High winds on 1st, 8th, 13th, 14th, 15th, 18th, 19th, 25th, 27th, 28th, 29th. Rain on 8th,10th, 11th, 15th, 18th, 20th, 28th, 31st. Month comparatively cool and dry.

PEMBROKE.—On 1st, lightning with thunder. Lightning, thunder and rain on 8th and 18th. Lightning on 14th. Very fine rainbow on 11th. On 20th, between 9.30 and 9.40 p.m. two shooting stars to SW and W. On 21st, a shooting star near zenith. During rain storm on 8th a high stratum of clouds moving from N, a lower stratum from S, and another lower, from SE. Severe frost occurred a few miles from the station on 16th, 17th and 27th, but none at Pembroke; much damage done in parts of Renfrew and Pontiac. High winds on 8th and 29th, and severe on 13th. Rain on 1st, 2nd. 8th, 9th, 11th, 14th, 15th, 18th, 19th, 20th, 26th, 28th, 31st. Water unusually low in the rivers and steamer compelled to discontinue trips between Havelock and Chapeau village. Some cases of small pox, one fatal at Pembroke. Hay crop very light; grain short in the straw, but better than expected from the drought.

PETERBOROUGH.—On 12th, a good many falling stars observed; seven within 12 minutes after 10 p.m., and on 13th two at 9.27 p.m. Lightning, thunder and rain on 8th, 14th, 28th, 31st, Rain on 1st, 7th, 8th 11th, 14th, 15th, 18th, 19th, 28th, 29th, 31st.

SIMCOE.—Lightning, thunder and rain on 1st, 3rd, 8th, 15th, 20th, 31st. 14th, quite a number of meteors between 9 and 10 p.m., starting from a part some distance NE from Cygnus, and going towards NW; their paths were quite short, and none exhibited any remarkable brilliancy; twenty-three were seen in 45 minutes. 15th, solar halo at 1 p. m., 60° diameter. 24th and 26th atmosphere hazy and smoky, like Indian summer. High winds on 5th and 28th. Rain on 1st, 3rd, 8th, 10th, 11th, 14th, 15th, 18th, 19th, 20th, 28th, 29th, 30th.

STRATFORD.—On 11th, a few small aerolites, seen. Lightning, thunder with hail or rain on 4th, 7th, 15th, 20th, 31st. Lightning with thunder on 3rd. Lightning on 19th. Storms of wind on 7th, 8th, 18th, 28th, 29th, 31st. Fogs on 6th, 21st, 22nd, 23rd, 24th, 25th, 26th, 30th. Rain on 1st, 4th, 7th, 8th, 10th, 11th, 14th, 15th, 18th, 20th, 28th, 30th, 31st.

WINDSOR.—On 12th, a meteor from Z to N, and another from Z to W. Fogs on 5th and 27th. Rain on 2nd, 7th, 18th, 19th, 20th, 28th.

# IV. Papers on Practical Education.

## 1. BISHOP STRACHAN'S METHOD OF TEACHING.

We insert the preface to a rare book, by the late Bishop Strachan, published at Montreal, in 1809, entitled "*A Concise Introduction to Practical Arithmetic for the use of Schools*" which will be read with interest, especially by teachers. It is highly characteristic of the man, and contains in a few words, the rationale and secret of the Bishop's wonderful success as a teacher. With a view to divest the sums of mere technicality to the youthful learner, the names of places in the country familiar to boys are inserted in many of the examples given in the book. The Bishop says:—"On my arrival at Kingston, about ten years ago, to superintend the Education of a select number of pupils, I experienced much inconvenience from the want of School Books. To supply this defect, I was under the necessity of compiling several treatises on different subjects, and among the rest, the following on Arithmetic, which I am now induced to publish for the greater convenience of my School. The great advantages of well digested Text Books, both to master and scholar are too evident to require proofs. In revising this little work for the press, I have endeavoured to make the rules and definitions as simple as possible, consistent with perspicuity, a quality which must never be lost sight of in any work, particularly those of an elementary kind. I am sufficiently aware that little reputation can be acquired by the publication of a School Book, on a subject already more perfect than any of the other sciences, and which has been so well treated by abler hands. But my desire to be useful to my pupils induced me to undertake the work, which I thought might, without any great exertion of intellect, though not without much labour, be made more useful for this country than any other publication on the subject.

"There is a difference of opinion among Teachers as to the order of teaching the primary rules, some giving the simple and then returning to the compound, others teaching both at once. I have been in the habit of giving all the simple rules to the young pupils before they proceeded to the compound, but to young men of discernment, I have seldom found it necessary, as they commonly understood the compound with as much facility as the simple. But if the pupils are carried through all the primary rules before they begin to write them down in their books, it becomes a matter of indifference which arrangement be chosen. It should, however, be laid down as a principle that no boy can do any thing right the first time, but that he must learn by the help of his teacher, so as to be able to do it himself ever after. The strict observance of this rule will render any arrangement easy, and facilitate the study not only of Arithmetic, but of any other subject. Multiplication is applied to the measuring of Timber in all the varieties, because many who require this knowledge are not able to remain long enough at school to reach Duodecimals, which are generally taught at the end of Arithmetic—of this I have had frequent experience—for the same reason an account of household expenses is introduced in Substraction; and in Division, book-debts and forms of bills and receipts. In Proportion, the common distinction of Direct and Inverse has been rejected, and a rule given that comprehends both. The same rule, extended in its operation, serves for double Proportion, and is very easily understood by boys who are too young to comprehend any explanation of antecedents and consequents. In Practice, a case of Feet and Inches is introduced, which will frequently be found more convenient than cross-multiplication. Care has been taken in Vulgar Fractions, to make the rules easy of comprehension, and to take away that seeming abstruseness so frequently complained of. In the arrangement of Decimal Fractions, as well as in the simplicity of the rules, something, it is hoped, will be found worthy of approbation. Simple Interest comprehends several rules which differ in name rather than in principle; some tables are introduced of great use in Practice and several things entirely new. In Compound Interest and Annuities, the several cases are rendered easy, and although it was necessary to contract this part of the treatise as much as possible, everything of real use is retained.

To this practical treatise, I intended to subjoin the theory and had actually prepared part of it, but finding the work growing larger than I expected, I desisted from that part of my design. It would have been easy to have given this work a more novel appearance, by inserting the common method of performing the different rules used by other nations, but these being rather curious than useful, I decline noticing them. Some things introduced in other books have been rejected in this. For example, though multiplying by the component parts of a composite number be recommended, yet dividing by component parts is rejected, because it is difficult to ascertain the value of the remainder (if there be any) until the pupil has learned Fractions. It did not seem necessary to give Reduction as a separate rule, as it is only the application of Multiplication and Division. Several rules are not separately treated, because they are comprehended in Proportion.

"Never forgeting that it was my duty to make a useful book rather than an ingenious one, I have not scrupled to borrow what seemed useful from other treatises. In this respect I am chiefly indebted to Doctor Hutton's and Doctor Hamilton's excellent treatises, from which I have transcribed several questions that convey useful knowledge, at the same time that they improve the pupil in Arithmetic. The reader, however, will discover that the questions are chiefly new, and such as will frequently occur in business. Not that I attach any merit to the composition of such questions, for I frequently write them out as they are wanted, and this every person ought to be able to do who teaches Arithmetic, or at least he should have a great collection, that he may give his pupils a sufficient variety to prevent copying. The few notes added on Surveying are not intended to supersede a more accurate study of that subject. The problems concerning the Gregorian Calender belong to a very short system of Chronology used in the school, and they are added here for convenience—they may perhaps be found useful to others—for although the calculations in the Nautical Almanac are much more correct, these problems will be found sufficiently so for common use. I have added by way of appendix a few forms very useful in business. Upon the whole it is hoped that this treatise will answer the purpose of a text book in this country better than another publication on the subject."

"Before concluding this address, I beg leave to notice my method of teaching Arithmetic, as it may be of use to those Teachers who have not yet acquired much experience. In a new country like this, a variety af branches must be taught in every respectable School. Young men coming from a distance at a very considerable expense, are anxious to get forward as fast as possible, and even those destined for the learned professions are seldom allowed the time requisite for acquiring the knowledge previously necessary. These considerations induced me to turn my thoughts to the discovery of some sure, and at the same time, expedious method of teaching Arithmetic. This object I have accomplished with a much greater degree of success than I dared to promise myself. I divide my pupils into separate classes according to their progress. Each class have one or more sums to produce every day neatly wrought upon their slates—the work is carefully examined, after which I command every figure to be blotted out and the sums to be wrought under my eye. The one whom I happen to pitch upon first, gives, with an audible voice, the rules and reasons for every step, and as he proceeds the rest silently work along with him, figure for figure, but ready to correct