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MONTREAL BOTANIC GARDEN.

FIRST
ANNUAL REPORT,

1885.



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OFFICERS :

REV. R. W. NORMAN,
Chairman, Board of Management.

D. P. PENHALLOW,
Director.

H. S. EVANS,
Secretary and Treasurer.

BOARD OF MANAGEMENT :

DR. T. STERRY HUNT,

HON. LOUIS BEAUBIEN.

R. HOLLAND,
Chairman, Mount Royal Park Commissioners.

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FIRST ANNUAL REPORT
OF THE
MONTREAL BOTANIC GARDEN.

MONTREAL, January, 1886.

To the Members of the Corporation:

GENTLEMEN,—

It devolves upon me to present, for your consideration, the First Annual Report from the Director of the Montreal Botanic Garden, and in bringing to your notice the results of our first season's work, together with suggestions for the future, I feel that a brief history of the development of our institution, and the events which have gradually led up to it, may prove to be of some interest and value, more especially as hints may thus be given to those who are likely to institute similar movements elsewhere.

It is a common remark, possessing somewhat more than a grain of truth, that there is nothing new. The practical realization of a botanic garden is new to Montreal, but the conception of it, and efforts to bring about such a desirable result, are by no means unfamiliar to the people of this city.

The first idea of a botanic garden appears to have originated with McGill University. In 1863, Sir William Dawson recognized the importance of a garden as a necessary means of extending the work in the department of Natural Science, and introduced the matter as one deserving serious consideration, to the attention of the Board of Governors. At that time, however, the resources of the University would not permit of the necessary expenditure, and the plans then hopefully laid had to be deferred, only to be pressed again, however, when circumstances appeared to be more favorable; for, in 1870, Sir William once more brought the subject to the notice of the Governors, and so pressed the project upon their consideration as to secure, from the Royal Gardens at Kew, plans for the laying out of the grounds, as well as plans and estimates of cost for the construction of the

necessary buildings. Once more, however, circumstances seemed to necessitate a further postponement of this project, and it was not until thirteen years later that the subject was renewed in a conspicuous way. In 1883, a separate lecturer was appointed for instruction in botany, and in the following year he was fully confirmed in the occupation of the professorship of botany, a chair having been separately endowed for a period of five years. Inasmuch as one of the specified duties of this new officer was the care and direction of a botanic garden, when such should be formed by the University, this appointment may be regarded as having been a practical declaration that the University intended to establish a garden, or at least to lend its influence in the promotion of efforts made in that direction.

In the meantime, the idea of a garden appears to have developed from an entirely independent source. With the renewal of its energy, and the inauguration of a career of active usefulness which has since proved most honorable to all concerned, the Montreal Horticultural Society felt that one of the great needs of the City, and of the entire Dominion, was a botanic garden. The idea seems to have taken definite form in the mind of its proposer, for, in 1873, the minutes of the Society record that Mr. S. J. Lyman proposed the establishment of a botanic garden, wherein should be grown both native and foreign plants, and that the garden should be located in Mount Royal Park as being that place most suited to its needs. Unfortunately these words fell on barren soil, as also did those of the Secretary of the Society, Mr. H. S. Evans, when, in 1880, he called attention in his annual report to the necessity for a botanic garden. There thus appear to have been at least four efforts made to establish a garden in Montreal, within a period of seventeen years, not one of which proved fruitful. Three years later, however, we are brought to the commencement of that movement which has so far accomplished a great deal in the direction of successful realization.

With the creation of a Chair of Botany in McGill University, the incumbent at once undertook to perfect plans for a botanic garden, with the express object in view of meeting the pressing needs of his department for the proper facilities for practical instruction.

Fully cognizant of the efforts previously made by the University, he was wholly unaware of any attempt in this direction having been made by any other institution or society. As designed at that time, the plans contemplated a garden in the grounds of the University, and an arboretum to supplement this, on Mount Royal, but under the patronage of the Horticultural Society. The conditions of finance at that time did not appear to warrant an appeal to the liberality of our most generously disposed citizens,

and by the advice of those interested in the project, active measures were held in abeyance until a fitting opportunity should be presented.

This opportunity appeared in a most unlooked for manner and was immediately seized, when the Secretary of the Horticultural Society in his annual report for the same year, again called attention to the pressing need of a garden, and suggested the occupation of Dominion Square. The comments which followed from the President and others, showed that the time was undoubtedly ripe for action. It was immediately decided to secure the co-operation both of himself and the Society he represented. How well their pledges were redeemed, you may now judge from the results thus far reached.

With the object of mutual aid in view, a joint meeting of representatives from the University and the Society was held, to perfect a comprehensive plan which might be adapted to the needs of each. The results of this conference, as embodied in a communication to the Board of Governors, under date of January, 1885, contemplated the conversion of one-half of the University grounds into a garden; the erection thereon of suitable conservatories and other buildings; their joint occupation by the Horticultural Society under suitable regulations, and administration of the funds under direction of the Governors of Royal Institution. When submitted to the Board of Governors in its complete form, this plan was by them rejected—and, as it now appears, wisely—believing, as they did, that the future expansion of the University would eventually necessitate the occupation by their own buildings, of all the ground needed for the garden. Adverse to the immediate interests of the University, as this in the first instance appeared to be, careful examination soon disclosed that fact that such interests would in no way suffer; while, at the same time, the plans would be turned in such new directions as to give the whole project a more comprehensive basis, and an extended range of usefulness which it could never have acquired had the original intentions been carried into effect.

As soon as this decision was reached, therefore, the original design was so far modified as to embrace the garden and arboretum in one location and under one management, making it appeal not merely to local interests, but to those of the entire Dominion. At the same time, public attention was directed to the matter by a series of articles prepared by the present director, and published in the *Daily Star*, concerning the value of such gardens, and the general policy which would be adopted in the one to be established here.

The Horticultural Society, through its Board of Directors, now assumed the responsibility for the future growth of these plans and their ultimate

maturity. Through the action of a special committee, consisting of Dr. T. Sterry Hunt, D. R. McCord, and Prof. Penhallow, appointed for that purpose, application was made to the Quebec Legislature for a grant of \$1,000 for preliminary expenses. Through the very kind assistance of friends who clearly saw the great importance to the Province of this institution, and more especially through the very kind offices and untiring zeal of the Hon. Louis Beaubien, representative from Hochelaga, the grant was secured. At that time it was contemplated to create a Board of Trust within the Horticultural Society, to administer the finances of the garden; but as the plan grew, it was very soon rendered clear that, the institution must be placed upon the broadest basis, in order that it might appeal to the needs of all classes and institutions in the country, without respect to race or other distinction, and it is in this truly catholic spirit in which the plan first took complete form, that it has been prosecuted up to the present time. In order to accomplish this, however, an Act of Incorporation was found to be necessary. This was accordingly prepared by the committee already referred to, who, under special stress of circumstances attending its passage as a special measure, were obliged to appear as charter members. This Act was passed and became law at the close of the legislative session. It is as follows:—

ACT OF INCORPORATION (*Vic. 48, Cap. 63.*)

An Act to incorporate the "Montreal Botanic Garden Association."

Whereas, T. Sterry Hunt, D. P. Penhallow, and D. R. McCord (of whom the first and second are respectively the president and vice-president of the Montreal Horticultural Society and Fruit Growers' Association of the Province of Quebec), have represented by their petition on behalf of the said society and others, citizens of the city of Montreal and inhabitants of the province of Quebec, the desirability of establishing a Botanic Garden in the city of Montreal, and that the same would be of great importance in promoting forestry interests in the province of Quebec and extending a general knowledge of useful vegetable products in their application to economic purposes, as well as in promoting general educational interests in the said province of Quebec; and whereas, it is desirable to grant the prayer of the said petitioners; Therefore, Her Majesty, by and with the advice and consent of the Legislature of Quebec enacts as follows:—

1. The said T. Sterry Hunt, D. P. Penhallow, and D. R. McCord, together with four persons elected by the said Montreal Horticultural Society from among the members of the same at a meeting of the said society called within six months from the coming into force of the present

act, by special notice thereof setting forth the objects of the said meeting, and such other persons as shall then have signified their intention to donate sums of money not less than one hundred (\$100) dollars each, shall be and are hereby constituted a body politic and corporate under the name of the "Montreal Botanic Garden Association," and under such name may exercise all the general powers with which corporations are vested, and may acquire, hold and possess, either as owners or lessees, all property, movable or immovable, acquired by the said corporation by purchase, donation or otherwise, within the district of Montreal, and the said property, movable or immovable, may sell, hypothecate, alienate or otherwise dispose of, and other may acquire in the place and stead thereof, as the said corporation may deem desirable, provided that the said immovable property so possessed by the corporation as owners does not exceed in annual value the sum of four thousand dollars.

The three persons above mentioned, together with four persons elected by the Montreal Horticultural Society as aforesaid, shall be the provisional directors of the said association until others are elected as hereinafter provided, and they shall have all the powers and be subjected to all the duties provided for by law in such cases.

2. The objects of the said corporation shall be, by the medium of a Botanic Garden and other accessories, to promote research in forestry and economic botany, and advance the interests of technical and general botanical knowledge.

3. Two out of the said seven members shall retire annually by lot, and the vacancies thereby created shall be filled by persons elected from and among the members of said Horticultural Society at its annual meeting, the said retiring members being always, however, eligible for re-election, and failing such election for any reason, the said retiring members of the said society shall remain members of the corporation until their successors shall be elected.

4. The majority of the members of the said corporation of the said "Montreal Botanic Garden Association" at any general meeting, shall have full power and authority to make and enact such rules, by-laws and regulations, not contrary to this act or the laws in force in this province, as the said corporation may deem necessary in the interests and for the management of its affairs.

5. At all meetings of the said corporation, each member of the same shall be entitled to one vote; but the said corporation shall have the power by resolution, carried by a majority of those present at a special meeting called for that purpose, to declare that donors shall have an additional vote

for every hundred dollars subscribed by them over and above the first hundred dollars.

6. The annual general meeting of the said corporation shall be held at such time as may be decided from time to time by the said corporation at a general meeting called for the purpose.

7. The affairs of the said corporation shall be managed by a board of directors composed of five members of the said corporation, and a secretary and treasurer, or a secretary-treasurer, as the corporation may by resolution from time to time determine, to be elected at the annual general meeting of the said corporation, or, failing such election for any reason at the said annual meeting, at any other general meeting of the corporation called for that purpose, and one of the said board of management shall be chosen by the corporation as the director of the garden. The said secretary or secretary-treasurer, as the case may be, may or may not be a member of the said corporation.

8. The said corporation shall determine, from time to time by by-law, whether the director shall be chairman of the board of management or not.

9. No member or officer of the said corporation shall be personally liable for any debt or obligation of the corporation.

On the 16th day of April, the directors of the Horticultural Society appointed a provisional board of management, under whose direction affairs were administered by the present director as provisional director of the garden. It was during the operation of this board that the Act of Incorporation was obtained, and by them put in force. On the 5th day of June, the corporation of the Montreal Botanic Garden Association was duly constituted, as provided in the charter, by election from the Horticultural Society of Rev. R. W. Norman, Hon. L. Beaubien, Mr. Wm. Evans, and Mr. R. Holland. At that time also, Dr. T. Sterry Hunt, Mr. Charles Gibb, and Mr. William Little became members of the corporation by qualifying as specified in the Act.

A permanent Board of Management was immediately constituted, and to them was transferred all the work of the provisional board. This body consisted of Dr. R. W. Norman, *Chairman*, Dr. T. Sterry Hunt, Hon. Louis Beaubien, Mr. Richard Holland, *Chairman of the Park Commissioners*, and Prof. D. P. Penhallow, in whose hands, as *Director*, the responsibilities of the Chief Executive were placed. The Corporation also provided this Board with such by-laws as would meet their needs in the immediate future. They are as follows:—

BY-LAWS.

I.—The Annual General Meeting of the Corporation shall be held the first Thursday of December, at 8 o'clock, P.M.

II.—Notices of the Annual and all Other Meetings of the Corporation, shall be given by the Secretary, by at least one insertion in one English and one French newspaper published in the City of Montreal, inserted not less than eight days previous to the date of said meeting.

III.—The Annual and all Other Meetings of the Corporation, shall be presided over by such member of the said Corporation as may be chosen for that purpose at such meeting.

IV.—The Board of Management, the Secretary and Treasurer or Secretary-Treasurer, the Director of the Garden and Chairman of the Board of Management, shall be elected by ballot by the said Corporation or Board of Management, as the case may be, if a request therefore be made by any one entitled to vote at any such election.

V.—Nine members of the Corporation shall constitute a quorum at any meeting, for the election of the Board of Management, the Managing Director or any other election by said Corporation. At any other meetings of said Corporation, five shall constitute a quorum.

VI.—Three members shall constitute a quorum at any meeting of the Board of Management, but the Secretary and Treasurer, or Secretary-Treasurer, as the case may be, shall not form one of the quorum, nor shall such officer or officers have a deliberative voice in the proceedings of said Board.

VII.—The Chairman of the Board of Management shall call meetings of the same, as often as he may deem proper; notice of all such meetings shall be given to members of the Board of Management by letter or postal card, mailed not less than three (3) days previous to such meeting.

VIII.—Vacancies in the Board of Management, or in the office of Secretary and Treasurer or Secretary-Treasurer, as the case may be, occurring in the intervals between the Annual Meetings, shall be filled by the election to such office or offices, of such person or persons as the Board of Management may decide upon.

IX.—The Chairman, at all meetings of the Corporation or of the Board of Management, shall vote only on the occasion of an equality at the meeting or Board over which he presides.

X.—At all the meetings of the Board of Management from which the Chairman may be absent, a chairman shall be chosen from amongst those present at such meeting.

XI.—It shall be competent for the said Corporation to elect the Gov-

ernor-General of the Dominion to be the Honorary President of the Association.

XII.—The Managing Director shall have the chief charge of the Gardens and the buildings thereon erected, and all property connected with the same. He shall conduct all the scientific and general correspondence of the Association. He shall be the principal executive officer, and as such shall conduct all the business of the Association, except as otherwise provided; he shall suggest all expenditure in connection with the Gardens and property of the Corporation under his charge, and the engagement of clerical assistance, or gardeners and such other help as he may deem requisite, subject to the approval of the Board of Management; he shall submit to the corporation, at its annual meeting, a report of his administration for the preceding year.

XIII.—The gardeners and those employed in and about the said gardens, shall be subject to dismissal at the discretion of the Director.

XIV.—The Secretary shall keep the minutes of the Corporation and Board of Management, and shall conduct all correspondence which does not properly devolve upon the Managing Director.

XV.—The Treasurer shall have charge of all funds of the Association, and shall place the same in such Bank, as shall be from time to time determined by the Corporation. He shall pay out such money on his check, countersigned by the Chairman of the Board of Management. All accounts in connection with the Gardens or other property under the charge of the Managing Director, shall be certified by him before payment.

XVI.—The Treasurer shall furnish at the annual meeting, accounts of receipts and expenses, and his books shall be at all times open to inspection by any member of the Board of Management.

XVII.—The Corporation may appoint at the annual meeting, such person as they may deem proper to audit the accounts of the Association. He may or may not be a member of the Corporation.

XVIII.—The Director may, on his own authority, between meetings of the Board, expend for the purposes of the Gardens a sum not to exceed \$50.00, which said expenditure shall be honored and paid by the Treasurer.

XIX.—The Board of Management are authorized, when circumstances permit, to fix a proper salary for the Managing Director.

XX.—It shall be competent for this Corporation to elect the Lieutenant-Governor of Quebec, as Honorary Vice-President.

Thereby vested with all the powers requisite to the performance of their functions, the Board at once entered upon its active duties, and thus was

accomplished, so far as organization under legislative authority could realize, the establishment of the Montreal Botanic Gardens as an assured fact.

The general plans and the policy to be pursued have been brought to the notice of the public so frequently, that it would almost seem as if a restatement of them here were superfluous; but it appears that after all our efforts, the public at large is not so well informed as it should be, and it thus appears desirable to lend additional emphasis to previous statements, by reiteration at this time.

As our charter concisely states, "the objects of the said Corporation shall be, by the medium of a Botanic Garden and other accessories, to promote research in forestry and economic botany, and general botanical knowledge." This at once indicates a very broad field of usefulness, and is, of course, in harmony with the original plans and the policy it is intended to pursue in the future. These may be stated briefly as follows:—

(1.) In its relation to the public at large, the garden will serve as a means of popularizing botanical science, while at the same time it will afford a most invaluable means of recreation and instruction to the laboring classes. Its effect must thus be to gradually elevate the public morals and sentiment. To accomplish this, it is designed that the grounds shall at all times—special occasions alone excepted—be open and free to the public use, restrictions being in force only so far as may be necessary for the preservation of property, and the maintenance of due order and propriety. The closing of the garden proper, will be permitted only upon such days as are set apart for the purpose of exhibitions.

(2.) In its relations to the city, there will be no difficulty in supplying trees and plants by way of exchange to offset advantages received.

(3.) In its relation to kindred institutions, and to private establishments of a similar character, it will always endeavor to promote the highest interests of the science which they represent. Nothing whatever will be sold from the garden or greenhouse; but, so far as means will allow, all surplus material will be distributed as exchanges to those gardens where it will be most useful. The gardens will also eventually serve a most important purpose as a centre of reliable information, and a means of instruction to gardeners in the important details of their calling.

(4.) In its relation to general education, it is designed that every educational institution which can avail itself of the privileges offered, shall receive equal and impartial benefit to the full extent consistent with the highest interests of all concerned. With reference to mere technical education, provision will be made in a suitable lecture room for courses of lectures upon special subjects, and as soon as means permit, a laboratory for special research will also be added to the resources.

(5.) In its relation to the Dominion at large, the garden will finally become a centre of information, and also, to a certain extent, of experimentation, for the whole Dominion. Important questions, having an economic bearing, will be given prominence. Forestry; the treatment of diseases; the examination of and report upon vegetable substances having application to the arts and medicine, as well as those bearing important relations to food supply—all properly come within the functions of such an establishment.

Broad as this policy is, it is well within the requirements of the day and the needs of the country. It should be pressed upon public notice, however, that due time must be allowed for healthy growth, and that the amount and character of the work which it will be possible to execute, must depend very largely upon the degree of personal interest and pecuniary aid received. With a suitable endowment, the garden may always remain free to the public use without resort to expedients of a commercial nature, which would at once narrow its sphere of usefulness and permanently impair its value to the country.

GROUNDS.¹

From the first inception of the present plans for a garden, Mount Royal Park was considered the most suitable place, not only as affording desirable proximity and room for future growth, but because there were to be found the most advantageous exposures, and the original plan of the park also contemplated a botanic garden at some future time. Within the entire area of this reservation, two locations appeared available for a choice—the one at the west end of the park, the other at the east end. Each had its special advantages, and it was only after very careful consideration on the part of the Director and Board of Management, that the choice was allowed to fall upon the location now in view. Exposure, soil, drainage, accessibility, and adaptation to good landscaping, were some of the more important considerations which finally determined the selection of that part of the park known as the Hall property, adjoining Fletcher's field.

The boundaries, as defined by the Park Commissioners, include an area of diversified character, embracing about seventy-five acres in all. This extends from the property of Mr. J. H. R. Molson, on the south-east, to the cemetery line on the north-west; and from Park Avenue on the north-east, to the foot of the mountain on the south-west. The drainage of the entire area is excellent, while the soil is of fine quality, and of sufficient depth for all the requirements of both garden and arboretum.

¹ The terms of the lease as reported by the Park Commissioners, await ratification by the City Council.

The surface is broken, and will permit of most admirable landscaping effects. The total rise of the ground from Park Avenue, is 195 feet, but this elevation is separated into a lower and an upper level. The former, which fronts on Park Avenue, and constitutes about two-thirds of the entire area, has a total rise of eighty feet in a depth of 900 feet; the latter constitutes a plateau, rising above the former by a bold front of thirty-five feet, and thus affords a most commanding outlook over the lower level. The surface of the lower level is, in the main, quite even and admirably adapted to the needs of the garden proper, while its frontage on the Avenue is characterized by bold crags and broken surface, which will well adapt it to the wants of the arboretum. The surface of the upper level is very much broken, but the soil is rich and of sufficient depth for all the trees that can be grown there. A large natural basin will also afford most convenient means of establishing a pond with comparatively little outlay.

At the north-western boundary, a lot of land, formerly devoted to the purposes of a market garden, and containing about three acres, will be devoted to nursery purposes, for which it is particularly well adapted. The question of water is an important one, but one which will not be difficult of solution. Within the nursery is a stone well of good water. It only requires cleaning to yield an unfailing supply. At the foot of the mountain, near the south-western boundary, are two good springs which, when properly developed, will be an important source of supply. Finally, the opening of Pine Avenue, and extension of the city water mains along that highway, will afford the means of securing a liberal supply of water from the city reservoirs.

The exposure of the land is not altogether that which would have been deemed best, had that been the leading consideration. Other features of the location, however, were found to be of paramount importance, and whatever element of risk may arise from this particular exposure, though it will always be very small, can readily be offset by special provision to that end. The entire area of the ground selected, has the full advantage of the sun from morning to night, even during the short days of winter, and it may also be stated that one of the features of this location, which first attracted attention, and finally had great weight in its selection, is the fact that it is that place where the early spring flowers make their first appearance in the greatest abundance.

As time advances and permits us to gain a more intimate acquaintance with the locality in all its aspects, we become more deeply impressed with the fact that it is by far the best possible site for a garden within reach of Montreal.

PLANS.

In maturing the general plans for the disposition of the ground and construction of buildings, due regard has constantly been observed for future growth and requirements, and with reference to the ground, it may be stated that, while the general purposes to which it is to be devoted are clearly defined, the details of each particular portion will not be matured until a later date, since a fixed plan in detail is always subject to great modification; and it is believed that that plan, which is the result of moderate growth, will, in the end, prove the most satisfactory, as meeting in the highest degree the adaptation of artificial treatment and additions to natural surroundings. The essential features of the plan for the disposition of the ground may be stated in the following terms.

The land now embracing what is known as the Hall orchard, together with a short extension westward, the whole including about eighteen acres, will constitute the garden proper, within which will be the various buildings and all the beds of herbaceous plants, exclusive of those which properly belong to the pond and its vicinity. This area will be enclosed by a temporary fence until such time as a suitable hedge can be grown. Entrance will be secured by several smaller gates and one large gate, which will probably be located in such a way as to utilize a fine avenue of maples already within the limits of the garden proper.

With a frontage on Park Avenue of six hundred feet from the western boundary, the arboretum will be carried back, up the slope, and around the garden until it reaches the upper level. Within this latter area, a natural basin, formed by the outcropping limestone, will be utilized as a pond, into which it can be converted at moderate cost. The area of this pond will be about three acres. The contour of the surface is such that necessary islands, rockeries, and grottoes for plants requiring darkness, can easily be provided as important features. Around the pond the ground will be properly arranged for semi-aquatic and meadow plants, while from it the water will be led down over the bluff to the lower level in such a way as to afford the necessary degree of moisture for the proper growth of hardy ferns, mosses, and similar plants.

It will thus be seen that of the seventy-five acres, only eighteen will actually be enclosed in such a way as to permit of exclusion on occasions which demand it for the proper care of the property, while the balance—fifty-seven acres—will always remain as free and open to the public as it is to-day, with the additional advantage of enhanced surroundings for enjoyment and study.

Within the limits of the garden proper, there is a two-storey stone

building of very substantial construction and ample dimensions. This, it is designed to remodel as to its interior arrangements, and convert to purposes immediately connected with the work of the garden. It will contain the herbarium, working library, economic museum, directors' office, and lecture room, and for this purpose it is well adapted, permitting of future extension if necessary. Around this building, and directly connected with it, the plant houses will be grouped. Connection of the offices with the plant houses will be secured through the lecture room, which will directly open into a range of houses specially designed for the growth of plants to be used in the lecture room, and to which they may be transferred without difficulty.

In arranging the various buildings, three leading considerations have been kept in mind:—(1.) To group all as compactly as possible for economy in distribution of heat; (2.) To avoid heavy falls of snow from high to low buildings; and (3) to provide for future extension without impairing the harmony of the entire structure. In accordance with these considerations, the plan embraces all the essential houses of a complete conservatory, such as will answer the requirements of the garden for some time to come, and when additional accommodation becomes necessary, it may be provided by the erection of larger or smaller buildings, as may be called for, from at least five different parts of the original structures—two terminal and three frontal—without in any degree detracting from the present design. The whole range, as at present shown, exclusive of the office, will have a frontage of 216 feet and a depth of 90 feet. Fronting on Park Avenue, and with an elevation of fifty-five feet above that highway, or 285 feet above the river, this group of buildings will form one of the most conspicuous and attractive features of Montreal.

CORRESPONDENCE.

In consideration of the very recent date at which the work of correspondence was begun, it has already assumed very decided proportions, which promise a large amount of work for the future in this direction alone. Regular correspondence with kindred institutions was not opened until September 15th, when a short circular stating the fact of our organization, and that we were prepared to arrange for future exchange of seeds and publications, was issued to each one of the botanic gardens then on our list, 185 in all. Together with this circular, was mailed a postal card in blank form, calling for details concerning the management of the various gardens. From the directors of the gardens thus addressed, many replies have been received; in some cases accompanied by publications, lists of

seeds for exchange, and most kindly expressions of interest in our undertaking. We are thus in communication to-day, with every botanic garden of the world, so far as known to us, and it is to be hoped that those who receive this report will kindly favor us with the names of such as may not appear in our list.

As properly belonging to this department of the work, it should be stated that a large number of circulars of various kinds have been distributed wherever they would be likely to do good. Of the special article on Botanic Gardens, reprinted from the Tenth Annual Report of the Horticultural Society, 306 were distributed, being sent to all the gardens of the world, as well as to leading botanists elsewhere. Of special circulars for local distribution, 779 were issued, and if we add to this 187 circulars already referred to, we have 1,272 circulars, so far, issued in connection with our work. This has given rise to a correspondence which has involved a large number of letters, written and received.

Practical results have already been manifested, as the direct outcome of this effort. Efforts to establish botanic gardens have received fresh impulse and strength from our work and publications, in at least two places in the United States. Direct applications for the seeds or cuttings of plants peculiar to this country, are already being received, while important contributions to our resources in seeds and plants, are now constantly arriving.

GARDENS OF THE WORLD.

One of the first and most essential steps necessary to the establishment of our Garden upon a proper working basis, is intimate acquaintance with kindred institutions in all parts of the world, and the special character of the work they perform, as well as their method of securing an adequate income. In the previous enumeration of the Botanic Gardens of the World,¹ it was shown that at least 187 such institutions are in operation. It has been our endeavor to obtain such additional information from the Director of each Garden, as to enable us to complete an authoritative revision of this list. With that object in view, return postal cards, bearing the following items in blank form, were mailed to every known Garden in the world:—

BOTANIC GARDEN OF.....
 Director.....
 Supported by* (State) (University) (City) (Private Donations).
 Admission (Free) (.....fee).
 Sundays (Closed) (Open).
 Publications.....

* Cross out all except the one you wish to give.

¹ 10th Annual Rept. Mont. Hort. Soc., 1885.

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At the present time, a large number of these have been returned, accompanied by expressions of most cordial interest. The information thus obtained has served as the principal basis for the revision of the list of gardens—though a few additional names have been received from other sources—as well as for the statements concerning endowment, admission, and other details which may have an important bearing upon the future policy of this garden, by way of precedent and example. Those gardens which have been heard from up to the date of this report, are indicated by an asterisk.

The following is the revised list by countries :—

GARDENS OF THE WORLD.

LOCATION.	GARDEN.	DIRECTOR.
ALGERIA—1.		
ALGER.....	Jardin d'Acclimatation du Hamma..	Charles Rivière.
AUSTRALIA—4.		
ADLAIDE (South Aus- tralia).....	.....	*Dr. R. Schomburgk.
BRISBANE (Queensland) .....	.....	Walter Hill, <i>Director and Co- lonial Botanist.</i>
MELBOURNE (Victoria). SYDNEY (New South Wales).....	.....	Charles Moore, F.L.S.
AUSTRO-HUNGARY—13		
BUDAPEST (Transylva- nia).....	University Botanic Garden.....	Dr. L. Juranyi.
CZERNOWITZ (Bukovia).	" " "	Dr. Ed. Tangl.
GRATZ (Styria).....	" " "	Dr. Leitgeb.
INNSBRUCK (Tyrol).....	" " "	Dr. Joh. Peyritsch.
KLAGENFURT (Carinthia) .....	.....	Bon. de Jabornegg-Gamse- negg.
KOLOZSVAR (Transylva- nia).....	.....	Dr. Aug. Kanitz.
KRAKAU (Galicia).....	University Botanic Garden.....	Dr. Jos. Thom. de Rostafinski.
LEMBERG ".....	" " "	Dr. Th. Ciesielski.
PRAGUE (Bohemia).....	" " "	Dr. M. Willkomm.
SELMEEBANYA (Transyl- vania).....	.....	Prof. A. Fekete.
TRIESTE (Istria).....	.....	*Raimondo Tominz.
VIENNA.....	University Botanic Garden.....	Dr. A. J. Kerner.
".....	Imperial Hort. Gardens of Hofburg..	Fr. Antoine.
BELGIUM—5.		
ANTWERP.....	.....	*Dr. H. Van Heurck.
BRUSSELS.....	Royal Botanic Garden.....	*François Crépin.
GHEENT.....	University Botanic Garden.....	Dr. J. J. Kickx.
GEMBLoux.....	Botanic Garden of the Agricultural Institute.....	Dr. C. Malaise.
LIÈGE.....	University Botanic Garden.....	Dr. Ed. Morren.

GARDENS OF THE WORLD—Continued.

LOCATION.	GARDEN.	DIRECTOR.
BRAZIL—1. RIO DE JANEIRO.....	Botanic Gardens of the Agricultural Institute, at Corrigez	Dr. Nicolau J. Moreira.
CANADA—1. MONTREAL (P. Q.).....	Montreal Botanic Garden.....	Prof. D. P. Penhallow.
CANARY ISLANDS—1. OROTAVA (Tenoriffe) ...	Jardin d'Acclimatation.....	Mr. Wildpret, <i>Chief Gardener</i> .
CAPE OF GOOD HOPE—3 CAPE TOWN.....	.....	Prof. MacOwan.
GRAAF REINET.....	.....	*J. C. Smith, <i>Chief of the Garden</i> .
GRAHAM'S TOWN.....	.....	*Edward Tidmarsh, <i>Chief of the Garden</i> .
CEYLON—1. PERADENIA.....	Royal Botanic Garden.....	Dr. Henry Trimen.
CHILI—1. SANTIAGO .....	.....	Prof. Fred. Philippi (fils).
CHINA—1. HONG KONG .....	.....	*C. Ford, <i>Superintendent</i> .
COCHIN CHINA—1. SAIGON.....	Colonial Botanic Garden.....	Dr. L. Pierre.
DENMARK—2. COPENHAGEN.....	University Botanic Gardens.....	*Prof. Eug. Warming.
"	Royal Gardens of Rosenberg.....	*Tyge Rothe.
ECUADOR—1. QUITO .....	.....	Prof. R. P. Al. Sodiro.
EGYPT—1. CAIRO .....	.....	Gastinel-Bey.
FRANCE—20. ANGERS .....	.....	Dr. Em. Lieutaud.
BESANÇON .....	.....	F. Paillot.
CAEN .....	.....	Eugène Vieillard.
CANNES .....	.....	Comte d'Éprèmesnil.
CLERMONT-FERRAND .....	.....	.....
DIJON .....	.....	Dr. Laguesse.
HYÈRES .....	.....	Emile Davrillon.
LILLE .....	.....	T. Meurein.
LYON .....	.....	Dr. Ant. Magnin.
MONTPELLIER .....	.....	Prof. J. E. Planchon.
NANCY.....	.....	Prof. G. Le Monnier.
NANTES .....	.....	Dr. Ecorchard.
ORLÉANS .....	.....	M. Rossignol.
PARIS	Gardens of the Nat. History Museum	*Prof. Maxime Cornu.
ROCHEFORT.....	.....	Dr. Barallier.
ROUEN .....	.....	Emm. Blanche.
ST. QUENTIN.....	.....	Charles Magnier.
TOULON.....	.....	J. B. Chabaud, <i>Chief Gardener</i> .

GARDENS OF THE WORLD—Continued.

LOCALITY.	GARDEN.	DIRECTOR.
TOULOUSE	*Dr. Dominique Clos.
TOURS	*Prof. David Barnsby.
GERMANY—34.		
AIX-LA-CHAPELLE	Dr. M. Debey.
BAMBERG (Bavaria)	Dr. Funk.
BERLIN	Berlin Botanic Gardens	*Dr. A. W. Eichler.
"	University Botanic Gardens	Dr. S. Schwendener.
BONN (Rhenish Prussia)	"	Dr. Ed. Strasburger.
BRESLAU (Silesia)	Dr. H. R. Göppert.
BRUNSWICK (Brunswick)	Botanic Garden of the Polytechnic School	Dr. W. Blasius.
CARLSRUHE (Baden)	J. Pfister.
COLOGNE (Rhenish Prussia)	*Prof. J. Niepraschk.
DARMSTADT (Hesse)	*Dr. Leopold Dippel.
DRESDEN (Saxony)	*Dr. Oscar Drude.
ERLANGEN (Bavaria)	*Dr. Max. Rees.
FRANKFORT - ON - MAIN (Hesse-Nassau)	*Dr. H. Th. Geyler.
FRIBOURG (Baden)	Dr. F. Hildebrand.
GIESSEN (Hesse)	Dr. H. Hoffmann.
GOERLITZ (Silesia)	Dr. R. Peck.
GREIFSWALD (Pomerania)	*Dr. Fr. Schmitz.
HALLE-UPON-SALLE (Saxony)	Dr. Greg. Kraus.
HAMBURG	*Dr. H. G. Reichenbach.
HEIDELBERG (Baden)	Dr. E. Pfitzer.
JENA (Saxe-Cobourg)	Dr. E. Stahl.
KIEL (S. hleswig - Holstein)	Dr. Ad. Engler.
KÖNIGSBERG	*Dr. Robert Caspary.
LEIPZIG (Saxony)	Dr. Schenck.
MARBURG (Hesse-Nassau)	Dr. A. Wigand.
MUNDEN (Hanover)	Dr. N. J. C. Müller.
MUNICH (Bavaria)	Dr. C. G. Von Naegeli.
MUNSTER (Westphalia)	Dr. O. Brefeld.
POTSDAM	Dr. Jühlke.
ROSTOCK (Mecklenburg)	Dr. Jean Roeper.
STRASBURG (Alsace-Lorraine)	Dr. Ant. De Bary.
THARAND (Saxony)	Dr. Fred. Nobbe.
TÜBINGEN (Württemberg)	Dr. W. Pfeffer.
WURZBURG (Bavaria)	Dr. Jul. von Sachs.
GREAT BRITAIN AND IRELAND—12.		
BIRMINGHAM (England)	Mr. Latham.
CAMBRIDGE	Prof. C. C. Babington.
LONDON	Chelsea Botanic Gardens	Thos. Moore, <i>Curator</i> .
"	Royal Botanic Gardens, Kew	*Prof. W. T. T. Dyer,
"	Royal Botanic Society Gardens, Regent's Park	W. Coomber, <i>Sup't.</i>
"	Royal Horticultural Society Gardens, S. Kensington	A. F. Barron, <i>Sup't.</i>

GARDENS OF THE WORLD—Continued.

LOCALITY.	GARDEN.	DIRECTOR.
MANCHESTER (England)		Bruce Findlay, <i>Curator</i> .
OXFORD		Dr. J. Bayley Balfour.
DUBLIN (Ireland)	Royal Botanic Gardens of Glasner	*Dr. W. R. McNab.
BELFAST	Royal Belfast Botanic Gardens	R. Motherell, <i>Secretary</i> .
EDINBURGH (Scotland)	Royal Botanic Gardens	Dr. A. Dickson.
GLASGOW		R. Bullen, <i>Curator</i> .
GREECE—1.		
ATHENS		Dr. T. de Heldreich.
GUATEMALA—1.		
GUATEMALA		Dr. Francesco Abella.
GUIANA—1.		
GEORGETOWN		G. S. Jenman, <i>Sup't</i> .
HOLLAND—4.		
AMSTERDAM		*Prof. C. A. J. A. Oudemans.
GRONINGEN		Prof. P. De Boer.
LEYDEN		Dr. W. F. R. Suringar.
UTRECHT		*Dr. N. W. P. Rauwenhoff.
INDIAN EMPIRE—7.		
BANGALORE (Madras)		Col. W. L. Johnson.
BOMBAY		A. Shuttleworth.
CALCUTTA	Royal Botanic Gardens	Prof. G. King.
GANISH KIND (Poona)		G. W. Woodrow.
OOTACAMUD		Mr. Jamieson.
PONDICHERY		
SAHARANPUR (Bengal)		*J. F. Duthie.
ITALY—23.		
BOLOGNE		Dr. P. Gennari.
CAGLIARI		Dr. N. Terracciano.
CASERTA		Prof. Fr. Tornabene.
CATANIA		Dr. Carus Massalongo.
FERRARA		Prof. T. Caruel.
FLORENCE		Prof. Fred. Delpino.
GENOA		Dr. C. Bicchi.
LUCCA		Prof. A. Borzi.
MESSINA		Prof. Fr. Ardissonne.
MILAN		Dr. A. Mori.
MODINA		Dr. J. A. Pasquale.
NAPLES		*Cav. Dr. P. A. Saccardo.
PADOVA		Dr. Aug. Todaro.
PALERMO		Prof. J. Passerini.
PARMA		Prof. J. Briosi.
PAVIA		Prof. Al. Bruschi.
PEROUSE		Dr. J. Arcangeli.
PISA		Dr. Horace Comes.
PORTICI		*Dr. R. Pirrotta.
ROME		Prof. Att. Tassi.
SIENA		Prof. G. Gibelli.
TURIN		Sen. Ruchinger.
VENICE		
JAPAN—1.		
TOKIO	Koiskekowa Botanic Gardens	Prof. K. Ito.

GARDENS OF THE WORLD—Continued.

LOCALITY.	GARDEN.	DIRECTOR.
JAVA—1.		
BUITENZORG .....	.....	Dr. M. Treub.
MALTA—1.		
LA VALETTE .....	.....	Dr. Gavino Gulia.
MAURITIUS—1.		
PORT LOUIS .....	.....	*J. Horne.
NATAL—1.		
D'URBAN .....	.....	Mr. Keit, <i>Sup't.</i>
NEW ZEALAND—1.		
CHRISTCHURCH .....	.....	J. B. Armstrong.
PERU—1.		
LIMA .....	.....	Dr. Mig. de los Rios.
PHILIPPINE ISLANDS—1.		
MANILLA (Luzon).....	.....	Seb. Vidal y Soler.
PORTUGAL—3.		
COIMBRA .....	.....	*Dr. J. A. Hienriques.
LISBON .....	.....	Prof. J. de Andrade Corvo.
OPORTO .....	.....	Dr. F. de S. G. Cardoso.
REUNION, ISLAND OF—1.		
ST. DENIS .....	.....	M. Richard.
ROUMANIA—2.		
BUCHAREST .....	.....	Dr. Brandza.
YASSY .....	.....	Dr. A. Fétu.
RUSSIA—16.		
DORPAT (Livonia).....	.....	Dr. Ed. Russow.
HELSINGFORS (Finland).....	.....	Dr. S. O. Lindberg.
KAZAN (Kazan).....	.....	Prof. N. W. Sorokin.
KHARKOFF .....	.....	Dr. Ad. Pitra.
KIEV.....	.....	Dr. J. Schmalhausen.
MOSCOW .....	.....	Dr. J. Goroschankin.
NIKITA (Crimea).....	.....	Mr. Basarow.
ODESSA .....	.....	Dr. L. Reinhard.
OREL .....	.....	P. G. Tretjakoff.
OUMAN (Kiev).....	.....	Prof. L. Scrobichewski.
PENZA (Penza).....	.....
ST. PETERSBURG	Imperial Botanic Gardens.....	*Dr. Ed. de Regel.
"	University Botanic Gardens.....	Prof. André Bikitoff.
TIFLIS .....	.....	Prof. W. Scharrer.
WORONESH .....	.....	Dr. J. E. Fischer.
WARSAW .....	.....	Dr. A. F. de Waldheim.
SCANDINAVIA—7.		
CHRISTIANIA (Norway).....	.....	Dr. F. C. Schübeler.
GÖTEBORG (Sweden).....	Hort. Soc. Bot. Gardens.....	Prof. C. Löwegren.
LUND .....	.....	Dr. F. W. C. Åreschong.

GARDENS OF THE WORLD—Continued.

LOCALITY.	GARDEN.	DIRECTOR.
STOCKHOLM (Sweden),...	Gardens of the Royal Academy of Agriculture	E. Lindgren, <i>Sup't.</i>
" "	Royal Gardens of Haga	Prof. M. A. Werner.
" "	Swedish Soc. of Hort. Bot. Gardens	M. A. Pital.
UPSALA " .....	.....	*Dr. Th. M. Fries.
SERVIA—1.		
BELGRADE		Dr. Jos. Panic.
SIBERIA—1.		
TOMSK		Mr. Schestakoff.
SPAIN—2.		
MADRID		Dr. Miguel Colmeiro.
VALENCIA		Dr. José Arévalo Boca.
STRAITS SETTLEMENTS—1.		
SINGAPORE		J. Cantley.
SWITZERLAND—3.		
BASLE		Dr. H. Vöchting.
BERNE		Dr. L. Fischer.
ZURICH		
TASMANIA—1.		
HOBART TOWN		Mr. Abbot.
UNITED STATES—5.		
BROOKLINE (Mass.)	Arnold Arboretum of Harvard College	*Prof. C. S. Sargent.
CAMBRIDGE "	Harvard College Botanic Gardens	*Dr. G. L. Goodale.
LANSING (Michigan)	Botanic Garden of State Agricultural College	*Dr. W. J. Beale.
ST. LOUIS (Missouri) .....	.....	*H. J. Shaw.
WASHINGTON (D.C.)	U. S. Dept. of Agriculture Gardens	Dr. Geo. Vasey.
WEST INDIES—6.		
CASTLETON (Jamaica)		G. Syme.
HAVANA (Cuba)		J. Lachaume.
KING'S HOUSE (Jamaica)		Wm. Harris, <i>Sup't.</i>
KINGSTON "		W. R. Elliott.
PORT OF SPAIN (Trinidad)		
ST. PIERRE (Martinique)	Colonial Botanic Gardens	H. Prestoe. M. Thierry.

From this list, which may be regarded as fairly correct, it appears that there are one hundred and ninety-seven gardens in the world, or ten more than were reported in our previous enumeration. The aim has been to include only those which may be regarded as established upon a scientific basis, but obviously, some which are not will unavoidably be included.

A classification of the countries of the world, according to the number of gardens they support, would give us the following :—

I. Germany	34
II. Italy	23
III. France	20
IV. Russia	16
V. Austro-Hungary	13
VI. Great Britain and Ireland	12
VII. Hindostan and Scandinavia	7 each.
VIII. West Indies	6
IX. Belgium and the United States	5 “
X. Australia and Holland	4 “
XI. Cape of Good Hope, Portugal and Switzerland	3 “
XII. Denmark, Roumania and Spain	2 “
XIII. Algeria, Brazil, Canada, Canary Islands, Ceylon, Chili, China, Cochinchina, Ecuador, Egypt, Greece, Guatama- la, Guiana, Island of Reunion, Japan, Java, Malta, Mauritius, Natal, New Zealand, Peru, Philippine Islands, Servia, Siberia, and Tasmania	1 “

It will be also interesting to see from the following classification, how far each of the nations of the world is responsible for these gardens :—

I. England and Colonies	39
II. Germany	34
III. France and Colonies	25
IV. Italy	23
V. Russia and Siberia	17
VI. Austro-Hungary	13
VII. Scandinavia	7
VIII. Belgium, Holland and Colonies, Spain and Colonies, United States	5 each.
IX. Portugal, Switzerland	3 “
X. Denmark, Roumania	2 “
XI. Brazil, Chili, Ecuador, Egypt, Greece, Guatemala, Japan, Peru, Servia	1 “
Total	197

With reference to the information concerning endowment and other details, so far received, enough gardens have not yet been heard from to enable us to draw precise conclusions as to the general practice among them, but the information, so far as obtained directly from the directors themselves, may be tabulated as follows :—

SUPPORT :—	Percentage Numbers.
State	55.5
University	5.5
State and University	11.1
State, University and City	2.7
City	11.0
City or State, and private donations	8.3
Private donations	5.5

ADMISSION :—	Percentage Numbers.
Free.....	94.5
Charge.....	5.5
SUNDAYS :—	
Closed.....	27.8
Open.....	72.2
PUBLICATIONS :—	
Annual Reports and Scientific Research.....	73.3

It thus appears that gardens are generally supported by the State,—an undoubted recognition of their national importance in all the numerous directions of their usefulness. Next to the State, the City appears to be the chief supporter, doubtless for much the same reasons.

It is a noteworthy fact, that such institutions are in most cases so supported as to make them free to the public use, but in any case, this freedom is subject to certain limitations as necessitated by proper care of property. In only two cases, so far heard from, is a charge exacted, but the fee does not appear to exceed twenty-five cents *per capita*. Practice varies widely as to admission on Sundays, even in the same country, it being determined, apparently, by each community in which the garden is located. The custom, however, seems to be in favor of keeping the grounds open on Sunday. In one case, the pleasure garden only is open on Sunday; in another, all the grounds are free, but the plant houses are closed; while, at Madrid, it is the custom to open the garden on Sunday from May to November only.

A few gardens issue no publications, but this appears contrary to the general practice. Many issue annual reports of the director, or seed catalogues for purposes of exchange only. In England, however, as in all the more important gardens of France and Germany, these publications are supplemented by valuable contributions to science, as the result of original investigations conducted in the laboratories, herbariums, or plant houses of these institutions, and no better idea of the character and value of this work could be obtained, than from an examination of the annual reports issued by the Director of the Royal Gardens at Kew. It indicates the great scope which such an institution properly endowed, ably directed, and allowed healthy growth, may ultimately have.

EXCHANGES AND DONATIONS.

Owing to the circumstances of our recent organization, and the fact that it will of necessity be some little time before we can hope to return in kind the many contributions received, our exchanges do not make a very large total as yet. With the issue of this report, however, regular exchanges of publications with all the gardens of the world, will be instituted.

In the absence of exact knowledge as to the species of our native plants that gardens in other parts of the world might desire, no special effort has been made to collect seeds or cuttings, it being obviously wiser to wait for requests, even if the loss of a year were involved. One application was received late in the summer from the St. Peterburg Gardens for trees growing in the Northwest. An immediate effort was made to fill the order, but on account of the time required for a letter to reach the proper parties, and the distance which they thus found it necessary to travel, no seeds were procured. Arrangements will be perfected, however, so that this and similar requests may be complied with in proper season. Application for seeds and cuttings has also been received from the Botanic Gardens of Darmstadt, and will be filled the coming season. While we cannot as yet supply seeds and plants from our own grounds, it will doubtless prove a wise course for us to make provision for the collection of such of our native specimens as may be called for. This I shall refer to later.

The donations received up to the present date, chiefly in nursery stock and seeds, constitute a very favorable nucleus around which more may gather in the near future. They may be enumerated as follows:—

ROYAL BOTANIC GARDENS, KEW, ENGLAND.—Official Guide, 1883, 1885. Official Reports for seventeen years. 5 pkgs. of Seeds=560 species of plants.

BOTANIC GARDENS OF LIÈGE.—Description of the Bot. Institute, 1885.

DUBLIN BOTANIC GARDENS.—Annual Report for 1884.

BOTANIC GARDENS OF COIMBRA, PORTUGAL.—Boletim da Sociedade Broteriana, Vol. II, 1883. Vol. III, 1884, Fasc. 1 and 2.

Contributions ad Floram Mycologicam Lusitanicam, Series III, IV, V, and VI.

Catalogue Raisonné des Graminées du Portugal. Contributions ad Floram Cryptogamicam Lusitanicam.

Also Seed Catalogues from other Gardens desiring exchange.

MONTREAL HORTICULTURAL SOCIETY.—Reports of Hort. Societies, 28 vols. Annual Report Montreal Horticultural Society, 1876-1883.

MR. CHAS. GIBB.—The Fruit Garden, P. Barry, 1 vol. Cuttings of Trees and Shrubs, 27 species. Trees and Shrubs, 38 species. Seeds from Japan (trees), 15 species. Seeds from the Northwest, 7 species.

IMPERIAL BOTANIC GARDENS, ST. PETERSBURG.—Seeds, 137 species.

MR. WM. EVANS.—Seeds, 30 species. Trees and Shrubs.

ABBOTSFORD FRUIT GROWERS' ASSOCIATION.—Trees and Shrubs, 324 species.

A summary of donations shows the following:—

Publications	68
Seeds	749 species.
Trees and Shrubs	433 "
Cuttings	27 "

As yet, no systematic effort has been made to increase the funds of the corporation through special donations. It is proper to state, however, that

enough informal offers of assistance have been received to assure the Management of the hearty co-operation and support of our best citizens; but it has been manifestly impracticable to institute any systematic collection so long as the lease of land from the city was at all in doubt. The Board of Management have been prepared and waiting to prosecute work in this direction, and will undertake it as soon as ratification of their lease by the City Council will enable them to do so consistently.

In response to our application last winter, the Quebec Legislature kindly granted us \$1,000 for preliminary work. Beyond this, the donations so far received have been practically unsolicited, and represent sums paid in as membership fees, as provided in our charter. It is desirable, however, that early measures be taken to secure increased donations, to which I shall refer more particularly.

There has been one donation, however, which deserves more than passing notice, since it establishes a precedent which may well be followed. Mr. W. T. Costigan has given the sum of twenty-five dollars, to be expended in laying out the first flower bed. It is hoped others may profit by the example thus set.

NURSERY.

Under arrangement with Mr. Wm. McGibbon, Superintendent of Mount Royal Park, the large number of seeds received from the Imperial Botanic Gardens of St. Petersburg, last winter, were successfully planted in his grounds. A very large percentage of them germinated, and were thus the source of a great deal of nursery stock, including a large number of species. Coming from a place so far north, all of this material will prove of value here, on account of its assured hardiness. Owing to the construction of a new road, it became necessary to transplant the bulk of these plants at a season which would otherwise not have been chosen. In August, the land designed for the nursery was carefully cleared of weeds—which were burned—plowed and harrowed. All the material which necessity compelled us to move, was then transferred to the nursery and planted out in rows. A very large amount, however, was not disturbed, and will not be transplanted until next spring. Notwithstanding the time at which the transfer was made, the weather continued very favorable to such work, and all the plants were finally secured and made sufficient growth to insure them against winter, with an almost inappreciable percentage of loss.

In September, the Director, with the co-operation of Mr. St. George, City Surveyor, secured a valuable addition to our resources in the collection of a large number of native shrubs. A few days later, a still more impor-

tant addition of trees and shrubs was secured through the generous co-operation of one of our horticultural societies. Early in September, a letter was received from the Fruit Growers' Association of Abbotsford, stating that the members of the Association would devote a day to the collection of specimens if the Director would aid them in the work. So spontaneous and thoughtful an offer was not to be overlooked, and its acceptance has borne good fruit. The result was the collection of 304 specimens of trees and shrubs, representing forty-one different species. The zeal displayed will be well indicated by the fact that one member came a distance of ten miles in order to contribute his quota. It is wholly unnecessary to dwell upon the significance of this voluntary contribution, since it not only speaks for itself of a high degree of interest in the work we are undertaking, but also indicates in a high degree an intelligent appreciation of the benefits likely to result from a botanic garden.

There have also been planted the very valuable contributions from Mr. Charles Gibb and Mr. Wm. Evans. To the stock thus secured, the Director has added a large number of trees and shrubs, obtained by purchase, of Mr. Goegginger, of Riga, Russia. The balance of the seeds received from St. Petersburg, as well as a large number received from other sources, have been planted in suitably prepared beds, and will yield a very large amount of material, even after making a liberal allowance for bad seed and other causes of failure. The total stock now in nursery may be stated as follows:—

DESCRIPTION.	TREES.	SHRUBS.	HERBS.
Native species	249	164	—
Exotics from Mr. Gibb	21	6	—
From Mr. Wm. Evans	50	108	40
Purchased from Russia	63	26	—
From Russian seed	479	1376	499
From other sources	—	25	—
	862	1705	539

Total..... 3,106

To this should be added 194 species of seeds now in the ground, and 27 species of trees and shrubs in the form of cuttings. It will thus be seen that a very important basis for planting and exchange has already been

established. All the plants thus far, in the nursery, are designated by numbered stakes, corresponding numbers being entered in the stock book against the name of the species represented. In order to systematize the work of this department, regular account books have been opened, with debit and credit columns. All stock placed in nursery is debited under its proper class as trees, shrubs or herbs, seeds or cuttings, by number of species or specimens represented. Similarly, the nursery is credited with all stock sent out. Thus only a moment's examination is sufficient to show the exact number of plants of each kind from every source. It is intended to follow this system in all departments of the garden.

EXPENDITURES.

The expenses of the Garden during the past year have been those incidental chiefly to the work of organization. About one hundred dollars have been expended in the preparation and planting of the nursery, and for items necessarily connected therewith. The principal items of expense have been incurred for office furniture, circulars of information and other necessary printing expenses attending the passage by the legislature, of the bill of incorporation. Other than these, expense has been incurred for plants from Russia, and for a telephone. This latter, which, through the courtesy of Mr. Sise, Manager of the Bell Telephone Company, was given us at a reduced rate, has proved a most valuable addition to our working facilities. No expense has so far been incurred for office rent, or for salaries, and the grant from the Provincial Assembly has proved sufficient to cover all expenses up to date, and leave a small balance with which to continue our preliminary work. In view of what has been accomplished, I cannot but feel that this is a most gratifying exhibit.

RECOMMENDATIONS.

While I am fully aware that the Board of Management already contemplate certain important measures for the development of the plans in view at an early date, it seems proper that I should embody in this report, such recommendations, of a more important nature, as directly concern the Corporation. I would therefore ask your consideration of the following suggestions:—

With reference to the funds which may in the future be collected, it would appear desirable that all money which is not in the first instance donated for a special object, should be devoted to the establishment of a permanent fund, the interest on which could be applied to meet the running

expenses of the establishment. Thus, all money accruing from membership fees, or from special donations or otherwise, the application of which is not specified, might be devoted to this purpose, while, for buildings and other purposes, special appropriations might be secured. It is probable that a plan of this nature would most fully meet the desires of those of our liberally disposed citizens who are likely to become our best patrons.

The policy which the originators of this scheme adopted—the policy to which we now stand committed by the terms of our Charter, and the one which it is essential to the highest character of our institution that we should maintain, viz., that none of the produce of the garden shall be sold, and that the public shall have free access to the grounds and buildings—necessitates our dependence upon the generosity of our citizens, as well as a certain measure of support from Government, who will directly and indirectly derive a very large proportion of all the benefit obtained. It is highly desirable that a secure financial basis be obtained at an early date, and I would commend to the consideration of this Corporation, the early completion of those measures now contemplated by the Board of Management looking to this end.

It is believed that the interests of the Garden may be greatly promoted, and that a growing interest may be awakened in the public, by providing for donations for special objects. If persons could donate such sums as were within their means to the preparation, or permanent care of a particular group of plants in which their interest was chiefly centered, it would make every person, thus contributing, feel an individual interest in the welfare of the entire establishment. The plans not only contemplate an extensive arboretum, and a large pond with aquatic plants, but they necessarily include in the garden proper, a large number of beds; and any one of these could well become an object of special donation. I would therefore suggest the following as special objects for this purpose:—

A.—Arboretum, embracing 38 families of trees, shrubs and vines.

B.—Pond, with aquatic and marsh plants, embracing 17 families, any one or all of which may be made a special object of donation.

C.—Garden proper, embracing at least 75 families of plants, any one of which may be selected.

Donors should state (1) the object of the particular family or object donated for; (2) whether the donation is to be applied to first planting, or to permanent maintenance. There should also be printed lists giving all the principal families represented in the gardens, from which donors may select.

The material now on hand requires certain suggestion from me as to its future disposition. The very large number of seeds received should be

planted in season. This will necessitate certain temporary provision in the way of a propagating house and hot beds. The nursing stock now in the ground will require constant attention from the opening of next season. To meet the necessary requirements in this direction, ample provision should be made for the employment of a regular gardener, and an occasional assistant. It will also be necessary to provide for one regular policeman, with an extra one for Sunday duty.

The plans of the contemplated buildings submitted herewith, are as yet somewhat tentative, though, in all their general features of size and arrangement, they are substantially those which it is designed to follow. It is earnestly to be hoped that sufficient money may be secured to commence building as soon as spring opens. The estimated cost, including heating apparatus, is \$30,000. The construction of at least a portion of the plant-houses, is essential to the initial work of the garden, and I would earnestly recommend provision for their early completion.

The work has progressed so rapidly, up to this time, that any extension of it, or even to continue the care of the property now in our possession, will involve a continually increasing demand upon the time and energies of those who are responsible for the results obtained. It will, therefore, be highly desirable to contemplate the provision, at an early date, of such assistants as may be necessary, as well as other officers, who can give the necessary time to the work, at a reasonable compensation.

Our present relations to the other gardens of the world are such that requests for material, in the form of seeds and cuttings, will undoubtedly multiply during the present winter. A few requests of this nature have already been received, but too late to be filled this year. To properly provide for exchange in kind, it will probably be desirable to issue lists of such plants, the seeds or cuttings of which will be available next season.

In closing this report, it is but proper that some expression should be given of the gratitude we feel to the many kind friends who have lent us their support. To the press of the City, and especially to the *Star* and *Gazette*, we feel under deep obligations for their great and kindly assistance. We are also under deep obligations to all those friends who have already contributed to our resources. To the members of the Board of Management, individually, it is proper that we should express our obligations for the efforts they have made, often at personal sacrifice, in the promotion of this object, and I would also express my own sense of personal obligation for the courteous consideration with which I have invariably been received by them, and my propositions entertained.

I have the honor to remain,

D. P. PENHALLOW,
Director.

MONTREAL BOTANIC GARDEN ASSOCIATION.

IN ACCOUNT WITH HY. S. EVANS, *Treasurer.*

1885.	<i>Dr.</i>		1885.	<i>Cr.</i>	
To Cash received from Provincial Government in Aid of Preliminary Expenses:		\$1,000 00	By Amounts for Preliminary Expenses:—		
“ Cash received on Acct. Permanent Fund:			“ Expended for Office Furniture, &c:—		
From Hunt, Dr. Sterry.....	\$100 00		“ Office Supplies, Stationery, &c.....	\$158 44	
“ Little, William	100 00		“ Paid for Postage Stamps.....	32 00	
“ Gibb, Chas	100 00		“ Rent of Bell Telephone.....	11 80	
“ Smith, Hon. D. A.	100 00		“ Clerical Assistance	7 50	209 74
“ Orkney, Miss.....	100 00		“ Miscellaneous Expenses:—		
“ Costigan, W. T	25 00		“ Advertising, Printing, &c.....	160 20	
“ Interest received to Nov. 30th....	5 05		“ Amounts expended by Montreal Horticultural Society refunded...	76 52	
		530 05	“ Amount expended in the Purchase of Stock, Preparing Ground, Planting, &c.....	166 06	
			“ Paid Sundry Accounts	15 07	417 85
			Balance at Credit of Current Accounts:—		
			“ Deposited in Merchants' Bank.....	372 41	
			“ Balance at Credit of Permanent Fund deposited in Savings Department of Merchants' Bank.....	530 05	902 46
		\$1,530 05	Total Balance.....		\$1,530 05