bent the limb to the full extent, and then attempted to extend it, but at first did not succeed in doing so completely; but after repeating the process several times, and shaking the limb in every direction, while the muscles were completely relaxed, I felt something give way in the joint, and then immediately found myself able to extend the limb completely, and the patient was from that time free from lameness. Mr. Hey speaks of some displacement of the crucial ligaments or semilunar cartilages as the probable cause of the lameness in these cases; the latter appears to me the more likely explanation; but, as Mr. Hey says, whatever may be thought of the theory, the practice proved successful.

FIRST QUARTERLY METEOROLOGICAL AND CHEMICAL REPORT AT ST. THOMAS'S HOSPITAL FOR 1855.

By ROBERT DUNDAS THOMSON, M.D., F.R.S.L. & E.,
PROFESSOR OF CHEMISTRY IN ST. THOMAS'S HOSPITAL COLLEGE.

The present quarter appears to have been the coldest on record since 1814; at that period the cold commenced about Christmas, 1813; whereas, in the present year, it began on the 10th of January. In 1814, the weather became warmer after the 21st of March; but, in 1855, the cold continued till the beginning of April. For three months the thermometer has been on some portion of almost every day near the freezing point,—the mean temperature of the whole quarter having only been 35°·4. The mean temperature of February was 30°·8; with easterly and north-easterly winds. These winds also predominated during January and March. The greatest cold registered in England, with compared thermometers, was 0°·8 at Berkhampstead. At other places it was 3°, 5°, 7°, and 10°. The lowest temperature at Elgin, in Scotland, in lat. 57°, as determined with compared thermometers by Dr. Geddes, was 3°. The effect of the protracted cold upon the aged has been very strikingly registered in the bills of mortality throughout the country—a result which must be perceptible in all cold countries, and which seems to render very old age, in regions where long winters exist, an impossibility, at least under the present laws of mortality. Persons in advanced life should, therefore, not emigrate to the more northerly states of North America or Canada, but seek a more tropical climate. This is a question deserving of attention by insurance offices. The lowest temperature at St. Thomas's Hospital was 18°·5 on the 18th of February, while the highest temperature was 54°·2 on the 21st of March. The barometer in January was high: on all the weeks considerably above the average. In all the weeks of February, with the exception of the last, below the average. In March also the pressure was below the average. The amount of water which fell in the form of snow was nearly an inch. Snow fell on eight days in January. The fogs have not been so dense as in the preceding year, which may be due, in some measure, to the low temperature of the river, and the resulting diminished evaporation.

REPORT ON CHEMICALS, &c.

1. *Hops.*—In consequence of the differences in the seasons, the quality of hops varies greatly in different years. The general external characters by which hops are recognised, particularly the greasy feel when rubbed, are usually in accordance with the results obtained by chemical examination. The beer used by the inmates of St. Thomas's Hospital being brewed on the establishment, it is a matter of consideration that the hops selected should be of good quality, as there can be little doubt that the bitter principle in such a beverage is not the least important ingredient. Six samples of hops gave the following quantities of extract from the same amount of vegetable:—

1. — 51·	4. — 44·
2. — 49·2	5. — 49·
3. — 32·3	6. — 62·

The following table exhibits the equivalents of these specimens; and is thus read—100 parts of No. 6 will go as far as 126·5 of No. 5, in giving flavour and preservative power to the fermented liquor:—

No. 1. — 121·5	No. 4. — 140·9
2. — 126·01	5. — 126·5
3. — 191·9	6. — 100·

There was no difficulty in deciding which of these samples was to be preferred.

2. *Lemon-juice.*—As the mode in which lemon-juice acts I believe to be the same as that in which succulent vegetables prove advantageous in scurvy and purpura—viz., by its containing those saline ingredients (chlorides, sulphates, phosphates of the alkalies, &c.), which are likely to be absent from the food when it is restricted in its derivation, I consider it important to determine the amount of the saline residue from a given quantity of lemon-juice. The results of my examination of lemon-juice I published many years ago and have given the summary in my "School Chemistry," in 1848. These samples yielded the following results from a pint of each:—

	1.	2.	3.
Residue	808·470 grs.	880·941 grs.	954·352 grs.
Salts	30·117 ,,	26·350 ,,	33·882 ,,
Acid	155·188 ,,	155·188 ,,	186·320 ,,

From this table it appears that the total amount of extract affords no correct key to the amount of salts or acids, although where much salts and acid are present, there is likewise a corresponding augmentation of residue. In none of these specimens could free sulphuric acid be detected.

3. *Potassii Iodidi.*—Out of seven samples, each sent by a different dealer, only two gave no effervescence.

4. *Potassæ Sulphas.*—Contained a trace of chloride of potassium.

5. *Potassæ Carbonas.*—This specimen contained ·686 per cent. of chloride of potassium.

6. *Potassæ Hydras.*—A sample contained 6·99 per cent. of carbonate of potash.

7. *Pulv. Potassæ Bicarb.*—A specimen lost 32·5 per cent. by ignition, instead of 30·5, the theoretical amount. It contained ·19 per cent. of chloride of potassium.

8. *Sodæ Potassio-Tart.*—This salt lost by ignition 57·8 per cent. instead of 56.7.

9. *Antim. Murias.*—This preparation gave, for half a fluid ounce, 92 grains of residue; much iron was present, showing either that impure tersulphide of antimony had been employed, or a ferruginous metallic antimony was the material from which the solution had been made. This carelessness should be avoided.

10. *Zinci Chloridum.*—Yielded a trace of oxide. This was the best specimen I have examined for some time.

11. *Tinct. Ferri Sesquichloridi.*—One ounce of one sample yielded 35·9 grains of sesquioxide of iron. On rejecting it another sample was returned, yielding 30·2 grains of sesquioxide.

12. *Vinum Ferri.*—Half an ounce yielded 17·4 grains of residue.

13. *Vinum Opii.*—The specific gravity was found to be ·990, half an ounce yielding 79 grains of residue.

14. *Acidum Hydrocyanicum.*—100 grains gave 9·98 grains of cyanide of silver—the proper quantity.

15. *Chloroform.*—A sample had a specific gravity of 1·525. This seems too high, although no impurity was detected. Chloroform was first obtained in my laboratory, of the specific gravity 1·5 by my pupil Mr. James King, several years ago, an account of which was published at the time in The Lancet.

16. *Pulv. Scammon.*—Of four samples, which all contained starch, only one was considered fit for purchase, although the starch should have been entirely absent. It is to be hoped that the frequent complaint that no genuine scammony is to be had in England may at last induce the importation of the genuine drug—especially now that our profession has gained a footing in Asia Minor.

17. *Brown Disulphate of Quinine.*—I have found the composition of this salt, as compared with the white disulphate, to be as in the following table:

	Brown Salt.	White Salt.
Water	15·00	16·51
Sulphuric Acid	9·51	9·18
Quinine	75·49	74·31
	100·	100·

There is observable here a difference in the amount of water, which may be due to some alteration in the alkaloid itself. Frequent objections have been started to the use of this preparation by physicians, on the ground of its inferiority in a therapeutic point of view to the white salt. Before confidence can be placed in it as a medicine, it would be necessary to know its mode of preparation, since slight causes induce isomeric modifications of quinine, which are not known to possess similar physiological actions.

April, 1855.

January, 1855.—31 Days.

Week ending—	Barometer. Corrected Mean.	Thermometers. Dry.	Wet.	Highest	Lowest	Adopted Temperature of Air.	Adopted Temperature of Evaporation.	Dew Point.	Elastic Force of Vapour.	Weight of Vapour in Cubic Foot of Air.	Wind.	Rain. Amount	Days
	Inches.	°	°	°	°	°	°	°	Inches.	Grains.		Inches.	
Saturday, 6th ...	30·203	47·4	45·5	50·1	41·9	46·7	44·8	42·5	·291	3·36	W., N.W.	·05	1
,, 13th ...	30·538	42·7	40·8	46·8	38·1	42·5	40·6	38·0	·250	2·90	S.E., N.E.	·02	1
,, 20th ...	30·280	32·8	32·8	37·2	27·1	32·4	32·4	31·8	·200	2·37	N.E.,	·15	1
,, 27th ...	30·065	31·4	31·2	33·9	26·1	30·7	30·5	29·8	·186	2·22	N.E., N.	...	0
Monthly Mean, from 1st to 31st, inclusive.	30·255	36·6	35·6	41·0	32·5	36·5	35·5	32·9	·209	2·52	N.E.	·22	3

	Inches.		
Highest reading of barometer on 13th	30·709	Highest reading of maximum thermom. on 2nd & 7th ...	52°·0
Lowest reading of barometer on 31st	29·587	Lowest reading of minimum thermometer on 21st ...	20°·6
Monthly range	1·122	Range of temperature in month	31°·4

Fog on the 10th, 11th, 15th, 26th, 27th, and 29th. Snow on the 15th, 17th, 18th, 19th, 25th, 29th, 30th, and 31st.

February, 1855.—28 Days.

Week ending—	Barometer. Corrected Mean.	Thermometers. Dry.	Wet.	Highest	Lowest	Adopted Temperature of Air.	Adopted Temperature of Evaporation.	Dew Point.	Elastic Force of Vapour.	Weight of Vapour in Cubic Foot of Air.	Wind.	Rain. Amount	Days
	Inches.	°	°	°	°	°	°	°	Inches.	Grains.		Inches.	
Saturday, 3rd ...	29·863	31·4	31·3	33·9	25·8	30·6	30·5	29·8	·187	2·22	E.	...	1
,, 10th ...	29·750	33·0	32·4	36·9	31·6	33·5	32·9	31·9	·201	2·38	N.E.	·43	2
,, 17th ...	29·737	27·9	28·0	31·3	23·9	27·7	27·8	26·4	·166	1·98	E., N.E.	...	0
,, 24th ...	30·005	28·8	28·9	31·6	24·1	28·2	28·3	28·0	·173	2·07	E.	...	0
Monthly Mean, from 1st to 28th, inclusive.	29·813	30·3	30·5	34·8	27·9	30·8	30·8	29·9	·192	2·29	E., N.E.	·73	3

	Inches.		
Highest reading of barometer on 18th	30·116	Highest reading of maximum thermometer on 26th ...	48°·9
Lowest reading of barometer on 14th...	29·430	Lowest reading of minimum thermometer on 18th ...	18°·5
Monthly range	·686	Range of temperature in month	30°·4

March, 1855.—31 Days.

Week ending—	Barometer. Corrected Mean.	Thermometers. Dry.	Wet.	Highest	Lowest	Adopted Temperature of Air.	Adopted Temperature of Evaporation.	Dew Point.	Elastic Force of Vapour.	Weight of Vapour in Cubic Foot of Air.	Wind.	Rain. Amount	Days
	Inches.	°	°	°	°	°	°	°	Inches.	Grains.		Inches.	
Saturday, 3rd ...	29·583	45·0	43·6	47·3	38·0	43·7	42·3	40·3	·271	3·14	S.W.	·90	3
,, 10th ...	29·990	38·6	36·1	46·0	32·7	38·8	36·3	32·1	·204	2·39	E., N.E.	·10	1
,, 17th ...	29·612	41·8	39·9	44·9	35·5	40·9	39·0	36·6	·235	2·74	Variable.	·60	3
,, 24th ...	29·466	42·2	38·9	47·0	36·3	41·8	38·5	35·2	·218	2·55	E., N.E.	·19	2
,, 31st ...	29·945	39·1	36·3	43·9	34·1	38·9	36·1	31·5	·199	2·34	N.E.	·01	1
Monthly Mean, from 1st to 30st, inclusive.	29·719	38·5	36·6	45·9	35·3	39·0	37·1	32·5	·216	2·53	N.E.	1·22	10

	Inches.		
Highest reading of barometer on 30th	30·499	Highest reading of maximum thermometer on 21st ...	54°·2
Lowest reading of barometer on 27th	28·870	Lowest reading of minimum thermometer on 11th ...	29°·0
Monthly range	1·629	Range of temperature in month	25°·2

Quarterly Summary.

Barometer, Corrected Mean.	Thermometers. Dry.	Wet.	Highest	Lowest.	Adopted Temperature of Air.	Adopted Temperature of Evaporation.	Dew Point.	Elastic Force of Vapour.	Weight of Vapour in Cubic Foot of Air.	Wind.	Rain. Amount	Days
Inches.	°	°	°	°	°	°	°	Inches.	Grains.		Inches.	
29·929	35·1	34·2	40·6	31·9	35·4	34·5	31·8	·206	2·45	N.E.	2·17	16