that the human mind can conceive no difference between trikiloradial and quintokiloradial, and the inch is about as useful a measure for these distances as any other].

"*Brains.*—Prof. Burt Green Wilder presented thirteen papers, mostly short, all relating to his speciality—the anatomy of animals. The most interesting of these were on brains. He maps them by their fissures, which are much easier to outline than the 'convolutions' which they outline. The lowest animals have no fissures; the more of them, the more mental power. The animals of the same species have them not alike, nor are the two halves of the same brain alike. The adult brain is less in proportion to the whole body than the young. The dissection of the brains of paupers and criminals would afford little information, so little do we know of their real character; those of our friends we are unwilling to study. But dogs are diverse in character, and we know them well. So he has made thorough investigations for a *cynophrenology*; but he has found no relation between brain and character. He is prepared to maintain that there is no such science as phrenology.

"*Animal Structure.*—Prof. Wilder maintains that the anterior and posterior halves of the body of an animal correspond—the pelvis is a modified head, and every organ has its analogue. So the right thumb corresponds to the right little toe, &c.

"Prof. Theo. C. Hilgard believes in a radiate constitution of all animals and plants—believes in fifths, and not halves. He is very earnest and fluent, but cannot speak an intelligible sentence of English.

"*Indian Houses,* which are found of such vast proportions among the Pueblo Indians, were shown by Prof. L. H. Morgan to be not palaces of chiefs, but communal residences. Notwithstanding the vast difference between these spacious and now ancient edifices and wigwams of birch bark, it is supposed that all the Indians of America, the Eskimo excepted, are of one race."

## VII. Advertisement.

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