



ONTARIO INSTITUTION FOR THE EDUCATION OF THE BLIND, BRANTFORD.

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ONTARIO INSTITUTION

FOR THE

EDUCATION OF THE BLIND,

BRANTFORD, ONT., CANADA.

ANNUAL REPORTS

OF

INSPECTOR LANGMUIR;

PRINCIPAL HUNTER, M.A.;

DR. W. C. CORSON, PHYSICIAN AND SURGEON,

FOR THE

YEAR ENDING SEPTEMBER 30TH, 1879.



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BY
J. D. JOYNER

1963

ONTARIO INSTITUTION

FOR THE

EDUCATION OF THE BLIND.

REPORT OF INSPECTOR LANGMUIR.

Two hundred blind persons were under instruction in this Institution during the past official year, as compared with 175 in the preceding one.

Since the opening of the Institution, 272 pupils have been in attendance, and the following summaries shew the number in residence each year since that time, and also the places from which the 272 pupils were received, viz.:—

			Male.	Female.	Total.				
Attendance for portion of year ending 30th September, 1872			20	14	34				
Attendance for year ending 30th September, 1873			34	24	58				
Attendance for year ending 30th September, 1874			66	46	112				
Attendance for year ending 30th September, 1875			89	50	139				
Attendance for year ending 30th September, 1876			84	64	148				
Attendance for year ending 30th September, 1877			76	72	148				
Attendance for year ending 30th September, 1878			91	84	175				
Attendance for year ending 30th September, 1879			100	100	200				
			M.	F.	T.				
Addington	1	..	1	Lincoln			M.	F.	T.
Belleville	3	..	3	London			3	1	4
Brant	3	3	6	Middlesex			6	3	9
Brantford	4	4	8	Muskoka			1	..	1
Bruce	3	6	9	Norfolk			4	4	8
Carleton	1	1	2	Northumberland			1	6	7
Dundas	2	2	4	Ontario			4	3	7
Durham	1	3	4	Ottawa			2	..	2
Elgin	2	1	3	Oxford			2	1	3
Essex	2	2	4	Perth			2	6	8
Frontenac	2	1	3	Peterborough			6	2	8
Glangarry	1	..	1	Prince Edward			1	2	3
Grenville	2	..	2	Renfrew			6	2	8
Grey	4	4	8	Russell			1	1	2
Guelph	1	2	3	St. Catharines			2	..	2
Haldimand . . . . .	..	4	4	Simcoe			3	4	7
Halton	2	..	2	Stormont			2	..	2
Hamilton	5	6	11	Toronto			9	9	18
Hastings	4	1	5	Victoria			4	1	5
Huron	5	5	10	Waterloo			4	3	7
Kingston	1	2	3	Welland			2	1	3
Kent	5	4	9	Wellington			6	5	11
Lambton	3	..	3	Wentworth			6	4	10
Leeds	5	1	6	York			6	4	10
Lanark . . . . .	..	1	1	Uncertain			1	..	1
Lennox . . . . .	..	1	1				149	123	272

The following synopsis of the inspection minutes recorded by me will shew pretty fully the operations of the Institution during the year:—

The first inspection was made on the 11th February. On that day there were 165 pupils in residence, all of whom looked well both in appearance and health. It was much to be regretted that one of the male pupils had died on the 29th of the previous month from pneumonia. Every care and attention was paid to the youth by the Institution staff, and the lad's parents were present at the time of his death. The Surgeon's book shewed that influenza and inflammatory colds had prevailed during the winter, owing no doubt, to the extreme coldness of the weather. The blind as a class appear to be ex-

tremely sensitive to cold, and therefore a higher temperature is required for them than for any other class of physical defectives, not only on account of health, but also that their sense of touch may not be numbed. For this reason, it had been found necessary at the commencement of the winter season to supplement the steam heating arrangements, which had not been thoroughly completed, by the use of coal stoves.

The Principal reported that the Literary Department stood in need of another teacher. Authority was given him to engage a suitable person on probation.

He was also authorized to accept a tender he had received for printing six hundred copies of his Annual Report, together with that portion of my own relating to the Institution.

I made a second inspection on the 11th June, for the purpose of deciding what purchases were to be made on account of the capital appropriation voted by the Legislature at the previous session. This appropriation was chiefly granted to meet the expenditures for furnishing the Principal's house, which had been erected on the grounds, and for fitting up, for the purposes of the Institution, those portions of the main building which would be rendered vacant when the Principal moved into the new house above referred to. As the result, I granted authority for the following purchases, leaving minute instructions regarding the manner in which they were to be made, viz: Furniture for an additional class-room, \$125; for an extra dormitory for girls, \$382; and for the bedroom for the new teacher, \$111; appliances for the Industrial Department, \$100; books, apparatus, etc., for the Literary Department, \$461.46; furniture for the Principal's residence, \$1,660.38; gravel and trees for the grounds, \$140; additional stoves and heating appliances, \$264.23. These expenditures overdrew the appropriation to a small extent, but for this I had received the authority of the Treasurer.

It was reported by the engineer that the steam pump in the boiler-house required re-boring and other repairs. The Principal was directed to have the work done, if the Public Works Department did not include it in the alterations they were about to make to the heating arrangements.

Authority was given to have the Institution connected with the city telephone service, at a cost of twenty dollars yearly.

In view of the substantial advantages accruing from a visitation of the blind during the vacation, the Principal was instructed to again detail two of the teachers for such visitation during the vacation then about to commence. He was also directed to move into the house provided for him directly the session terminated, and to then give full effect to the instructions I had previously recorded, regarding the allocation of the rooms used as his private quarters.

My third inspection was made on the 16th and 17th October, when on examining the register, I found that since the opening of the current session on the 10th September, 169 pupils had been enrolled, 88 being males and 81 females. One of these had been sent home owing to sickness, leaving 168 pupils on the muster roll]

Admission for the first time had been awarded to 25 pupils (10 males and 15 females), six of whom were over age. Prior to the admission of these pupils, full particulars of their cases had been submitted to me, and as the Principal considered that they would be benefited by the scholastic and industrial training of the Institution, authority was granted to receive them. One of these persons was a young man from the Province of Quebec, whose maintenance and education were being paid for at the rate specified in the by-laws. Two of the pupils were absent last session, but had been re-admitted.

From an examination of the records in the Principal's possession, and of the correspondence he had with parents and others, it appeared that 202 pupils should have been in the Institution, but for various reasons, chiefly the poverty of the parents, 33 of the number were still retained at home. However, it appeared likely that the number of pupils would be increased to about 180 before the close of the year.

The teaching and instructing staff of the Institution numbered twelve persons, viz., five teachers in the literary department (two of whom also assisted in the industrial and musical branches), three teachers of instrumental music, one of vocal, and three instructors and one assistant instructor in the industrial department.

I visited the literary classes and examined pretty minutely into the methods of instruc-

tion and the general routine of work. The good discipline which prevailed and the programme of study pursued were worthy of high commendation. The heartiness with which the teaching was carried on, and the zealous way in which the teachers performed their duties, shewed pretty conclusively that they had a real love for their work; without which the best directed talent would fail in the instruction of the blind.

The course of study is much the same as previously reported, comprising reading, writing, grammar, spelling, arithmetic, geography, history, English literature, object instruction, &c.

The pupils seemed to pay marked attention and respect to their teachers, and they appeared to be anxious to learn. The progress made was very great, even with some who had only been a comparatively short time in the school, but in the cases of those who passed through several sessions, it was most marked. Altogether, I have a most favourable report to make of the Literary Department of this institution.

The musical classes were also found to be effectively organized, although I would be glad to see the instruction in this department take a more practical shape. Twenty-three pupils were receiving lessons on the piano and nineteen on the organ, while a large proportion of the whole school were receiving lessons in point print, besides vocal and general musical instruction. Apart from the pleasure afforded to the blind by music, it should not be lost sight of that unless a very considerable number of these music pupils are fitted to earn a portion of, or the whole of their livings through the exercise of their musical talents, the musical course of this Institution will fall far short of its object.

The industrial training of this Institution continues to sustain its eminently practical and progressive character. In the willow-work shop, twenty-six young men and boys were receiving instruction. The time of ten of these was exclusively taken up with the trade, and the remainder worked from 8 to 9.45 a.m., and from 1.30 to 5 p.m. daily. It is expected that three of these industrial pupils will have fully acquired the trade at the end of the present session, and that they will then leave the Institution quite able to earn their living by it. During the past vacation, a test was made of the capabilities of the most advanced pupils of this shop to earn a livelihood by the manufacture of willow-work. There was distributed to ten pupils 1,500 lbs. of dry willow, which they took home with them. From inquiries made of each of these pupils, I found that they manufactured and sold from twenty to fifty dollars' worth of willow-ware each.

The health of the Institution was very good, only one pupil being confined to bed. The appearance of the inmates also in respect to dress was very satisfactory.

In this, and previous years, an examination of the pupils had been made in the month of May by a skilled oculist, but it was found that the recommendations for special treatment in certain cases could not always be carried out before the commencement of the vacation in the middle of June, as the consent of the parents of a pupil has always to be obtained before an operation can be performed, or the pupil removed to the Eye and Ear Infirmary, for some special and constant treatment. It was, therefore, decided that an oculist should pay two visits to the Institution during the session, instead of one as heretofore. The first visit to be paid early in the term for the more especial purpose making a general examination of the pupils' eyes, and for ordinary treatment and directions; the second visit to be made about two months before the close of the session, for performing operations of a minor kind, and for determining which pupils should be sent to the Andrew Mercer Eye and Ear Infirmary during the vacation, for special operations, with a view to the complete or partial restoration of sight. The first visit under this arrangement was to be made by Drs. Reeves and Ault, the oculists of the Andrew Mercer Infirmary, on the 11th November. When the second visit of the oculists is paid and their report is in the hands of the Principal, it will be his duty to at once enter into communication with the parents or guardians of the pupils recommended for transfer to the Mercer Infirmary, with a view to obtaining their consent to such removal and operations.

The condition of the Institution in respect to cleanliness and order was excellent. The boys' dormitories, in which so much confusion prevailed prior to the opening of the new wing, was in capital order.

It is most important that similar extensions and improvements should be made on the girls' side of the house, for, apart from the necessity which exists for increased dor-

mitory accommodation for that sex, the present large associated dormitory, in which over fifty girls sleep, is wanting in nearly all proper requisites of such a room.

During the vacation, the Principal removed his family to the residence erected for him on the grounds, and the rooms in the main building, formerly used for his quarters, were fitted up and appropriated for official purposes, as designated in a previous minute.

The room in the basement, at present used for the bakery, is much too small, and is also in too close proximity to the furnace rooms. The meat store is also unfitted for such a purpose. In the extension of the rear buildings, which must shortly take place, these defects should be remedied.

The books and records of the Bursar were examined at this visit. It is evident that some of the appropriations will require to be increased in the estimates of next year. The sum voted for books and apparatus, viz. \$400, appears to be insufficient to meet the demands made upon it by the increased number of pupils, and is the same as when only one-half the number of pupils were in residence. A recommendation will be made to have it increased to \$600. The appropriation under the heading of "Farm and Garden" is also overdrawn. It is hoped, however, that \$600 will be found sufficient for this service in future years. The expenditures under the heading of "Furniture and furnishing renewals" will have to be very carefully watched, as they have exceeded the appropriation during the past three years. The vote of \$500 should be sufficient. The cost of gas was \$1,410.26 in 1878, and this year it will be about the same. This is entirely too much, and is owing to the high price and poor quality of the gas furnished. The same quantity of a much superior gas could be made upon the same principle as it is at the Orillia Asylum, for one-half the amount. Unless the price be reduced and the quality improved, I would recommend that appliances be fitted up in the premises for manufacturing gas. The appropriation for bedding and clothing will have to be increased from \$300 to \$500.

The Principal stated that not less than \$200 worth of books were at once required for the schools. He was authorized to make purchases to that extent.

The Principal was requested to push forward with the knitting of 500 pairs of socks for the various public institutions of the Province.

He was also authorized to place one of the most advanced female pupils as a monitorial instructor in the Industrial Department, and the Bursar was instructed to enter her name upon the pay list at the rate of \$40 per session.

A consultation was held with the Principal respecting the wants of the Institution on capital account for the coming year, and the list arrived at will be submitted to the Treasurer of the Province, along with a recommendation that an appropriation be voted for the purpose of carrying out the various necessary works.

MAINTENANCE EXPENDITURES.

A statement of the cost of maintaining the Institution during the official year is given hereunder. This statement shews the total expenditure and also that under each heading of the estimates.

Medical department.....	\$70 23
Food of all kinds.....	7,546 60
Bedding, clothing and shoes.....	429 88
Fuel.....	2,570 58
Light.....	1,447 50
Laundry soap and cleaning.....	230 42
Books and apparatus.....	613 97
Printing, postages, stationery, etc.....	507 24
Furniture and furnishings.....	817 35
Farm, feed and fodder.....	737 26
Repairs and alterations.....	576 79
Miscellaneous.....	749 53
Salaries and wages.....	13,217 80

\$29,515 15

DESCRIPTION OF THE INSTITUTION BUILDINGS, FURNISHED BY THE ARCHITECT OF THE
PUBLIC WORKS DEPARTMENT.

The site adjoins the western limit of the City of Brantford, south of the Grand Trunk Railway branch from Goderich to Buffalo, and contains 65 acres of land, known as Digby Place.

A roadway 66 feet in width extends from the lot to the Grand River, on the bank of which an additional acre of land was purchased with the lot.

The buildings, which were commenced in 1870, and completed in 1872, were erected on a plateau which commands an extensive view to the west and south, and overlooks the city, the principal residences being about one mile distant.

The design is in the Tudor style, adapted to modern requirements, and the plans were prepared in the Public Works Department.

The original front was 220 feet, consisting of a centre building and wings, the width being 64 feet, two storeys in height, 14 feet and 13 feet respectively, with Mansard storey 12 feet high, the centre building being an additional storey in height, arranged for a music hall.

The centre projecting tower is 17 feet square, and four storeys or 95 feet in height, and to top of vane 140 feet.

The centre building contains the Principal's and Bursar's offices, also Teachers' rooms on the ground floor, Matron's apartments on the first floor, and music hall 60 feet by 46 feet and 22½ feet in height on the third storey; the wings and part of the centre portion are occupied as class rooms, the centre hall being 12 feet and side halls 10 feet wide through the length of the building.

On the first floor in each wing there are large associated dormitories, 60 feet by 37 feet and 22½ feet in height, the boys' dormitory having been recently divided by the extension of the hall to reach a new wing constructed in 1877.

The rear building which was constructed for kitchen and laundry purposes, is 75 feet by 73 feet and three stories in height with basement, and is connected by a covered passage 33 feet by 15 feet, and two stories in height, with the main building.

The basement contains the boiler, store and fuel rooms, on the first floor are the kitchen, laundry, ironing, drying and store rooms, on the second floor are the dining rooms, 33 feet by 30 feet and 23 feet high, with lifts from kitchen, wash and store rooms, and on the third floor are the servants' apartments, tank rooms, etc.

The wing erected in 1877 is 60 feet by 64 feet, and three stories in height, connected by passages, 14 feet by 10 feet and two stories in height, the style corresponding with the original building, and to complete the front it will be necessary to construct a similar wing on the girls' side.

The first floor of the wing contains class and sitting rooms, bath and wash rooms, water closets, etc., and on the second and third floors are dormitories for the boys and attendants.

The buildings are constructed of white bricks on the outside, with cut stone dressings, and are roofed with slate and galvanized iron.

The heating apparatus consists of steam generated in two boilers, and conveyed in circulating pipes and coils through all the apartments, dormitories, halls, etc.

The water is pumped from a copious spring on the lot, into five iron tanks, containing in all about 15,000 gallons, from which the water is conveyed by iron pipes to the bath and wash rooms, water closets, etc. The light is procured from the City Gas Works, the mains having been extended to the buildings. A separate residence was constructed for the Principal in 1878, also for the Bursar in 1873. The out-buildings consist of a workshop, gate-keeper's house, stables, waggon-house, sheds, etc. The Institute affords accommodation for 180 pupils. The expenditure to 1878 was \$169,279.

DETAILED STATEMENT of Expenditures of the Ontario Institution for the Blind, Brantford, for the year ending 30th September, 1879.

	Institution for the Blind.		Institution for the Blind.
	\$ cts.		\$ c.
<i>Medical Department :</i>		<i>Laundry, Soap and Cleaning :</i>	
Medicines	23 36	Brushes, brooms and mops	41 35
Medical comforts and appliances	46 87	Bathbricks, blacklead and blacking	13 08
	70 23	Soap	92 36
		Laundry, etc.	83 63
<i>Household Expenses (Food) :</i>			230 42
Butcher's meat	2,708 94	<i>Books and Apparatus :</i>	
Fowls	100 04	Library	499 71
Fish	126 55	School furniture	114 26
Flour, bread and biscuits	1,240 02		613 97
Butter	1,147 31	<i>Printing, Postages, Stationery, etc. :</i>	
	5,322 86	Printing and Advertising	217 71
<i>General Groceries, viz. :</i>		Postages, Telegraphs and Express ..	201 03
Barley, rice, peas and meal	162 85	Stationery	88 50
Tea	391 17		507 24
Coffee	225 80	<i>Furniture and Furnishings :</i>	
Cheese	8 10	Furniture, renewal and repairs	637 00
Eggs	97 86	Iron and tinware, etc.	90 64
Fruit (dried)	61 93	Crockery and glassware ..	89 71
Salt, pepper, mustard, vinegar and pickles	66 05		817 35
Syrup and sugar	829 81	<i>Farm :</i>	
Unenumerated	31 13	Stable and carriages	421 21
	1,874 70	Feed and fodder	316 05
<i>Fruit and Vegetables</i>	349 04	Farm labour, stock, implements, in- cluding repairs.	737 26
<i>Bedding and Clothing :</i>		<i>Repairs :</i>	
Bedding	199 92	Repairs, ordinary, to buildings, etc. .	337 92
Clothing for orphans	198 68	Hardware, etc	178 68
Shoes for orphans	31 28	Paint and oils	60 19
	429 88		576 79
<i>Fuel :</i>		<i>Miscellaneous :</i>	
Coal	2,426 20	Ice	18 60
Wood	144 38	Officers' travelling expenses, etc.	457 88
	2,570 58	Freight and duties	83 67
<i>Light :</i>		Amusements	189 38
Gas	1,435 60	Incidentals	749 53
Oil, candles and matches	11 90		13,217 80
	1,447 50	<i>Total expenditures</i>	29,515 15

J. W. LANGMUIR,
Inspector.

REPORT OF THE PRINCIPAL FOR THE YEAR ENDING 30TH SEPTEMBER,
1879.

BRANTFORD, Oct. 1st, 1879.

J. W. LANGMUIR, ESQ.,

Inspector of Prisons and Public Charities, Ontario.

SIR.—I have the honour to present for the official year ending the 30th September, 1879, the Principal's Report of the Ontario Institution for the Education of the Blind.

In the instruction of the blind, the problem to be solved is, how far we can replace the lost sense of sight by the special cultivation of the hand, the ear and the memory. It is popularly supposed that a child, when blinded, becomes thereby endowed with a more sensitive touch, with a finer ear, and a stronger memory. Unhappily this opinion is quite erroneous, and it often causes most unreasonable expectations to be formed of the blind. The attainments of blind persons are the result of close application on the part of the student, and of great skill and inexhaustible patience in the teacher. We too often find the constitutional weakness that has quenched the sight, to have also impaired the hearing, or the vocal organs, or even the mental powers. The sense of touch in neglected blind children is strikingly deficient!

In an educational view, there are two entirely distinct classes of blind persons: 1st, those blind from earliest recollection; 2ndly, those who have become blind after some years' distinct remembrance of the visible world. The latter are very much in the position of seeing persons blindfolded. In such cases the loss of sight is an affliction, whose magnitude those born blind cannot even distantly realize. But at the same time, after the distractions of the visible world are gone, the quality of the brain-work may actually improve. Most musicians prefer Beethoven's Ninth Symphony to any of the preceding, though the great master's absolute deafness precluded the possibility of his ever having heard a single note in the whole of that sublime composition. When he attempted to play it himself, his fingering of the softest passages left the music *more* inaudible to his listeners than to himself. To them the keys were often absolutely silent, but his mind was doubtless filled with "touches of sweet harmony." So Milton, during several years of his blindness, appeared to gain constantly, not only in majesty of expression, but in descriptive power. "Paradise Lost" appeared after thirteen years of total blindness; and what was Milton's loss was probably the gain of English Literature. In our own day, Heinrich Heine's influence on German politics, or on French or German literature did not certainly decline as his sight receded. The mental exaltation which is seen highly magnified in minds of such exceptional power, is also perceptible in cultivated blind persons of humbler gifts; and it is doubtless due to the forced employment of the reflective faculties.

When we approach the class who have been blind from earliest remembrance, we enter a sunless world where there is no colour, no form, no space. Yet the dwellers evidently enjoy life more than those who have seen, and are now blind. The first insight into the true blind man's world was afforded by the observations of Cheselden, an eminent English surgeon of the last century. Through the operation of couching, he was, in 1728, so fortunate as to give distinct vision to an intelligent boy who had been born blind, and who was then fourteen years old. The surgeon minutely observed from day to day the growth of visual *interpretation*, and recorded the results in the Transactions of the Royal Society. The boy failed at first to identify even the objects that were most familiar to his touch. For some months a cube or any other solid, seen in perspective, gave him the impression of a set of separate and differently-coloured planes. His ideas of form, space and colour were all wild and fantastic. Among those who have in recent years studied this most interesting, and, for our purpose, most important subject are Dr. Appia, of Geneva, and Dr. Louis Fialla, of Bucharest—both ophthalmic surgeons. Their researches

confirm and extend Cheselden's observations. Dr. Appia had operated for congenital cataract with the effect of giving vision. A knife, a spoon, a pair of scissors and other objects perfectly familiar to the girl's hands were held up before her now unveiled eyes, and, though the objects were distinctly *seen*, she completely failed to identify any one of them or to conjecture its use. Dr. Fiiala's monograph, (published in 1878,) embraces observations made on no less than six similar cases,—the ages ranging from 10 to 25 years. One patient could not recognise intimate friends until he had heard their voices. Formerly, as a blind man, he could find his way alone through his native city; but on the restoration of his sight he was for a time utterly bewildered, and was compelled to ask his way. Another patient completely failed, on seeing the surgeon's hand, to conjecture what it was, and only after an evident struggle against unbelief, did she recognize her own hand. A pathetic scene was witnessed when a peasant girl of seventeen was for the first time brought within view of the parents that had so tenderly cared for her all her life. The poor girl could recognize her own mother only by passing the hand over her features! In all these cases it is very important to observe that, when persons or objects were once interpreted by the hand or the ear, the sight was on every subsequent occasion sufficient for identification. This clearly shews how vastly important the memory is in the effective use of the senses.

By no means yet discovered can we substitute one special sense for another, so as to furnish *the same conception*. It is now known that light, heat, electricity, &c., are molecular movements, merely differing in velocity, and that they are interchangeable. But as yet, we have not succeeded in exhibiting those coloured rays that are visible to even the unaided eye, as heat rays distinguishable to the touch. Something approaching this is seen when a blind person applies his tongue to surfaces variously coloured, and can, perhaps, distinguish white from black, or even blue from red. This is really due to the different capacities for absorption possessed by different colours, and the blind man is really contrasting different shades of temperature without obtaining any idea of different shades of colour. The reputed distinction of colours by the blind poet, Blacklock, could have amounted to no more than this: his life-like descriptions of the tints of flowers and landscapes were certainly, as Dr. Johnson insisted, derived at second hand. Blind persons generally allege that they possess a peculiarly sensitive tract in the face immediately beneath the orbits of the eyes. Persons destitute not alone of sight but of eye-balls can assuredly distinguish obstacles in their path, when these obstructions rise to the level of the face, and in some cases they will even define closely the dimensions of objects held up before them. To this singular sensibility the name of *facial perception* has been given. Some writers refer this faculty to the recognition of varying sounds reflected from the surface of the object. But very deaf blind appear to possess it equally with those that hear. I am disposed to consider this perception of objects, like the distinction of colours, as the recognition of various degrees of radiant heat. We know how even a thin stratum of fog intercepts heat rays, and it is not then surprising to learn that a blind man can become befogged, as well as a seeing man. This "unrecognized sense" can be *trained* to an extreme degree of sensibility: on credible evidence, we are assured, that the great mathematician, Saunderson, had so educated his facial perception that he could distinguish clouds on the horizon. We must, however, remember that, even if we could make the faces or the fingers of our pupils as sensitive as Melloni's pile, or Edison's tasimeter, no correct conception of colour, or form, or space can arise from these sources of information.

Persons born blind are related to objects affected by light much as we seeing persons are related to bodies affected by electricity and the other invisible forces. Our present conceptions of the visible world are probably only one degree less erroneous than a blind man's! Are we surprised that a blind man, when first admitted to sight, cannot recognize his own hand? Well, if one of us that see were suddenly endowed with a sixth sense, revealing those now invisible forces, is it probable that he at first could even guess at the identity of his own hand? Would the simplest body, say a cube, be recognizable when vibrating under the swing of its restless molecules? Now, if we were placed under the instruction of a being endowed with this sixth sense, we should enjoy evident advantages, though accompanied by certain disadvantages. On the one hand, he

would teach from a personal knowledge of the ultimate laws of matter, and would certainly reveal a world of wonders. On the other hand, with but our five senses it would be impossible to quite realize the significance of many of his illustrations. He would occasionally be talking above our heads. His *definitions* would probably perplex us most of all; and we should certainly have to accept many of his terms in a *mitigated*, or in a conventional sense. Such an instructor would, in all likelihood, unduly neglect colour and appearance in his incessant pursuit after more essential properties; and it is quite conceivable that *we* may thus come to surpass him in fineness of vision, precisely as blind persons come to surpass seeing persons in fineness of hearing.

LITERARY INSTRUCTION.

The practical application of all this is close at hand. Where a seeing teacher is instructing the blind, it is obvious that the perception of the blind must be accepted as the basis of the teaching. We must never go outside the mental process of our pupil. If we want to teach a definition, we must first place a representative object in the blind child's hand; and, from the impression made upon the child's touch, gather up the proper terms in which to frame a definition. Seeing instructors are naturally disposed to teach blind children their letters by commencing with the characters in very large outline. This is very natural and plausible, but very fallacious. Blind children cannot, in embossed characters as these are usually printed [3-16 inch square] distinguish angular from rounded outlines; and it is on the *collective* impression that they depend for identifying a letter. They never obtain the same impressions from the small letters occurring in books as they do from large anatomical alphabets; and, if they associate the two things, it is simply because you *tell them* that the characters are of the same form. In other words, the resemblance is to them entirely conventional. Precisely as though we have before our eyes two photographs, one being a microscopical reduction of the other. We may accept the statement that the invisible picture is identical with the visible, but here we are evidently walking by faith, not by sight. Now, if we are to instruct blind folk by conventions and arbitrary letters,—which we are forced to do—why not begin just where we ended, and, setting the pupil's finger on the *a* that he will meet in his books, tell him from the outset, whenever you get that impression, call it *a*? And, as we are now in the way of using what to the learner are arbitrary characters, why not give him at once the arbitrary letters that best suit his touch, either the Roman type, or the point print characters, as the case may be?

The foregoing really represents the converging point of recent discussion on the teaching of the blind. Books printed in the ordinary Roman character,—or "line" type, as we call it,—are of course, more attractive and intelligible to seeing persons than the pimpled pages of point print books; but the latter are much more legible to finger-readers. In our Institution, we instruct all who have sufficient delicacy of touch, to read the line type, for nearly the whole of the Blind Man's Library is at present printed in this character. But, when we come to industrial training, the fingers lose much of their former sensibility, and refuse to distinguish the Roman letters. This so constantly occurs, that we now instruct our pupils simultaneously in both types, so as to anticipate the failure of industrial pupils with Roman characters. The number of readers among the pupils now attending, may be shewn as follows:—

	Boys.	Girls.	Total.
Line Type Readers	47	60	107
Learners	13	8	21
	60	68	128
Point Print Readers	58	47	105
Learners	3	8	11
	61	55	116
Moon Type Readers	10	19	29

In my last Annual Report, I sketched the various typographical systems that have been devised for the English-speaking blind. I must here content myself with reiterating, that all real progress is being enormously retarded by this conflict of alphabets. Vast sums have already in England been appropriated by the benevolent towards the education of the blind, and this year has added the Gardner Legacy of £330,000, which is to be distributed among the three principal Associations for promoting the welfare of the blind. Let us hope that the former dispersion of energy will not continue; and that this money will not be wasted by reproducing the same books in a dozen different forms. If these typographical champions will not dismount from their hobbies, let them at all events exercise themselves in different parts of the field. The field is very wide; the blind reader's literature is very scanty. In America the event of the year is the passing of the Subsidy Bill by the United States Congress—a measure which will make 1879 a memorable year to the English-speaking blind throughout the world. The series of events that have led up to this legislation, was minutely detailed in my last report, and need not here be repeated. Acting upon a resolution passed at Philadelphia, in 1876, by the convention of Instructors of the Blind, the Hon. A. Willis introduced an Educational Subsidy Bill into the House of Representatives, and supported it in a speech, (January 7, 1879), which proved irresistible in its facts and its eloquence. When the Bill came before the Senate, it was referred to the Committee on Education and Labour. Messrs. Huntoon (Louisville), Wait (New York), Morrison (Baltimore), Hall (Philadelphia), and Williams (Georgia),—all Superintendents of Institutions for the Blind,—appeared before the Committee, and gave such satisfactory explanations, that the Committee made a unanimous report in its favour, and the Senate passed the Bill on a division of 43 to 7. By this measure, the United States Congress has set aside \$250,000, the principal to be invested in four per cent. Government bonds, the interest, \$10,000, to be paid over semi-annually to the Trustees of the American Printing House for the Blind (Louisville, Ky.), and to be used in the manufacture of books and appliances for the education of the blind. The character of the books and appliances issued is to be determined by a vote of the Superintendents of the United States Institutions for the Blind; and the distribution is proportional to the number of the pupils in attendance. The first distribution has already taken effect, and it would represent in books, etc., an allowance of about \$4.00 per pupil,—the value of the books, etc., distributed being taken at the actual cost of production. That is to say, an Institution like our own would receive \$720 in school-room and library supplies. The United States Institutions of course, up to the claim of their attendance, receive their school supplies *gratuitously*; but the measure confers an inestimable boon on English-speaking blind everywhere. A large number of embossed books will now be published that, hitherto, have not been procurable at any price, and these equally with the other Louisville imprints will be sold to foreign Institutions *at actual cost*. The intermittent and uncertain supply of books has proved a great impediment to progress. You may remember that, during a recent session, when a particular book was not procurable, I was forced into the expedient of preparing stereotype sheets from thin brass, and printing our school books by means of a clothes-wringer! The Subsidy Act has even already given a powerful impulse to the publication of new books. Mr. Huntoon, the able director of the "American Printing House," is already out with an announcement of several good school books,—four numbers of the *Star Readers*, forming a continuation of Butler's excellent series, now used in our class-rooms; Agassiz & Gould's *Principles of Zoology*; Rolfe & Gillet's *Hand Book of Natural Philosophy*. Our students in English Literature will welcome the reprint of Sir W. Scott's *Marmion*, and a revised *Compend of American Literature*. This last has been recast and extended by Mr. Chapin, the veteran Superintendent of the Pennsylvania Institution, who, in his *fortieth* year of devoted service to the blind, is still devising means of benefiting them.

It is encouraging to observe that at Boston, Mr. Anagnos, Dr. Howe's son-in-law and worthy successor, has awoken the Institution press from its dusty repose, and has re-issued in beautiful relief the first volume of Milton's Poetical Works. It is, I believe, Mr. Anagnos' intention to give us now a complete edition of Milton.

The Worcester (England) Society for Providing Cheap Literature for the Blind has added to embossed literature *Tom Brown's School Days*, and *George Herbert's Poetical Works*.

For the benefit of classical students it has issued, in the original Greek, the *Epistle to the Philippians*. The higher education of the blind is receiving increased attention in England. This year, it is announced, a second class in the Law Tripos at Cambridge has been taken by Mr. Beresford, a blind student. The chair in Political Economy at that University is held by Professor Fawcett, who magnificently illustrates how a man, smitten in his very prime by total blindness, may still lead his fellows at the University, in the Legislature, and even in athletic amusements. At Cambridge, too, the chair of Music is occupied by Dr. McFarren who, during the most fruitful years of his life, has been totally blind.

We most urgently require additional school-books in the New York point letter. At present, a primer is available, which is generally excellent, though containing occasionally words rather beyond an absolute beginner. But when we leave the primer, there is a hiatus, unless we use books that are embarrassed by point-print punctuation or employ a publication that is scarcely adapted for school use in an unsectarian Institution. As regards punctuation in point characters, the general feeling among teachers is, that it consumes much space, is apt to become confused with the subject matter, and, on the whole, that the game is scarcely worth the candle.

In *writing*, the pupils at present attending stand as follows:—

	Boys.	Girls.	Total.
Script writers (pencil and card).....	58	51	109
Learners	11	9	20
	69	60	129
Point Print Writers	40	31	71
Learners	5	..	5
	45	31	76

A complete writing appliance for the blind should cover the following cases:—The legible communication (1) of blind with seeing persons; (2) of seeing persons with blind persons; (3) of blind persons one with another.

At present, three distinct appliances are requisite to secure these results. (1) When a blind man wishes to send something legible to his seeing correspondent, he writes a species of square, cursive hand, by means of a pencil and a grooved card; (2) when his seeing friend desires to use a character legible to himself and tangible to his blind correspondent, he uses generally the pin-type, devised by Klein of Vienna. These Roman letters in pin-points, when impressed on paper, leave on the reverse of the paper punctured letters in relief. (3) For the communication of blind with blind, point-print writing is employed. This character, though arbitrary, is easily written by the blind, and as easily read by their fingers.

Much ingenuity has been expended on writing appliances intended to unite these requirements. Braille, the father, or the foster-father, of the point character called by his name, devised (1839) in conjunction with Foucaud, his fellow-pupil at the Paris Institution, an instrument which is known as the "Braille-Foucaud Raphigraphie." Braille had a weakness for Greek words, and we may be thankful that he used no harder word for his "needle-writer." He gave his point-writing the tremendous name of *Anaglyptographie!* In the *raphigraph* there is a clavier of ten keys, armed with needle-points at their extremities, and by combining these, the blind operator prints in dotted outline Roman letters, which are, of course, legible to seeing persons, and can be finger-read by blind. The process, is, however, excessively laborious. Thus *e*, which is in the French language, as in the English, the most frequently recurring letter, requires this series of combinations, every digit indicating a key: 56, 457, 457; H (capital) requires 17, 23456, 147, 23456, 17!

A much better device for combining the writing of seeing and of blind is the *Diplograph*, recently invented by M. Ernest Recordon, and described in the *Journal de Genève*

of the 4th Nov., 1875, from which I translate the principal details in the description furnished below. The *Diplograph* was shewn last year in the Swiss Exhibit at the Paris Exposition, and the Committee of Instructors of the Blind appointed by the Paris Convention, strongly approve of its design. Its price, 300 francs (\$60), places it, however, at present beyond the reach of the blind. Recordon's appliance consists essentially of two disks revolving together on a common axle at a given interval. They are furnished on their circumferences, the one with point characters, the other with the alphabet used by sighted persons. The letters correspond exactly, *a* for *a*, *b* for *b*, etc. Two sheets of paper are brought into contact with the circumferences of the disks, and the Roman letters take their colour from an inking-roller. Letter by letter the mechanism prints off what is desired, the paper shifting automatically as each letter is struck. As at first constructed, the operator revolves one of the disks, and presents the letter desired. The second disk prints simultaneously the equivalent character in the other alphabet. In this way, one blind person can easily write so as to be read by another, while he also prints a sheet for the sighted; and conversely, a sighted person, though quite ignorant of the blind man's alphabet, can write it by simply revolving the characters that are intelligible to himself. A blind operator can also print in one or simultaneously in two different characters, either or both of which may be unknown to him,—provided the known equivalent of the circumferential characters are borne on one side of one disk, like the figures on the dial of a watch.

The *Kentucky Point-Writer*, invented and constructed by Mr. Morrison Heady, who is both blind and deaf, is now perfected. It is described as "strong, light and simple." The dimensions are 20 inches long, $10\frac{1}{2}$ inches wide, and $9\frac{1}{2}$ inches high. It takes a sheet 15 inches by 13; yielding a printed area of 14 by 12. The range includes, I believe, the "writing" of point characters (either Braille or New York system); also the relief printing of Roman letters, either capital or small. Five to ten copies are produced simultaneously, according to the characters used. The price of this machine is \$30.

Perhaps the most wonderful writing appliance ever invented was shewn at Paris last year, in the Italian Section of the Exposition. M. Michela, the inventor, designed the instrument to replace the ordinary short-hand writer, and he calls it therefore the *Stenophonograph*. The extraordinary speed that the operator could command attracted crowds of wondering spectators. M. Vitali, the Superintendent of the Milan Institution for the Blind, has studied the capabilities of this appliance with reference to the blind, and by experiments with his own pupils, he finds it quite within their reach. I here translate and condense the description furnished by M. Vitali. The instrument resembles a miniature harmonium with its case, key-board, and pedals. It is $17\frac{7}{16}$ inches long, $9\frac{1}{8}$ inches wide, $7\frac{3}{8}$ inches high, and, by removing the pedals, it may be carried under the arm. There are 20 keys in two rows, and the intervening space is occupied by a cylinder of paper, feeding automatically, and extending nearly the whole length of the machine. The paper used resembles that in the Morse telegraphic register. The keys actuate levers, which print in slight relief the conventional phonetic characters, that are intended by M. Michela to constitute a universal alphabet and represent all articulate sounds. The words are written by syllables, each syllable being printed by striking together the necessary combination of keys. These syllables appear in a vertical order, the second directly under the first, the third beneath the second, and so on. The general principles of M. Michela's method remind one of Prof. A. Melville Bell's "Visible Speech," though the details and the characters themselves are quite different. Only six different symbols are employed in this new system, and these of the simplest form:—a single dot, two horizontal dots, a curve convex downwards, a straight line sloping from left to right, a curve convex upwards, and an inverted T. These symbols correspond respectively to the numbers 1, 2, 3, 6, 9, 18; and numbers other than these are expressed by combinations: thus, $4 = 3 + 1$; $24 = 18 + 6$. Ten vowel and 24 consonant sounds are recognized; but in these consonant or "accompanying" sounds are sometimes included *i* and *u*. The Abbé Vitali assures us from personal observation that the machine attains the wonderful speed of 175 to 180 words a minute, and that this speed can be maintained; also, that the manuscript can be read with the same speed that it is written. Now, the very best of our verbatim reporters cannot long maintain this speed, and their manuscript, from its

personal peculiarities, is rarely intelligible to any but the stenographer himself. A blind operator can use Michela's instrument as rapidly as if he were sighted; and, usually having a cultivated ear, he would rather have the advantage in this phonetic work. The relief in which the characters are printed is almost too low to be legible to the touch, but this could be overcome, and at the worst the manuscript could be copied at length, or given directly to a compositor trained in the system. For a knowledge of the conventional signs sufficient to write words, 20 days suffice; but for stenographers' use six months would be requisite. The price at which the instrument now sells is rather high—\$80; but with an increased demand a large reduction could be made, for the estimated cost of construction is only \$30. Judging from the Abbé Vitali's experiments, a blind reporter, provided with the mechanical stenograph, should be able to represent phonetically any language, if distinctly enunciated, whether it were intelligible to him or not. This facility would be useful for the expression of quotations from foreign languages.

Arithmetical Appliances.—There is great room for ingenuity and improvement in arithmetical appliances for the Blind. For want of a better resort, we still use the clumsy type-metal honey-comb with two kinds of type. The first type bears a T in relief on one end, and a V on the other; the second type is blank at one end and carries an L on the other. Revolving the T towards the left, the four positions give us the digits 1, 2, 3, 4; the V, similarly revolved, yields 5, 6, 7, 8. L represents 9, and the blank at the other end of the same type stands for zero.

An appliance that uses only one type is now often met with in England. It is said to have been devised by the late Rev. W. Taylor, though continental educationists allege that it is but a slight modification of the word-building appliance devised by Kley. A board is perforated with a series of star-shaped holes, the precise form of which may be obtained by imposing one square upon another so as to make each trisect the other's sides. In these eight-rayed stars, a square type is used which is grooved on one end and notched on the other. Using the grooved end, we assume as the primary position that where the groove slopes from left to right; and, revolving the type with a right hand movement into the eight different attitudes permitted by the form of the star, we obtain the digits 1 to 8. Proceeding similarly with the other end of the type, we obtain 9, 0, plus, minus, and the symbols for multiplication, division, equality of ratios, and general equality.

A similar arithmetical appliance using pentagonal holes was devised by Lucas, but it appears much inferior to the Taylor apparatus.

For rapid calculation, all these contrivances are too clumsy. We must by some means reach a written character easily made, easily read, and *easily accessible at any stage of the calculation*. Except in the last particular, the point-print numerals would meet our requirements. In several previous reports I have illustrated the importance of substituting an embossing for a puncturing appliance in the writing of point-print. At present, the student who wishes to refer to any of the figures already made, must disengage the paper from the writing board and from the brass guide, turn his manuscript over, and, after reading the relief on the reverse, restore the sheet to its place in its precise former position. Herr Pablasek, the Superintendent of the Imperial School for the Blind, at Vienna, exhibited at the Dresden Convention of 1876, an appliance for *embossing* the Braille point characters. He has since improved on his invention and last year he exhibited it in the Austrian Department of the Paris Exposition. The instrument is said to be quite portable and free from intricacy. The pupils of the Paris Institution used it with facility whenever it was placed in their hands. If successful in embossing Braille characters, it could of course be applied to the writing of New York Point.

Geography.—The equipment of our school-rooms in this subject is still incomplete, but home-made additions occur as time is afforded. During the past year, Mr. Wickens, assisted by the carpenter, constructed in duplicate a large physical dissected map of the British Isles. For accuracy and durability, the workmanship of these maps could hardly be excelled. After many experiments, we find that warping and the other injuries that beset such maps are best prevented by using for the moveable parts three thicknesses of well-seasoned pine, strongly glued together, then saturated with linseed oil, and finally varnished to prevent the evaporation of the absorbed oil. In geographical appliances, no signal improvements are reported from abroad.

LITERARY DEPARTMENT.

Our English literature class continues to be taught by Miss Montgomery, with much enthusiasm and success. But in this subject, and indeed in all branches of the literary department, the proper development of our work has been much retarded through the insufficiency of the educational appropriation. In 1874, when I took charge of this Institution, I found that the appropriation for school and library supplies was \$400. In 1879, when the attendance has increased by some hundreds per cent., with several new subjects of instruction to teach, and several additional teachers to provide with appliances, it nominally remains at \$400,—but to speak more correctly, it has, through various accidental circumstances, been considerably reduced below \$400. In our general writing-classes we use a large quantity of letter-paper which requires to be of a peculiar quality to suit our work; also for point-print writing we use at least a quarter of a ton of a peculiar paper specially manufactured for this use. Such items, until quite recently, were charged against stationery, but they are now charged against this \$400. The purchase of prize-books (\$100) was this year, contrary to the precedent of previous years, also charged against this unfortunate \$400. Finally, the tariff on books which was formerly 5 per cent. *ad valorem* has been changed to a specific duty of 6 cents per lb.; and, as embossed books are of enormous size and weight, the change has been disastrous to the blind. Without any additional burden, the mere cost price of embossed books is very formidable. The Louisville Printing House sells us its books at actual cost, but, as I illustrated at your recent visit, a shilling primer in ordinary print becomes when embossed a bulky and a weighty volume, for which we have to pay the cost price of production \$3.50, *plus* freight and charges, *plus* a specific duty of 6 cents per pound. The New York Bible Society go even farther than the Louisville Printing House: they offer to the Protestant blind the embossed Scriptures at the actual cost of *binding*, charging nothing whatever for either the paper or embossing. Yet the blind man's Bible, bought on these easy terms, costs, in New York, \$20! Now would it be too much to ask of our Dominion Government to admit, *without duty*, the gifts that foreign benevolence sends to our blind?

But let us return to our Educational appropriation of \$400. Suppose it undiminished by charges for stationery or prizes, and devoted entirely to school-books. Divide it among 180 pupils: it affords for each pupil only \$2.22. This requires to be increased by nearly 58 per cent. before we can purchase, at cost of production, in Louisville, the reprint of the English shilling primer. What would be thought of a public or a high school appropriation that would be insufficient to provide each pupil with a 25 cent book? And yet, when we supply a blind child with this \$3.50 book, we are really doing no more *for him*, than when we supply his seeing brother with a 25 cent primer, for the one is the exact transcript of the other. But, as I have said, the whole appropriation is by no means available for the purchase of embossed books. Out of the same fund must be bought all the sheet music and the music books required by a large musical department; all library-books and books of reference; all books requiring it must be bound; all maps and teaching appliances must be constructed, and a margin must be left for devising better school implements in wood and metal. Capital appropriations have occasionally been made, to assist in this branch of our work; but it must be remembered that these capital appropriations have only the effect of *starting* the instruction of each large increase of pupils. Embossed books soon become flattened and useless; and to *keep up* the instruction started by the capital appropriation, we must look to the annual maintenance appropriation. When this is generally understood, I feel assured that the public sentiment will sustain the Government in largely increasing our appropriation; and I am already aware that the Government are most solicitous for the fullest development and success of this Institution.

MUSICAL DEPARTMENT.

Music is especially the blind man's solace; but it also frequently affords him a means of livelihood. For this latter purpose, the three important branches are tuning, teaching, and organ-playing.

Tuning is pre-eminently a blind man's art. Claude Montal, a student of the Paris

Institution, first clearly stated the scientific principles on which the art is based. His public lectures delivered in Paris, were collected in a treatise, the first edition of which appeared in 1830; and a subsequent edition was awarded a special gold medal in 1862 by the Jurors at the London Exhibition. Sion, the present professor of tuning at the Paris Institute, is blind. At the Boston Institution, Mr. J. W. Smith, who is entirely sightless, conducts this subject with conspicuous ability and success. Mr. Smith's pupils have recently received a practical recognition in Boston, that might well be accepted as a suggestion by many other cities. The Boston School Board employs in its Public Schools, 137 magnificent pianos,—45 of them being grand, large sized, and of the very finest construction. On the 1st May 1877, the Board took the decisive step of intrusting the care of these costly instruments to the blind tuners of the Boston Institution, the contract being placed at \$1,200 for the year. And so much satisfaction has been afforded to the School Committee and to the musical instructors, that the contract has been since twice renewed.

Many of the ordinary piano repairs are also quite within the compass of blind persons; indeed, at Boston and Upper Norwood the construction and repair of pianos are made subjects of systematic training. Montal, the famous piano tuner, became still more famous as a manufacturer. Indeed, some of the most valuable improvements in modern pianos are due to the training given to this poor blind boy at the Paris Institute. In 1842 he patented in France his first efforts for the improvement of the piano-forte. At the Great Exhibition of 1851, he attracted much attention by three cottage pianos of his own construction. He carried off a first-class medal at the Paris Exhibition of 1855. At the London Exhibition of 1862, he exhibited a grand piano and an oblique upright, for which he received distinguished commendation and a gold medal. In these two instruments were for the first time seen some of the most distinctive improvements in modern pianos. His soft pedal (*pédale d'expression*) acted on an entirely new principle by diminishing the range of the key and the hammer. By pressing this pedal, the keys descend, and, simultaneously, the hammers rise, so that in two ways the range of the blow is decreased. The jury, which included such well-known musicians as Sterndale Bennett, Geo. Clerk, F. Gore Ouseley, used these terms in their verdict: "The action of the mechanism is perfect, and the effect extraordinarily beautiful, as the tone may be diminished to the faintest audible sound, while the facilities of execution are perfectly well preserved. It is by far the most perfect means of producing piano and graduated effects that has yet been devised for the instrument." Another decisive improvement was his *sustaining pedal* (*pédale de prolongement*) by which he succeeded in prolonging the sound of any desired notes or chords amid the *perfect stillness* of all the rest. This, up to Montal's time, had not been accomplished by any manufacturer. His instruments exhibited numberless other ingenious contrivances which have now become public property. All this surely vindicates the wisdom of the French Government in their ever generous support of the Paris Institution. Montal's example has not only shown to Governments the wide world over, how public expenditure for blind men's instruction may be repaid to the public with enormous usury, but it has also nerved poor despondent blind youth everywhere to be up and doing. At this moment, in Paris, Krebs, another Institution pupil, is fast following Montal's lead. His piano, exhibited last year, received very high commendation. As teachers and organists, blind persons have frequently attained brilliant success. In the early part of the last century, Dr. Stanley, the blind organist of the Temple Church, was considered one of the celebrities of London. Händel himself constantly attended his playing. Within the first quarter of the present century, a dozen distinguished, but sightless organists could have been counted in the Metropolis itself. Herr Patlasek, in a recent address, cited in a single breath, a group of eminent continental musicians,—all blind from childhood,—between the earliest and latest of whom scarcely fifty years intervened,—Theresa von Paradis, Mdlle. de Salignac, Sophie Osmond, Dubon, Gauthier, Moncouteau, Labor, Lachner. We must not forget, too, that Händel himself was blind towards the end of his life, and that he had to be led to the organ to render his wonderful music. Handel's life had been embittered by the Philistinism of London critics, and, with seeming presentiment of the dread shadow that was swiftly approaching him, he made *Samson* the theme of an Oratorio; just as Milton, when blind and baited by political foes, poured forth his soul in *Samson Agonistes*. In our own day, Prof. McFarren has had an experience not dissimilar to Händel's, but

with him the darkness came in the morning. All honour to the minds that when their sun is quenched, bloom in the dark ; and, like the cereus, yield both fragrant and wholesome blossoms !

In my last Report I endeavoured, as well as I was able, to represent the deplorable dearth of musical instruments here. To what I then said I need not add anything, except an expression of regret that the past year has brought us no relief. No one can be more averse than I to unfruitful education ; but here the experience of the whole civilized world is arrayed against us.

An important improvement in the *form* of musical instruction has been introduced into our work during the last year. Instead of the old clumsy method of teaching instrumental music by reading it aloud to the blind player measure by measure, and repeating it *ad infinitum* until his memory may take hold, the teacher may now dictate the music *once*, while the blind pupil reproduces the score in New York point characters, and *by his own study* afterwards of this point transcription the pupil masters the piece. We have this session extended the use of point print to the teaching of a class in harmony. The exercises are scored in point characters and revised by Miss Mahoney, who has charge of this important subject. To promote the use of point music, Mr. Huntoon has published a "*Key to Wait's Musical Notation.*" He has also in press the sheets of *Schumann's Album*, the transcription and revision of the point score being conducted directly under Mr. Wait's eye at the New York City Institution.

In vocal music, Miss Nolan is producing excellent results from her thorough system of voice culture. The chorus-singing of her pupils is much admired. At the closing (public) concert of last session a selection of standard glees were very successfully given, and, in some cases, the audience were visibly affected. Few persons could hear unmoved a fine rendering by sightless children of the glee "Where art thou, beam of light?"

Throughout the session we have house-concerts, at which the pupils are unexpectedly called on for some recent lesson, and they are afforded the advantage of hearing classical music played and sung by the teachers. We lately received a visit from the well-known vocalist, Miss Reidy, who with great kindness sang some of her favourite selections. Still more recently we have been entertained by Mr. D. B. Patterson and his efficient Battalion Band, who, very kindly, gave us an evening of martial music.

INDUSTRIAL DEPARTMENT—BOYS.

The workshop building is now fully occupied by basket-makers, their materials and their wares. I have recently reported on the question where the supply of raw material is to be found for this largely-increased attendance. At least two acres of good soil will have to be found for additional willow-beds, and until this plantation will become productive—*i.e.*, until the Autumn of 1882—material must be purchased. The entire absence of clay in our soil prevents the willow from attaining its proper growth. The same cause operates against the proper growth of shade trees. It would be an exceedingly good investment, as I recommended some years ago, to buy an acre or two of the stiff clay that lies about a mile distant, and use the surface to dilute our quicksand.

The reports sent in this summer by Mr. Truss and Mr. Wickens during their visitation of the blind, furnish great encouragement. Everywhere throughout the Province our ex-pupils are making a livelihood. Some have even got the length of employing apprentices and *teaching* them basket-making. The experiment of giving our shop-boys willow and lending them tools to work it up during the summer vacation, has proved extremely successful. Mr. Wickens looked in unexpectedly on several of these apprentices and found them working from early dawn till late at night. They were fairly successful in selling their baskets, and were thus, by their own exertions, enabled to provide clothing for another session at the Institution.

The demand for cane-seat work has not yet revived. We get some repairing to do, which serves to keep a few pupils in occasional practice.

I am having an intelligent boy who is entirely blind taught wood-turning, under the tuition of Jas. Kelly, the fireman, with the occasional oversight of Mr. Harrison, the engineer. This youth has already got the length of making (unassisted) various kinds of

tool-handles. The boy's father has a lathe at home and the knowledge thus acquired will not be allowed to remain unused.

I have placed another blind youth under training in the baker's shop, and his progress is very encouraging. It is quite remarkable how few occupations are really beyond the reach of educated blind persons. In the Royal School for the Blind at Copenhagen, the pupils have earned quite a celebrity for their shoe-making. The trade-instructor, Eneroldsen, has devised, for his blind apprentices, wooden patterns to direct them in cutting out, and special tools for various stages of their work. Thus equipped, his fifteen boys are taught to entirely depend on their own skill for *all* the work required in the making and repairing of boots, shoes, slippers, and other forms of foot-gear.

Even in art industry the blind have achieved distinct success! Kleinhaus, the famous statuary of Austria, blind from five years old, was selected by the Emperor, Francis Joseph, to execute his bust. The blind artist's work is much visited at Vienna, and it forms the last of a long series of high-class art products. Kleinhaus died in 1853. In Paris, at the beginning of the century a blind sculptor Baret obtained much commendation from the French Academy. And to-day, in the *rue d'Enfer*, may be seen Vidal, a sculptor blind from early childhood, who has won celebrity for his groups in bronze. He particularly excels in scenes of the chase! Now, if blind labour can be successfully applied to turning, and to modelling and carving, it occurs to one that the potter's trade should be quite easily within a blind man's reach. The experiment would be an interesting one; but, so far as I am aware, it has not yet been tried.

INDUSTRIAL DEPARTMENT—GIRLS.

In this department, we are constantly breaking new ground, while holding the ground already gained. Miss Tyrrell has completely succeeded in the difficult experiment of teaching blind girls to cut and make dresses. The sewing-room has become a wonderful hive of industry, and it attracts a great concourse of visitors from far and near. Our sewing-machine equipment is still insufficient to meet the demands for instruction. I have already suggested how, without much expense, some additional help may be had in the teaching. Our blind girls are attaining such skill as operatives that the Sewing Machine Companies eagerly bid for their services. One girl exhibited the Wheeler and Wilson machine at the Toronto Industrial Fair; another was engaged by the Singer Machine Company at the Guelph Central Fair: and both re-appeared at the Brantford Southern Fair. The lesson taught to the thousands of spectators who crowded around them at these gatherings will doubtless have an excellent effect in every direction. Our pupils have recently obtained complete mastery of the Singer Machine; and with the very kind help of Mr. Hollingshead, one of the Company's agents, the whole series of attachments has been brought within the skill of our girls. To those initiated in such mysteries, it will be of interest to learn that these blind girls can, without help, attach and use the appliances for binding (straight and bias), ruffling, puffing, quilting, cording, felling, tucking, and hemming in six different widths.

In the knitting-machine room the usual range of work is maintained. Even seeing operatives find that knitting machinery greatly tries their skill and patience. Judging from our experience, I think it will be found that nearly all the failures are due, not to the machines, but to the yarn. Mr. Creelman, of Georgetown, Ont., has taken out a patent for a new ribbing attachment to be used with the Franz and Pope knitter. Though the machine is not yet fairly on the market, the inventor had the kindness to bring up the first machine completed, and give us a demonstration of its capabilities. The work, plain and ribbed, appeared of very high quality,—certainly equal to any hand work,—and the use of the machine seemed quite within the grasp of blind operatives. The technical details of Mr. Creelman's improvements would here occupy too much space; but they will be found in the records of the Canadian Patent Office. The patent is numbered 10,193 (3rd July, 1879,) and covers 34 claims.

RELIGIOUS INSTRUCTION.

The Protestant pupils attend Divine service in the Music Hall every Sunday afternoon, the clergymen of Brantford kindly officiating in turn. The Catholic pupils, under

the oversight of the Rev. P. Bardou, are every Sunday instructed in the Catholic Catechism by the Sisterhood of St. Joseph. My renewed acknowledgments are due to all the churches of Brantford for the sustained interest they take in our blind folk. Our kind friends, Mr. S. M. Thompson and Mr. Cox, greatly assist us by guiding the pupils to their various places of worship.

We receive many visits from foreign philanthropists. The Rev. George Müller of Bristol, has been with us and given us an interesting account of his celebrated orphan village with its 2,500 inmates. Then we were entertained by the Rev. Dr. Macdonald of Japan, who favoured us with a most graphic and amusing sketch of life among the Japanese. Brantford gentlemen sometimes give us an intellectual evening. The Rev. W. H. Porter, from his residence within the tropics, entertained us with vivid description of scenery and personal adventure. And we had from W. H. C. Kerr, Esq., a charming lecture—essay on the Bell, its Voices and Associations.

DOMESTIC DEPARTMENT.

In the Domestic Department, Mrs. Spaight has advised some re-arrangements, which are likely to increase the general efficiency and comfort of the Institution. In the Laundry, a good mangle driven by steam is much needed. The shafting necessary is already in position. A re-supply of rubber hose is greatly required, at least 500 feet of the best 4-ply inch-hose ought to be obtained without delay.

The condition of the steam-service remains as at the last Report—the proposed improvements having been found to greatly exceed the funds available. The engineer has effected some improvements so as to help us through the winter. It is evident, however, that a comprehensive treatment of the whole question cannot, with safety, be longer deferred.

The floors in the principal halls are becoming so worn as to be unsafe. These halls, which may be regarded as the main streets in our blind village, are subject to incessant wear, and they ought to be re-laid in oak. The main hall entrance might, without much expense, be laid as a *parqueterie* of hardwood in various colours.

MEDICAL DEPARTMENT.

The duties in this department have, with the large increase of pupils, become very exacting and laborious. Dr. Corson visits the Institution daily, and, at each visit, passes in review a large number of ophthalmic cases, besides the quota of other ailments incidental to persons of weak vitality. It affords me the utmost pleasure to witness daily how many of these poor children can be benefited by medical skill and attention. I have been able to return to their homes many of the pupils with their sight so far restored that their further continuance here appeared unnecessary. In several cases, deafness is superadded to blindness. Where Dr. Corson's skill has improved the hearing sufficiently, such pupils are placed in the ordinary classes; but, where the deafness is incurable, the instruction in the various subjects becomes a matter of special ingenuity and extreme difficulty.

ADDITIONAL ACCOMMODATION.

During the past year, the Principal's residence has been furnished and occupied. The heating apparatus, which is most complete and satisfactory, was supplied by Mr. Saunders hot water engineer, London; the contract being fulfilled for a sum less by one dollar than the Parliamentary appropriation. In this hot water apparatus, provision has been made for heating a greenhouse which can now be very cheaply and conveniently erected as a lean-to against the west wall. If we are to do anything in the way of decorative gardening on these grounds, a good greenhouse is the first requisite; and as the heating apparatus is already provided, the rest can now be accomplished at a trifling expense. The rooms in the Main Building vacated by the Principal's family have at once been occupied as dormitories, class-rooms, etc., but the number of pupils has been constantly increasing, so that we are now in precisely the same need of accommodation as we were at the beginning of

last session. The necessity for the erection of an east wing is most urgent. And, with the erection of this addition, I would strongly recommend the erection of a ventilating tower at each end of the Main Building as thus extended. Without much expense, we could thus ensure a constant and complete change of air throughout the whole structure. In an architectural aspect, these towers might be made quite effective in relieving the monotony of the extended frontage.

The reconstruction of the steam service will, I assume, involve the removal of the heating boilers to the basement of the projected *northern* extension, the ground floor being occupied by the laundry, and the second floor by the drying-room. In connection with this new boiler-room, should be erected the long-needed coal-house, the floor of the former being on a level with the coal-bunks in the latter, while a drive through the coal-house ought to be carried on posts at the level of the yard, thus enabling the contractor's teams to discharge the coal at once into the coal-bunks. The present mode of handling the fuel is laborious and wasteful in the extreme; but it cannot be remedied until the above facilities are provided.

GROUNDS.

The Gardener has made out a statement shewing the debits and credits of the Farm Account for the year ending 30th September, 1879. Taking the products at current market rates, the account would stand thus: Total expenditures, \$913.13; total receipts, \$2,647.23; balance in favour of farm, \$1,734.10.

A small capital appropriation enabled me to lay out and gravel a number of new roads that were rendered necessary by the buildings recently erected. An inexpensive fountain was set up on the eastern part of the terrace; and Mr. Thompson, by his skill in landscape-gardening, added features that have conspicuously improved the face of nature. In tree-planting, I could not accomplish much for the want of means. A small copse was formed so as to screen the Principal's yard from public view. Mr. Truss, with the aid of his boys, also extended last year's avenue down to the spring.

The Honourable A. S. Hardy, while Acting Commissioner of Public Works, authorized the construction of sidewalks connecting the various buildings together, besides providing for several other much-needed improvements.

CONCLUSION.

In your Report, Sir, for 1876 (p. 60), you stated that certain amendments in the Institution Act were urgently required. Every successive year shews only more distinctly the need of the provisions then recommended. In every civilized country, education is now regarded as the birthright of the blind, and not as a charitable donation. The whole course of recent legislation has been in this direction. England has, by four different Acts of Parliament, provided for the literary and industrial training of indigent blind. If they are neglected, it is due to the Poor Law Guardians who, unfortunately, are by these statutes allowed an option in the matter. The universal movement is now towards compulsory education and compulsory appropriations. In the Belgian Legislature, the blind have had the good fortune to be represented by the distinguished orator and statesman Rodenbach, who shares their affliction; and now in both the governmental and municipal budgets of Belgium the education of the blind is an essential feature. The width and depth of the current was shown by the Congress at Paris last year. France summoned the nations to discuss the condition of the blind. The response was immediate and cordial. Nearly all the eminent educationists of the blind throughout the world attended. Scarcely a country, though far distant, remained unrepresented. Egypt was there; so was Japan. Even the "heart of Africa" seems to have been touched by the appeal, for Abyssinia was there. Paris has well earned the right of leading this mighty movement. Away back in the 13th century, she founded, in conjunction with St. Louis, an asylum for fifteen score blind,—the now venerable *Quinze-Vingts* that she still maintains and cherishes as a tender page in her long records. In the 14th century, Paris invented a new word, "philanthropy," a practical illustration of its meaning having already gone before. After nearly five cen-

turies of reflection, Paris found that an asylum was not the best form of kindness for the blind, and she established the first school for their instruction. With all her levity, Paris has shewn herself a kind mother to the children of sorrow and affliction. By her charitable administration she now imposes on herself a burden of \$5,000,000 annually. To the afflicted children gathered within her famous Institution for the Blind, she has offered great advantages. The results of this and of similar benevolence are everywhere visible. The public recognition of blind persons is emphatic. One of the most extensive and best managed railways in France is administered by a blind man. The late Congress of Educationists at Paris was presided over by M. Buffon, a namesake and a blind nephew (three generations removed) of the illustrious naturalist, who also in his later life wrote in darkness. In his *Popular Astronomy*, François Arago, after his sight had been eclipsed, conserved for French Science the ripe fruit of the renowned lectures by which he had charmed at the Observatory vast audiences for more than thirty successive years. His more afflicted brother, Jacques Arago, became blind before middle age; but exchanging his artistic pencil for an equally graceful pen, he pursued his explorations, and he has left us some delightful souvenirs of his wanderings round the world. I have already cited names eminent in music and in art. French literature has been enriched by the sacred orator, J. de Jeune, to whom Massillon owed great obligations; by the brother historians, Thierry; by the poets, Delille, Autran, Deschamps, Heine, and by many other brilliant writers whose misfortune it doubtless was to be blind at all, but whose good fortune it was to be blind in France.

In this favoured Province it ought to be our ambition to lead the world in all educational matters! But let us not delude ourselves. Without more generous expenditure we cannot even keep abreast of the time. *In a fair race*, Ontario thinks her children a match for any. Has Ontario the courage of her opinions?

I have the honour to be, Sir,

Your obedient servant,

J. HOWARD HUNTER, M.A.,

Principal.

PHYSICIAN'S REPORT.

INSTITUTION FOR THE BLIND,

BRANTFORD, 1st October, 1879.

J. W. LANGMUIR, Esq.,

Inspector of Prisons, Asylums, etc.

SIR,—The duties of Physician to the Institution have been unusually onerous and exacting during the past year, caused in part by the increased number in attendance, but more particularly by the larger percentage of sickness. A very considerable addition to my labours too has been made by my assuming the task of making the applications to diseased eyes with my own hands, in order to ensure thoroughness of treatment, so that a class numbering between twenty and thirty receive my personal attention in my daily round of attendance.

As in other years, the most prevalent diseases have been those of an inflammatory nature affecting the air passages, such as catarrhs, tonsillitis, bronchitis, pneumonia and pleurisy. Next in frequency come derangements of the alimentary tract, especially disordered digestion, and lastly the various forms of neuralgia to which our pupils are particularly prone, especially from the presence of diseased and atrophied eyeballs which often excite this excruciating pain in the same manner as do carious teeth.

It is again cause for congratulation that no epidemic has found its way into our circle, although at one time seriously threatened with an invasion of small-pox, on account of its presence in the city for many weeks during the past winter, two cases of the kind having

come under my observation within sight of the Institution. By promptly vaccinating every person connected with the Institution directly or indirectly, the introduction into our midst of this terrible disease was effectually prevented.

At the re-opening of the Institute the present term, one of our old pupils returned to us with febrile symptoms, which in a few days developed a true typhoid character. His home is at Port Colborne—a highly malarial region and the concentrated miasm no doubt acted as a predisposing cause of his disease while the exciting cause may be traced to an accidental tumble from a wharf into the water along with a blind companion, whom he rescued from drowning by a most heroic effort. In this case every precaution has been taken to prevent the spread of the fever by a thorough use of disinfectants to destroy the germs of the disease by burying the dejections of the patient in dry earth a safe distance away, and by isolating the disease as far as practicable. The fever has completed a typical course of typhoid, and at the present writing convalescence is fairly established with every prospect of good recovery. This is the first case of illness of a zymotic origin which has occurred in the Institution, and it is most gratifying to know the poison was not contracted within our precincts.

It is my duty to record the one death which has taken place during the year in the Institution, of F. Irwin, of London, who suffered an attack of pneumonia in January last. He was very deficient physically and mentally, and it was quite apparent in the first stage of the disease from the extremely frequent and flickering pulse and other grave symptoms, that the case must have a fatal termination. Notice to this effect was accordingly sent to his parents who had the mournful satisfaction of waiting upon him to the closing scene. Pneumonia as a cause of death stands near the first in mortality tables, and if my own limited experience is a criterion from which to judge, it is especially fatal to the blind.

I may here remark as a curious fact, that there has never been a death on the female side of the house since the Institution was founded, and the circumstance, if it proves anything, may tend to show how much there is in individual hygiene, the gentler as compared with the rougher sex, being naturally much less exposed to the rude shocks and fierce elements of our every-day life.

The class of eye-diseases has largely increased in number and importance, and demands daily a large share of our time and attention. A large proportion of the number are suffering from that common chronic affection of the eyes known as granular lids, into the treatment of which the virtue of patience and perseverance largely enters. In these cases, it is well known that after apparent cure takes place, relapses frequently recur, and it is a great advantage to have such persons under continual observation, that the first signs of returning disease may be promptly met by appropriate treatment.

It has been the ambition of the Principal and myself to make the Institution a model in respect to its sanitary condition, and considering the obstacles encountered, our success has been encouraging.

Certain representations have been made in my previous reports, as to the lack of accommodation for our large numbers, and also to the defects in our heating apparatus. I have only space to say that the causes for these complaints still exist with as much force as when made originally. There are other requirements such as improved modes of ventilation, in the accomplishment of which ventilating towers should play an important part, but to these we cannot now make further reference.

I cannot conclude without expressing my thanks to the Principal and all the officers and teachers for kindness and courtesies extended in the performance of my various duties.

I have the honour to be, Sir,

Your obedient servant

WILLIAM C. CORSON, M.D.