McGill University.

THE

FOUNDER'S FESTIVAL

27th November, 1868.

CHAIRMAN.

R. A. LEACH, Esq., M.A., B.C.L.

President University Society.

Starke] [Typ.

PROGRAMME.

1. *Overture*. "L'Italiana in Algieri," . *Rossini.*
BAND 60TH RIFLES.

2. *Address*. ON BEHALF OF UNIVERSITY SOCIETY.

3. *Chorus* ..... "Gaudeamus." ..... STUDENTS.

4. *Song* .... "M'Appari," Martha, . . *Flotow.*
MR. C. G. GEDDES.

5. *Selection*. "Le Pré aux Clercs," . . . *Herold*
BAND 60TH RIFLES.

6 *Song* .... "The Day is done," .... *Balfe.*
LADY AMATEUR.

7. *Address* ..... ON BEHALF OF THE STUDENTS.

8. *Song* .... "Vi Ravviso," Somnambula . *Bellini.*
MR. REID TAYLOR.

9. *Aria* .... *Bergson.*
CLARIONET SOLO.

10. *Song* . . . "The Village Blacksmith," . . . *Weiss.*
MR. C. G. GEDDES.

Acc. 1010

Mr. Harrington

Present

Sir

I have the honor to inform you of your election to active membership in the Berzelius Society.

Secretary C. T. S.

Ye
Thorough
Ye Phylosophers At play
C.B. del: ad nat.
Clubbe
Montreal
S Harrington.
Member
1884

The Animals will be fed at
the Windsor menagerie

on Tuesday next at 5.45 o'clock

W. Chandler Robert

No 72 (Jackal) Price 2.00

Not Transferable.

Acc. 1010

CANADA POST CARD

THE ADDRESS ONLY TO BE WRITTEN ON THIS SIDE

To Dr. B. J. Harrington,
Geological Survey,
Ottawa,

British American Bank Note Co. Montreal

Acc 1010

NATURAL HISTORY SOCIETY.

MONTREAL, *October 26th, 1878.*

The first regular Meeting of the Session 1878-9 will be held on Monday Evening next, the 28th Oct. at 7.30 p.m.

Chair to be taken at 8.30 p.m. precisely.

BUSINESS:

"ON APATITE AND ITS ASSOCIATED MINERALS," with reference to "RECENT PHOSPHATE DISCOVERIES."

Introduced by the President and Dr. Harrington, and illustrated by specimens.

Mr. H. G. Vennor F.G.S. will exhibit a Section of the Ottawa District.

J. BAKER EDWARDS,
RECORDING SECRETARY.

ST. ANDREW'S CHURCH

Young Men's Association.

PROGRAMME FOR SESSION

OF

1873-'74.

Essays and Debates.

November 10th, 1873.

Lecture.—"Bishop Berkley, the Christian Philosopher."
J. Clark Murray, LL.D.

November 24th, 1873.

Reading.—"Selection from Lays of Ancient Rome."
(*Macaulay.*) Mr. W. J. McMaster.

Debate.—"Is a man born to a position of worldly independence likely to be more truly useful and happy than one born to the necessity of labor?"

Affirmative.	*Negative.*
Mr. John McNish.	Mr. James Macfarlane.
Mr. A. T. Drummond.	Mr. Walter Roach.

December 8th, 1873.

Reading.—"The Combat—Lady of the Lake."—(*Scott.*)
Mr. R. M. Esdaile.

Essay.—"A Canadian National Spirit."
A. T. Drummond, B.A., L.L.B.

December 22nd, 1873.

Annual Meeting.—Election of Officers.—Report.

Debate.—"Do denominational divisions in the Church of Christ hinder the spread of the Gospel?"

Affirmative.	*Negative.*
Mr. W. J McMaster.	Dr. Bell.
Mr. Neil McArthur.	Mr. J. J. Russell.

January 5th, 1874.

READING.—"The Seer's Death."—(*Bickersteth.*)
Mr. Frank Newman.

ESSAY.—"The importance of considering natural gifts in the choice of a profession."
Mr. R. G. Starke.

January 19th, 1874.

READING.—"Extract from Scott."—Mr. John McDonald.

DEBATE.—"Should Military Training be general and compulsory in Canada?"

Affirmative.	*Negative.*
Mr. J. G. Shaw.	Mr. David Fraser.
Mr. R. M. Esdaile.	Mr. L. M. Lewis.

February 2nd, 1874.

READING.—"The Old Maid and the Gun."
Mr. W. M. Blaiklock.

ESSAY.—"Facts from the Far West."
B. J. Harrington, B.A., Ph. D.

February 16th, 1874.

READING.—"An Ingoldsby Legend."—Mr. J. S. Hunter.

DEBATE.—"Should the Seat of Government be removed from Ottawa to Montreal?"

Affirmative.	*Negative.*
Mr. John McDonald.	Mr. C. S. Drummond.
Mr. Neil McArthur.	Mr. W. J. McMaster.

March 2nd, 1874.

ESSAY.—"The Literature of the Age."
Rev. Gavin Lang.

The Meetings will take place in the LECTURE HALL OF THE CHURCH, at Eight o'clock, P.M., on the dates within mentioned. No notices will be sent.

Members are requested to consider with attention the subjects for Discussion or Essay.

Montreal, Sept. 1, 1873.

J. Starke & Co., Printers.

ACC. 1016

McGill University.

The

Founder's Festival.

FRIDAY,

26th JANUARY,

1872.

Acc.1010

Programme.

1. OVERTURE ..... "Zampa," ..... *Herold.*
2. SONG. ..... "Quando a te lieta," ..... *Gounod.*
   MRS. KEDSLIE.
3. QUADRILLE ..... "Fest," ..... *Jos. Strauss.*
4. SONG ..... "Notte e Giorno," ..... *Mozart.*
   PROF. ARMSTRONG.
5. "MEDLEY of Scotch Airs," ..... *R. Gruenwald.*
6. SONG ..... "Merry Birds," ..... *Gumbert.*
   MRS. BRAILEY.
7. OVERTURE ..... "Tancredi," ..... *Rossini.*
8. DUET ..... "Crudel perche," ..... *Mozart.*
   MRS. KEDSLIE AND PROF. ARMSTRONG.
9. VALSE ..... "Wiener Kinder," ..... *Jos. Strauss.*
10. SONG ..... "Nightingale's Trill," ..... *Ganz*
    MRS. BRAILEY.
11. SELECTION from "La gazza ladra," ..... *Rossini.*
12. SONG ..... "Will he come?" ..... *Sullivan.*
    PROF. ARMSTRONG,

God Save the Queen.

MR. B. J. HARRINGTON, Ph. D.,
Pianist.

HERR GRUENWALD,
Leader of Orchestra.

Starke & Co., Printers.

Acc. 1010

McGill University Athletic Association

ANNUAL FIELD MEETING,

FRIDAY, 21st OCTOBER, 1892,

ON THE COLLEGE GROUNDS.

FIELD OFFICERS

Referee.

PROF. B. J. HARRINGTON, B.A., PH. D.

Time-Keepers.

PROF. C. H. McLEOD, MA. E.
" C. McEACHRAN.
W. A. CARLYLE, B.A., SC.

Judges.

PROF. H. J. BOVEY, M.A.
" A. McGOUN, B.A., B.C.L.
" J. WESLEY MILLS, M.A., M.D.
" J. COX, M.A.

Starter.

R. F. RUTTAN, B. A., M.D.

Clerk and Assistant Clerk of Course.

G. W. MacDOUGALL. J. C. HICKSON.

Measurers.

J. FEATHERSTONE.
H. C. BAKER.

Scorers.

J. D. CAMERON.
J. G. CAMPBELL.

Judges of Walking.

PROF. J. FORTIN, LL.L. PROF. T. WESLEY MILLS, M.A., M.D.

Programme.

FORENOON, 9.30.

1.	Kicking Football,		ft. in.
		1	
		2	
2.	Throwing Hammer, (16 lbs.)		ft. in.
		1	
		2	
3.	Running Broad Jump,		ft. in.
		1	
		2	
4.	Throwing Heavy Weight, (56 lbs.)		ft. in.
		1	
		2	
5.	Throwing Cricket Ball,		ft. in.
		1	
		2	
6.	Standing Broad Jump,		ft. in.
		1	
		2	
7.	Hurdle Race, (First Heat,)		sec.
		1	
		2	
8.	Putting Shot, (16 lbs.)		ft. in.
		1	
		2	
9.	Tug of War, (First Heat.)		
10.	Tug of War, (Second Heat.)		

AFTERNOON, 2 o'clock.

1.	High Jump,	ft. in.
	1	
	2	
2.	100 Yards, (First Heat,)	sec.
	1	
	2	
3.	880 Yards Run,	min. sec.
	1	
	2	
4.	One Mile Bicycle, (Safety,)	min. sec.
	1	
	2	
5.	Hurdle Race, (Final Heat),	sec.
	1	
	2	
6.	Tug of War, (Final Heat.)	
7.	440 Yards Run,	min. sec.
	1	
	2	
8.	Sack Race,	sec.
	1	
	2	
9.	Pole Leap,	ft. in,
	1	
	2	
10.	100 Yards Run, (Final Heat,)	sec.
	1	
	2	
11.	Mile Race,	min. sec.
	1	
	2	
12.	220 Yards Run,	sec.
	1	
	2	
13.	One Mile Walk,	min. sec.
	1	
	2	

McGill University A. A.

Hon. President, - - -	Sir J. W. Dawson, L.L.D., F.R.S.
President, - - - -	D. Hamilton, Med.
Vice-President, - - -	A. S. Cleaves, Comp. Med.
Secretary, - - - -	J. A. Cameron, Law.
Hon. Treasurer, - - -	Prof. B. J. Harrington, B.A., Ph. D.
Treasurer, - - - -	H. M. Jaques, Med.

Committee.

H. M. Killaly,	Arts,	J. C. Hickson.
A. R. Johnson, B.A.,	Law,	G. W. MacDougall, B.A.
J. D. Cameron,	Medicine,	J. Tees, B.A.
J. Featherston,	App. Science,	H. C. Baker.
G. Campbell,	Comp. Med.	S. Thayer.
D. Guthrie, B.A. R. O. Ross, B.A.	Theology.	J. Leach.

McGill University Athletic Association.

ANNUAL FIELD MEETING

1885. 1885.

FRIDAY, 16TH OCTOBER,

ON THE COLLEGE GROUNDS.

FIELD OFFICERS:

Referee:

PROF. B. J. HARRINGTON, B.A. Ph. D.

Time Keepers:

PROF. C. H. McLEOD, Ma. E.
G. H. CHANDLER, M.A.
R. F. RUTTAN, B.A., M.D.

Judges at Finish:

PROF. C. E. MOYSE, B.A.
PROF. H. T. BOVEY, M.A.
R. L. MacDONNELL, B.A. M.D.

Starter:

PROF. D. P. PENHALLOW, B. Sc.

Clerk and Assistant Clerk of Course.

F. W. HIBBARD. C. B. KINGSTON.

Measurers:

J. F. MACKIE, B.A.
J. E. MAY.

Scorers:

R. A. KENNEDY, B.A.
A. WEIR.

Judge of Walking:—J. M. MULGAN, M.A

Acc. 1010

McG. U. A. A.

President:

SIR J. W. DAWSON, L.L.D., F.R.G.S.

Vice-President:

C. W. WILSON,—'86 Med.

Secretary:

E. De F. HOLDEN,—'86 Arts.

Treasurer:

PROF. C. H. McLEOD, Ma. E,

Ass't.-Treasurer:

C. P. BROWN,—'86 Science.

COMMITTEE.

R. A. KENNEDY, B. A., '86 Med.
J. F. MACKIE, B. A., '86 Law.
F. W. HIBBARD, '86 Arts.
A. WEIR, '86 Science.
H. A. BUDDEN, B. A., '88 Law.
J. E. MAY, '88 Science.
C. B. KINGSTON, '87 Arts.
J. A. SPRINGLE, '88 Med.

RULES.

1. Races will be governed by laws of the Amateur Athletic Association of Canada.

2. All events open only to Members of the Association, except No. 7 of the afternoon programme.

3. An entrance fee of twenty-five (25) cents for each and every event must accompany the entry.

4. Entries must be made to the Committee before 5 p.m. on Thursday, 15th October, 1885.

5. The bell will ring before each event, when competitors must at once proceed to the starting place.

After the Competition the prizes will be presented in the William Molson Hall.

PROGRAMME.

MORNING, 9.30 A.M.

1. Kicking Foot Ball.
2. Throwing the Hammer (16 Lbs.)
3. Running Broad Jump.
4. Putting the Shot (16 Lbs.)
5. Throwing Cricket Ball.
6. Standing Broad Jump.
7. Throwing Heavy Weight, (56 Lbs.)
8. Running High Jump.
9. Tug of War, (Teams of 6 Men from each Faculty.)

AFTERNOON, 2 P.M.

The Band of the Victoria Rifles will perform a selection of Airs during the Afternoon.

1. One Mile Run.
2. 100 Yards, (1st Heats.)
3. Pole Leap.
4. 880 Yards Run.
5. One Mile Walk
6. 440 Yards Run.
7. One Mile, (Open to all Amateurs.)
   Special Medal if Canadian record is lowered.
8. 100 Yards, (Final Heat.)
9. Three Legged Race.
10. 220 Yards Run.
11. One Mile Bicycle Race.

RULES.

6. All events open to amateurs only.

7. The Committee to be judges of eligibility of all competitors.

8. Only Club Officials, the Press, and competitors in uniform allowed inside the ropes.

9. No weights allowed in jumping.

10. Three *bona fide* competitors will be required in each event to secure second prize.

11. All starts will be made by report of pistol.

Should the weather prove unfavorable the sports will be postponed until further notice.

McGill University Athletic Association

ANNUAL FIELD MEETING.

1886 1886

FRIDAY, 15th OCTOBER,

ON THE COLLEGE GROUNDS.

FIELD OFFICERS:

Referee.

PROF. B. J. HARRINGTON, B.A., PH. D.

Time Keepers.

PROF. C. H McLEOD., MA. E.
JAMES BELL, M.D.
R. F. RUTTAN, B.A., M.D.

Judges at Finish.

PROF. C. E. MOYSE, B.A.
" H. T. BOVEY, M.A.
R. L. MACDONNELL, B.A , M.D.

Starter.

PROF. D. P. PENHALLOW, B. SC.

Clerk and Assistant Clerk of Course.

JAMES NAISMITH. W. L. JAMIESON.

Measurers.

D. TAYLOR. J. E. MAY.

Scorers.

C. COLBY. W. B. TAYLOR, B. A.

Judge of Walking.—R. J. B. HOWARD, B A., M. D.

Programme.

MORNING, 9.30 A. M.

1. KICKING FOOT BALL.
   1st 2nd
2. THROWING HAMMER (16 lbs.)
   1st 2nd
3. 100 YARDS (Trial Heats.)
   1st 2nd
4. THROWING HEAVY WEIGHT (56 lbs.)
   1st 2nd
5. THROWING CRICKET BALL.
   1st 2nd
6. POLE LEAP.
   1st 2nd
7. RUNNING HIGH JUMP
   1st 2nd
8. PUTTING THE SHOT (16 lbs.)
   1st 2nd
9. STANDING BROAD JUMP.
   1st 2nd
10. TUG OF WAR (Teams of 6 men from each Faculty.)
    1st 2nd

AFTERNOON, 2 P. M.

11. ONE MILE RUN.
    1st 2nd
12. ONE MILE WALK.
    1st 2nd
13. 880 YARDS RUN.
    1st 2nd
14. RUNNING BROAD JUMP.
    1st 2nd
15. 100 YARDS (Final Heat.)
    1st 2nd
16. ONE MILE (Open to all Amateurs)
    Special Medal if Canadian Recocd is broken.
    1st 2nd
17. 440 YARDS RUN.
    1st 2nd
18. 120 YARDS HURDLE RACE.
    1st 2nd
19. THREE LEGGED RACE.
    1st 2nd
20. 220 YARDS RUN.
    1st 2nd
21. ONE MILE BICYCLE RACE
    1st 2nd

McG. U. A. A.

President - -	SIR J. W. DAWSON, L.L.D., F.R.G.S.
Vice-President	ROBT. E. PALMER, Science.
Secretary - -	JNO A. SPRINGLE, Medicine.
Treasurer - -	Prof. C. H. McLEOD, Ma. E.
Assistant-Treas.	C. COLBY, Arts.

Committee.

JAS. NAISMITH, Arts.	W. L. JAMIESON, Arts.
D. TAYLOR, Science.	W. INGLIS BRADLEY, Medicine
J. E. MAY, Science.	WM. B. TAYLOR, B.A., "
H. A. BUDDEN, B.A., Law.	RONZO CLERKE, Law.

RULES.

1. Races will be governed by laws of the Amateur Athletic Association of Canada.
2. All events open only to Members of the Association, except No. 16.
3. Each entry must be accompanied by a fee of 25 cts.
4. Entries must be made to the Committee before 5 p. m. Wednesday, October 13th.
5. A bell will ring before each event when competitors must at once proceed to the starting place.
6. Only Club Officials, the Press, and competitors in uniform to be allowed within the ropes.
7. Three *bona fide* competitors in each event are necessary to secure a second prize.
8. All starts to be made by report of pistol.

Should the weather prove unfavorable the sports will be postponed until further notice.

The Prizes will be distributed in the William Molson Hall immediately after the sports are concluded.

Acc. 1016

No. 3. Year

UNIVERSITY OF McGILL COLLEGE.

FACULTY OF ARTS.

MATRICULATION.

SESSION 1866 — 67

Mr Bernard Harrington

John Thos Shuighame

W. C. Baynes Secretary.

The Certificate of Matriculation is issued *sessionally* on the payment of the prescribed fees, and is the sole authority for the admission of Students into the Classes of the College.

Students must preserve their Certificates, as no degree can be granted unless they are produced.

Acc. 1016

No. 4th year

UNIVERSITY OF McGILL COLLEGE.

FACULTY OF ARTS.

MATRICULATION.

SESSION 1868—69

Mr Bernard Harrington

John Frothingham Scholarship

W. C. Keys Secretary.

The Certificate of Matriculation is issued *sessionally* on the payment of the prescribed fees, and is the sole authority for the admission of Students into the Classes of the College.

Students must preserve their Certificates, as no degree can be granted unless they are produced.

Acc.1010

No. 2 Year

UNIVERSITAS COLLEGII McGILL
CRANDERE CUNT AUCTA LABORE
IN DOMINO CONFIDO
MONTE REGIO

UNIVERSITY OF McGILL COLLEGE.

FACULTY OF ARTS.

MATRICULATION.

SESSION 1866-7

Mr Bernard J. Harrington

John Frothingham Esq.r

W. C. Baynes Secretary.

The Certificate of Matriculation is issued *sessionally* on the payment of the prescribed fees, and is the sole authority for the admission of Students into the Classes of the College.

Students must preserve their Certificates, as no degree can be granted unless they are produced.

Acc. 1010

No. 1st Year

UNIVERSITY OF McGILL COLLEGE.

FACULTY OF ARTS.

MATRICULATION.

SESSION 1865-6

Mr Bernard J Harrington

John Fro Thringham Sch.p

W C Baynes Secretary.

The Certificate of Matriculation is issued *sessionally* on the payment of the prescribed fees, and is the sole authority for the admission of Students into the Classes of the College.

Students must preserve their Certificates, as no degree can be granted unless they are produced.

Acc. 1010

UNIVERSITY SCHOOL EXAMINATIONS, 1887.

ELEMENTARY CHEMISTRY.

TUESDAY, JUNE 7TH :—MORNING ($1\frac{1}{2}$ hr).

Examiner, ...B. J. HARRINGTON, B.A., PH.D.

I.

1. How may Hydrogen and Oxygen be obtained from Water, and Nitrogen from Air ?

2. What takes place (*a*) when dilute Sulphuric Acid is poured upon Zinc, (*b*) when a solution of Silver Nitrate is added to one of Common Salt ?

3. Explain the meaning of Allotropy, and state briefly what you know with regard to the Allotropic forms of Carbon and Sulphur.

II.

1. What materials would you require for the preparation of each of the following compounds :—(*a*) Nitric Acid. (*b*) Ammonia. (*c*) Carbonic Oxide. (*d*) Marsh Gas ?

2. What do you understand by double decomposition ? Illustrate by means of an equation.

3. Explain the action of Washing Soda in softening a hard Water.

III.

1. State what you know with regard to the preparation and properties of Sulphurous Anhydride.

2. Give the formula of each of the following substances :—Sal-ammoniac Fluor-spar, Phosphoric Anhydride, Sulphuretted Hydrogen, Laughing Gas.

3. State what you know, (*a*) with regard to the construction of the Davy lamp, and (*b*) concerning the use of the mouth blow-pipe.

Note.—Candidates may select any two questions from each group.

McGILL UNIVERSITY, MONTREAL.

EXAMINATION FOR A. A. AND SCHOOL CERTIFICATES, 1878.

ELEMENTARY CHEMISTRY.

SATURDAY, MAY 25 :—MORNING, 9 TO 12.

Examiner, ... B. J. HARRINGTON, B.A., Ph.D.

1. Distinguish between chemical elements and chemical compounds, and between the latter and mechanical mixtures.

2. State the law of gaseous diffusion, and describe an experiment illustrating it.

3. Give the characters of the Regular, Rhombohedral, and Oblique systems of Crystallisation.

4. How is Carbonic Anhydride prepared, and what are its properties?

5. What do you understand by the terms *standard temperature* and *standard pressure*, as used in connection with the measurement of gases.

a. A litre of Oxygen is measured off at 15° C, what will its volume become if the temperature is raised to 20° C, supposing the pressure to remain constant?

6. What are the properties of the metal Sodium, and what the composition of its more important salts?

7. What substances are indicated by the following formulæ: Fe_2O_3, $PbCO_3$, MnO_2, H_3PO_4, $AgNO_3$, $BaSO_4$.

8. What are the processes and chemical changes indicated by the following equations?

$$2\,KClO_3 = 2\,KCl + 3\,O_2$$
$$Zn + H_2SO_4 = ZnSO_4 + H_2.$$

9. Give the symbols and atomic weights of Copper, Silver, Zinc and Antimony. By what tests may these metals be distinguished when in solution?

10. Distinguish between efflorescent and deliquescent salts, and give examples of allotropy

UNIVERSITY SCHOOL EXAMINATIONS, 1883.

ELEMENTARY CHEMISTRY.

THURSDAY, JUNE 7TH :—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. Distinguish between atomic and molecular weights, and give the atomic weights of any six of the elements.

2. Give the chemical formulæ of Nitric Acid, Potassic Chlorate, Ammonia, Olefiant Gas, and Calcic Carbonate.

3. Describe any method for determining the relative proportions of Oxygen and Nitrogen in air.

4. Distinguish (*a*) between acids and anhydrides, (*b*) between efflorescent and deliquescent salts.

5. Give the properties of Carbon Dioxide, and state how it may be shown to contain Carbon.

6. Give the names and formulæ of the Nitrogen Oxides, and describe one member of the series.

7. What is double decomposition? Illustrate by an equation.

8. Manganese Dioxide and Hydrochloric Acid are heated together. Name and describe the gas which is given off.

9. Describe the preparation of Phosphuretted Hydrogen.

10. Give the laws of definite and multiple proportion.

UNIVERSITY SCHOOL EXAMINATIONS, 1882.

ELEMENTARY CHEMISTRY.

WEDNESDAY, JUNE 7TH:—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. Name and characterize briefly the gases obtained by heating the following substances:—$CaCO_3$, $(H_4N)NO_3$, $KClO_3$.

2. Steam is brought into contact with red hot iron filings. What change takes place?

3. Describe any form of eudiometer, and explain its use in the analysis of gases.

4. 10 grammes of Sodium are dropped into water. What volume of Hydrogen is liberated (standard temperature and pressure)?

5. What is the difference between an anhydride and an acid?

6. Describe any experiment illustrating the use of charcoal as a reducing agent.

7. What changes are indicated by the following equation:—

$$MnO_2 + 4HCl = MnCl_2 + 2H_2O + Cl_2$$

8. Fragments of Phosphorus are heated in a strong solution of Caustic Potash. What gas is produced? Give its properties.

9. How is Sulphuretted Hydrogen prepared, and what are its properties?

10. Name the substances indicated by the following formulæ: H_2SO_4, $(H_4N)Cl$, H_3PO_4, C_2H_4, SiO_4

UNIVERSITY SCHOOL EXAMINATIONS, 1881.

ELEMENTARY CHEMISTRY.

MONDAY, JUNE 6TH :—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. What is Ozone? Give its properties.

2. Distinguish between the different physical states of matter.

3. Explain what is meant by the maximum density of water, and show its importance in nature.

4. Distinguish between a chemical symbol and a chemical formula. Express also by means of an equation the change which takes place when Hydrochloric Acid is poured upon marble.

5. When Oxalic Acid and Oil of Vitriol are heated together, what gases are produced? How may these gases be separated?

6. How may Ammonia be prepared? Give its formula and properties.

7. How is Phosphorus obtained from bones? Give the principal differences between crystalline and amorphous Phosphorus.

8. How is Nitric Acid prepared, and by what tests can it be distinguished from other acids?

9. Explain Dr. Clark's soap test for determining the hardness of water.

10. State the law of multiple proportion, and illustrate it by examples.

A. A. EXAMINATIONS, 1884.

ELEMENTARY CHEMISTRY.

THURSDAY, JUNE 5TH:—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. Give fully the properties of Chlorine gas.

2. What is *Aqua regia*, and upon what does its power of dissolving gold depend?

3. How may it be shown experimentally that 16 grammes of Oxygen combine with 2 grammes of Hydrogen to form 18 grammes of Water?

4. Distinguish between the different allotropic forms of Sulphur. State also how Roll Sulphur and Flowers of Sulphur are prepared.

5. How is Orthophosphoric Acid prepared? Give its formula. Why is it called a tribasic Acid?

6. Describe the preparation and properties of Carbonic Oxide.

7. Explain each of the following terms briefly: Water of Crystallization, Dimorphism, Mother Liquor, Anhydride, Diffusion.

8. On what grounds is air regarded as a mixture rather than a chemical compound?

9. Name the substances indicated by the following formulæ: HBr, H_3P, N_2O, $NaNO_3$, $NaHSO_4$, KHO, SiO_2, C_2, H_4.

10. How is Marsh Gas prepared? Give its formula and properties.

[From The American Journal of Science, Vol. XXV, January, 1908.]

BERNARD J. HARRINGTON

Dr. Bernard J. Harrington, Professor of Chemistry and Mineralogy in McGill University, Montreal, died on November 29 at the age of fifty-nine years. In him Canada loses not only a well known chemist and mineralogist, but one who had endeared himself to a large circle of friends and acquaintances by his sterling worth of character and charming personality, His death took place at his home in Montreal, after a long illness of some fifteen months' duration.

Dr. Harrington was born at St. Andrews, P. Q., on August 5th, 1848. Not being very strong as a boy, his early education was obtained chiefly from private tutors. He then entered McGill University, where he graduated with honors in natural science and taking the Logan medal in geology. He then proceeded to the degree of Master of Arts in this University and subsequently continued his studies in the Sheffield Scientific School of Yale University, from which in 1871 he obtained the degree of Doctor of Philosophy, taking the prize in mineralogy. At Yale he was a classmate of Professor H. S. Williams of Cornell, these two gentlemen being the first candidates to receive the degree of Doctor of Philosophy at the School in question.

His first fieldwork was carried out in Prince Edward's Island, where he assisted Sir William Dawson in the preparation of a report on the geology of the island for the Geological Survey of Canada.

He was appointed lecturer in mineralogy at McGill University in 1871, and in the following year succeeded Dr. Sterry Hunt as chemist and mineralogist to the Geological Survey of Canada, discharging the duties of both positions for several years. In 1879 he retired from the Geological Survey of Canada and devoted his whole attention to teaching work at McGill University, where he was subsequently appointed David Greenshields Professor of Chemistry and Mineralogy. In these pioneer days of University work, he also lectured on mining and metallurgy, in which subjects he proved to be a very able teacher, as shown by the fact that many of his students in these subjects have since risen to occupy foremost positions in the mining world. He was also an enthusiastic botanist.

Dr. Harrington was the author of several important reports published by the Geological Survey of Canada, as well as of many papers, chiefly dealing with mineralogy, which appeared in various scientific publications. We are also indebted to him for an excellent Life of Sir William Logan, the first Director of the Geological Survey of Canada.

He planned the Chemistry and Mining Building which was erected for the University by Sir William Macdonald, and was its Director until the time of his death.

Dr. Harrington was a Fellow of the Royal Society of Canada, being President of Section III of this Society for several years.

He was also President of the Natural History Society of Montreal, and Vice-President of the Chemical Section of the British Association for the Advancement of Science (Toronto meeting).

In 1876 he married Anna Lois, daughter of Sir William Dawson, and leaves three sons and four daughters to mourn his loss.

He was a man of retiring disposition, but warm-hearted and unselfish to a degree,—a personal friend of all his students, and beloved by all who were fortunate enough to make his acquaintance.

FRANK D. ADAMS.

McGILL UNIVERSITY

The Founder's

FESTIVAL,

29th November, 1866.

CHAIRMAN:

B. CHAMBERLIN, Esq., M.A., B.C.L.

Starke,] [Typ.

PROGRAMME.

March.....The Wedding March..*Mendelssohn.*

BAND 25TH, K.O.B.

Address.....THE CHAIRMAN.

Chorus....“Alma Mater,”.....STUDENTS.

Overture..“Italiana in Algieri,”.....*Rossini.*

BAND.

Address.....THE VICE-CHANCELLOR.

Oboe Solo..Cavatina, from Norma.....*Rossini.*

SIGNOR BARRICELLI.

Valse.....“La Murska,”.....*Godfrey.*

BAND.

Reading.....JOHN ANDREW, Esq.

Chorus....“Trancadillo,”..... STUDENTS.

Selection..from “Traviata,”.....*Verdi.*

BAND.

Address....ON BEHALF OF UNIVERSITY SOCIETY.

Duett { Euphonion and Cornet. } From Linda de Chamounix . *Donnizetti.*

BAND.

Reading.....JOHN ANDREW, Esq.

Oboe Solo..Cavat. from Lucretia Borgia. *Bellini.*

SIGNOR BARRICELLI.

Address.....ON BEHALF OF UNDERGRADUATES.

Air.....from "Rigoletto," .....*Verdi.*

BAND.

Chorus...."Gaudeamus," .....STUDENTS.

Valse..... "Farewell,".....*Relle.*

BAND.

GOD SAVE THE QUEEN!

BAND AND STUDENTS.

Pianist—MR. F. H. TORRINGTON.

ACC. 1010

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Liberal Christian Union

The Season of

1881-82

will open with a Social Gathering, to be held December 9th.

All friends of the Union are cordially invited.

MORTON, PHILLIPS & BULMER, PRINTERS.

The Entertainment Committee of the

LIBERAL CHRISTIAN UNION

have pleasure in announcing the following COURSE OF LECTURES for Season 1881-2, to be held in the Lecture Room of the Church of the Messiah:—

DECEMBER 16.

THE "ROUGH-HOUSE" SCHOOL.....REV. J. E. WRIGHT, Montpelier, Vt

DECEMBER 30.

GEMS AND PRECIOUS STONES..DR. BERNARD J. HARRINGTON, Montreal.

JANUARY 6.

NARCOTICS.....REV. JOHN B. GREEN, Brattleboro', Vt

JANUARY 20.

ELEMENTARY FORMS OF LIFE.....DR. WILLIAM OSLER, Montreal.

FEBRUARY 3.

TENNYSON'S "PRINCESS."..... SAMUEL E. DAWSON, ESQ., Montreal.

FEBRUARY 17.

LIFE ON THE EARTH.. .....DR. T. STERRY HUNT, Montreal.

MARCH 3.

THE BOOK OF JOB.....JOHN WILLIAMSON, ESQ , Montreal.

MARCH 17.

THE PILGRIM'S PROGRESS..... REV. L. G. WARE, Burlington, Vt.

TICKETS FOR THE COURSE, $1.00. SINGLE ADMISSION, 25 CTS.

TO MEMBERS.—In addition to the above Programme of Lectures, there will be several entertainments under the direction of the Social Committee, to which all members and their friends are invited. The Membership Fees will be the same as heretofore, viz:—

SINGLE SUBSCRIPTION—Entitling the subscriber to one ticket for the Course of Lectures, and all privileges of membership for one year $1 00

FAMILY SUBSCRIPTION—Entitling to two single memberships (with all privileges) and five Course Tickets..... .....$2 50

Subscriptions may be paid to MR. W. N. EVANS, MR. JNO. HERSEY, or

HORACE T. MARTIN,
Treas. L.C.U.

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The Officers and Members of the
Mc. Gill University Athletic Association
request the honor of

_____

attendance at their Annual Games,
to be held on the College Grounds,
Friday, 21st October, 1892.

J. Alexander Cameron.
Hon. Secretary

The Officers and Members of the
Mc. Gill University Athletic Association
request the honor of

.....

attendance at their Annual Games,
to be held on the College Grounds.
Friday, 15th October, 1886.

Jno. T. Springle
Secretary.

Acc. 1010

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

MONTREAL MEETING,
AUG. 27TH TO SEPT. 8TH, 1884

CITIZENS' COMMITTEE :

MR. THOS. WHITE, M. P. CHAIRMAN. MR. E. J. BARBEAU, TREASURER.
MR. S. C. STEVENSON, REC. SECY. DR. B. J. HARRINGTON, COR. SECY.

EXECUTIVE COMMITTEE :

MR. HUGH MCLENNAN. CHAIRMAN.
MR. J. D. CRAWFORD GEN. SECY.

OFFICE OF THE EXECUTIVE COMMITTEE,

No. 3 Molsons Bank Chambers,

MONTREAL, ... 1884.

Mc Gill University.

1868 — UNIVERSITAS COLLEGII McGILL — 1868

GRANDESCUNT AUCTA LABORE — IN DOMINO CONFIDO — MONTE REGIO

The Founder's Festival.

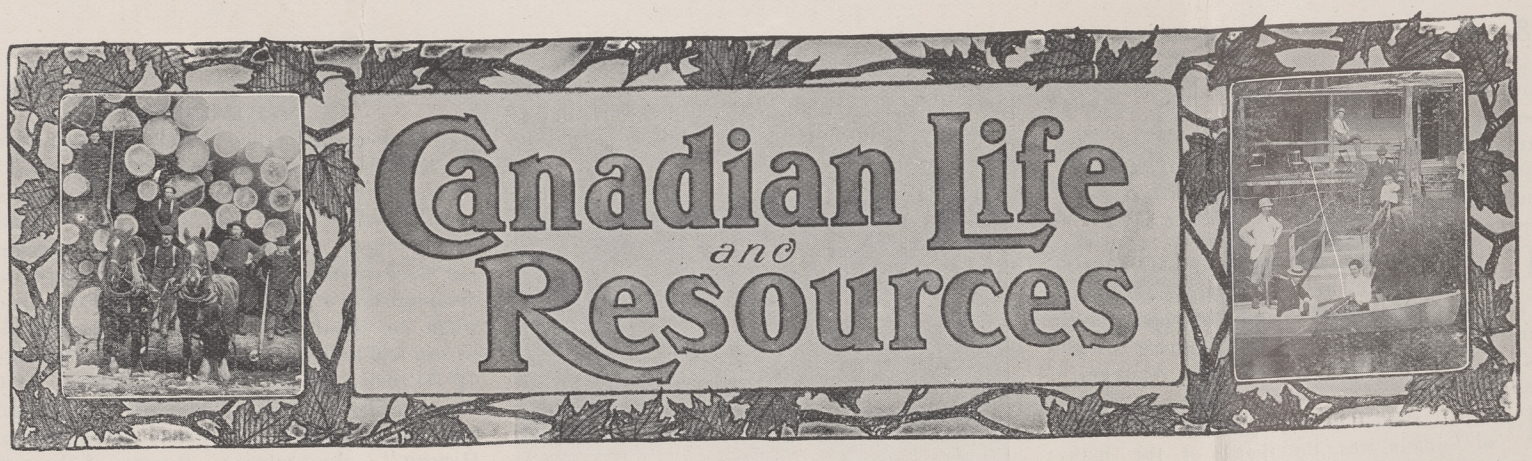
The "Mc Gill University Society" and Under graduates of Mc Gill College request the honor of ..... Company at the William Molson Hall on the evening of Friday the 27th inst. at 8 Oclock.

STEWARDS.

W. B. MALLOCH, M.D., C.M.
J. J. MACLAREN, M.A., L.L.B.
W. J. WATTS, B.A.
G. A. BAYNES.
G. M. MAJOR.
C. P. DAVIDSON, M.A., B.C.L.
R. J. WICKSTEED, M.A., B.C.L.
L. A. HART, B.A.
W. P. BUCKLEY.
B. J. HARRINGTON.
R. A. RAMSAY, M.A., B.C.L.
L. H. DAVIDSON, M.A., B.C.L.
W. D. HARNETT.
H. P. WRIGHT.
F. A. KAHLER.

AN ANSWER IS REQUESTED TO E. HOLTON, B.C.L., SEC

ACC. 10 VO



Vol. VI. NEW SERIES No. 1 Montreal, January, 1908

PRICE, TEN CENTS
ONE DOLLAR A YEAR

THE STORY OF THE MONTH

A SUMMARY OF CANADIAN AFFAIRS

AT HOME

PARLIAMENT rose on December 18th for the Christmas recess, after having been in session three weeks. Several interesting debates took place and some important legislation was introduced. Among the amendments moved by the Opposition to the address in reply to the speech from the throne, was one proposing to censure the Government for negligence in connection with the construction of the collapsed bridge at Quebec. The Government very properly asked the House to suspend judgment until they had before them the report of the Commission of Engineers that enquired into the cause of the disaster. The motion of censure was voted down by a majority of forty-six, showing that the Government still have the support of a large majority of the members. Although debated at some length, full consideration of the question of Japanese immigration was also held over until the return of the Hon. Rodolphe Lemieux, who has been in Japan attempting to effect an arrangement whereby such immigration would be restricted. It has been unofficially announced that no modification of the treaty with Japan has been secured, but that the Government of the latter country will reasonably restrict the number of Japanese coming to Canada. The House showed great dispatch in passing the bill providing for protection at level railway crossings in towns and villages. The bill is now before the Senate, where it was killed last session.

The promptness of the Commons may be regarded as a rebuke to the Upper House for the course it took last year. The most important legislation yet introduced was the Government measure respecting insurance brought in by the Minister of Finance. Proposing to carry out a number of the recommendations contained in the report of the Insurance Commission, it provides for many radical changes in the insurance law. The bill will be threshed out in detail before the Committee on Banking and Commerce, which will meet early in January. The estimates laid on the table by the Minister of Finance ask for a total expenditure of $119,237,091 for the fiscal year that will end on March 31st, 1909. Two members have died since the House met in November—Mr. B. B. Gunn, Conservative member for South Huron, Ont., and Henry Lovell, Liberal, of Stanstead, Que.

THE principal speaker at the annual banquet of the Builders' Exchange, held in Montreal, was the Hon. W. A. Weir, Provincial Treasurer. In discussing industrial questions and the application of the principle of compulsory arbitration, Mr. Weir said : "There must be extension of education. What was wanted in Canada was the development of thought power. Further, there must be a community of sentiment, by which each Province should have a thought for the needs and sentiments of the others. The business men of the great city must try to understand the peculiar problems of the farmer and the difficulties of the settlers in the North West. To rise superior to sectionalism was to create the factors of future national greatness."

THE St. John, N.B., Council of Marine Engineers, have passed a resolution expressing sympathy with the shipowners of Canada in the loss of the coasting trade, owing to its usurpation by Norwegian ships. It is claimed that the Norwegian ships are fitted out with stores for three years, paying the crews very low wages. This enables them to underbid Canadians engaged in the coasting trade, so that the latter are being driven out of business. "We pay $30 a month wages," says a prominent New Brunswick shipping merchant, "and stores cost more here. Our schooners cannot carry at the price set by the foreigners. At the end of three years the Norwegians load with deals, make a trip to the Old Country, stock up again with stores and men, and come back for another three years' campaign."

THE death of the Hon. J. I. Tarte, which occurred in Montreal on December 18th, removed one of the most remarkable men of the public life of the country of the present generation. From a notary in a little French-Canadian village he became Federal Minister of Public Works, wielding for a considerable time a political influence perhaps second only to that of the Prime Minister. The part he played in the political drama, first as a Conservative organizer and later as a member of a Liberal Government, made him one of the most prominent Canadians of his day, but perhaps he will be longest remembered as a public man who warmly advocated and effectively assisted the development of Canada, in whose future as a great country he had an unwaivering faith. He strongly advocated the improvement of the national means of transportation, and during his term of office he did much to improve the harbor of Montreal and the St. Lawrence ship channel. He was a man of wonderful energy, and, it is said, wore himself out by hard work, dying at the age of 59 years.

TOBOGGANING AT QUEBEC ON NEW YEAR'S MORNING.

Beyond is the Chateau Frontenac on Dufferin Terrace overlooking the Lower Town, the harbor and the St. Lawrence river eastward.

SINCE our December issue went to press Dr. B. J. Harrington, Professor of Mineralogy at McGill University, died at his home in Montreal. In his own field he was one of the leading scientists of Canada, and his death is a great loss to the University with which, as a student or professor, he had been connected since 1865. As a writer on scientific subjects, more particularly in the domain of Canadian mineralogy, Dr. Harrington was well known. During his long and useful career he also held offices in many organizations. For many years he was president of the Natural History Society of Montreal, and editor of "The Canadian Naturalist,"

now published under the title of "The Canadian Record of Science." In 1897 he acted as vice-president of the Chemistry Section of the British Association at Toronto. He was a son-in-law of the late Sir William Dawson, for many years Principal of McGill University.

THERE also died in Montreal, Mr. F. H. Mathewson, Manager of the Montreal Branch of the Canadian Bank of Commerce, a man held in the highest esteem by the entire business community of the city and one of the ablest bankers of Canada.

THE part women must play in the development of Canada was the theme of the many-sided address delivered by His Excellency Earl Grey before the Woman's Canadian Club of Montreal. The key-note of the address was sounded in these lines:—"If you women would shut the doors of your houses against the men who corrupt the sources of domestic, civic and national life, in the same way that you exclude from your drawing rooms the man who cheats at cards; if you would refuse the approval of your smile to the man who hits below the belt in sports, business or politics, then the star of your city would shine with a brilliancy which would make its radiance felt not only over Canada but over the United States."

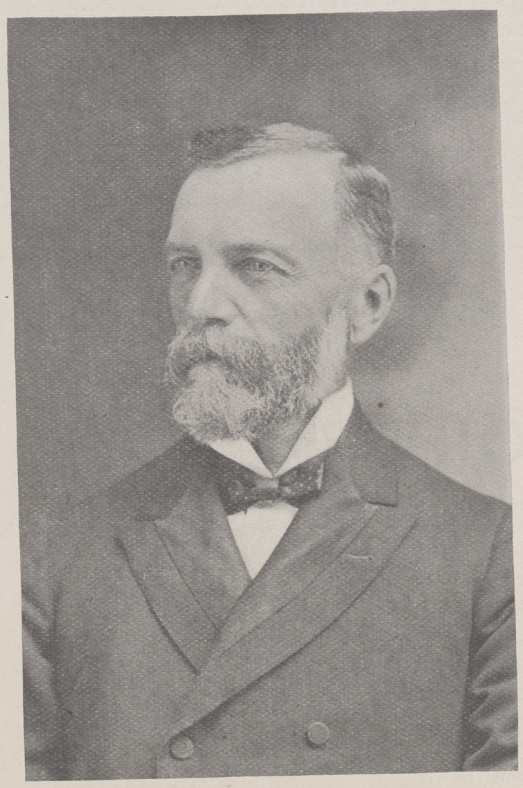
In regard to women immigrants, His Excellency said: "Are you using your influence to assure that the increasing stream of women who enter Canada through your gates shall be switched on to rails leading to happiness, instead of misery? Remember, every woman who enters Canada will make an impress on the national character, and it is important that she should be made into a good Canadian citizen as quickly as possible." The address was delivered at the inaugural luncheon of the Club held in the Royal Victoria College. The Countess Grey was also present and manifested a deep interest in the new organization.

THE opening of the La Tuque branch of the Quebec and Lake St. John Railway was an event of considerable interest in railway circles. This new line gives Quebec City direct communication with the great northern hinterland and opens up a valuable area of timber and farming land. One of the speakers at the opening ceremony was the Hon. W. A. Weir, Provincial Treasurer. He warmly congratulated the officials of the Q. and L. Railway, on the success of the enterprise, whose future was now more than assured, since it had been taken over by Messrs. Mackenzie & Mann and made part of the Canadian Northern System. The building of the La Tuque branch, he pointed out, would greatly facilitate the completion of the Grand Trunk Pacific Railway, since by it the necessary supplies could easily be brought in.

MR. R. L BORDEN, M. P., leader of the Opposition was one of the speakers at the annual banquet of the Commerical Travellers' Association held in Montreal on December 23rd One of the strong points made by Mr. Borden was that of the personal responsibility of each elector for the character of the government of the country. In this connection he said:—"Upon every man in this country should be impressed a sense of his individual responsibility for its good or bad government. It is an essential principle of the truest and highest democracy that every citizen should be impressed with that idea. And unless every one of you is impressed with that to the full, we cannot expect to have those high standards in public and private life which the integrity of our people and race entitle us to demand."

THE "Keewatin", the second of the big steel steamers which the Canadian Pacific Company is putting on the Great Lakes, started its Canadian career by a new record in lake navigation by entering the port of Owen Sound, Ont , on Christmas Day, under its own steam. This is the latest date that any steamer has ever entered that port.

The "Keewatin" was brought from Scotland, with her sister boat, the "Assiniboia" last autumn, proceeding up the St. Lawrence canals in two sections. At Buffalo the two boats were put together again and steamed to Owen Sound to lay



THE LATE HON. J. I. TARTE.

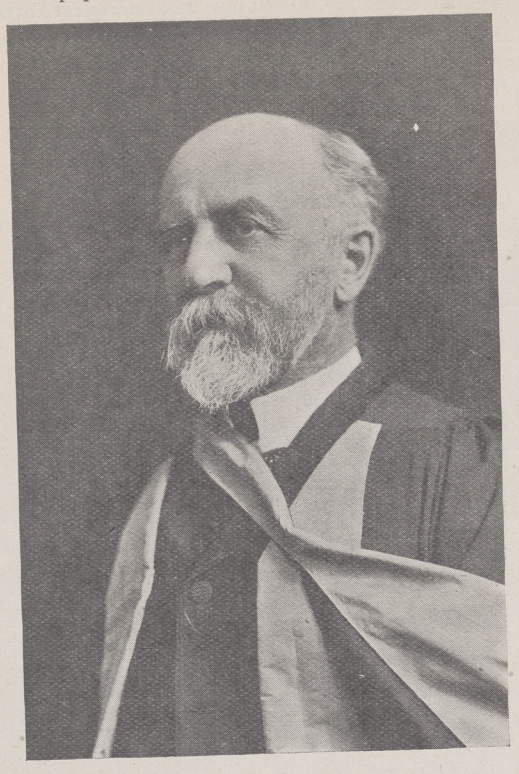
For many years a prominent figure in Canadian politics and during six years he was Minister of Public Works.

up for the winter. They will be put on the service between Owen Sound and Fort William.

The "Keewatin" is 350 feet long and has a 3,600 ton register, with a classification of A1 at Lloyd's, which, with her sister ship, is the only vessel on the Upper Lakes with this qualification. She can carry 250 first-class cabin passengers.

"THE immigration to Canada will not quite touch the 300,000 mark this year, but it will be very close," said Mr. W. D. Scott, Superintendent of Immigration

"It is remarkable", he said, 'that so little trouble has been encountered in accommodating such an army as 300,000 people in Canada, which has a population of only seven millions. When



THE LATE DR. B. J. HARRINGTON.

For many years Professor of Mineralogy at McGill University, and a widely known writer on scientific subjects.

the United States immigration figures reached the 300,000 mark some fifty years ago they had a population of nearly forty millions to absorb them."

ABROAD

IN an eloquent speech at Birmingham on December 11th, Lord Curzon, in drawing an ideal picture of the British Empire of the future, delivered this passage: "Of one thing I am certain—that in proper hands the Crown will become, if not more powerful, at any rate more indispensable and more important. I look forward to the day when the Sovereign will visit his dominions in person and hold his court in Calcutta or Quebec."

THE Beit Professor of Colonial History at Oxford has issued a volume, "Selected Speeches and Despatches relating to Canadian Constitutional History" (John Murray). It treats of the period between 1760 and 1867. It is well printed and edited, but lacks completeness, as the new series of official documents now being published by the King's Printer at Ottawa are not included. It is a welcome sign, however, of the new interest in Great Britain in Colonial matters.

IN the annual report of the Amalgamated Press Company, of which Lord Northcliffe (formerly Sir Alfred Harmsworth) is chairman, the following reference is made to great pulp and paper undertaking in Newfoundland. "The accompanying statement will acquaint shareholders with the present position and prospects of that important pulp and paper-making undertaking, the Anglo-Newfoundland Development Company, Limited, the company formed for the purpose of ensuring the Amalgamated Press, Limited, and kindred concerns against the threatened increase in the cost of raw material. The enterprise will require a capital of £800,000 ($4,000,000), of which it is proposed this company shall subscribe one-half. The sum of £128,000 has already been invested in its shares by this company, and the directors fully anticipate that the cash resources of the business will enable them to provide the balance of the sum required—viz., £272,000—without recourse to any further issue of capital."

SPEAKING at Devonport on December 9th, Mr. Balfour, leader of the Unionist party, said: "If I read aright the signs of the times, there is not merely a growing conviction, but a conviction which has already grown, on the subject of fiscal reform, which is no longer, or in a few months will no longer be, as I am well convinced, a subject of division in any section of the party, but will rather be an animating motive, a deep-rooted patriotic and national conviction, which, inspiring alike leaders and followers, is predestined to make the next Unionist Administration memorable in the history of this country." There is no longer any doubt that the great Unionist party has taken up tariff reform as its leading principle, and it will be one of the main issues in the next election.

AT a recent dinner of the Canadian Club in London, Eng., the principal speaker was Mr. R. W. Perks, M.P., who spoke of the advantage Canada possessed in her great waterways. He also pointed out and compared Buenos Ayres with Montreal and Toronto. The Argentina metropolis twenty years ago had a population of a quarter of a million, and to-day had a million. Canadian cities had the same opportunity if they would expend money. Buenos Ayres had expended ten million, which had returned 6 per cent. Argentina was the greatest rival Canada had.

BEFORE setting out from Japan for Canada the Hon. Rodolphe Lemieux, special Canadian envoy to the Government of the Mikado, said that he believed that the difficulty respecting Japanese immigration into this country would be satifactorily settled. In his negotiations Mr. Lemieux was assited by Sir Claude Macdonald, British Ambassador to Japan.

IT was announced in London that Great Britain has decided to establish a new naval squadron in the Pacific. It will be composed of the present fourth cruiser squadron and six cruisers of the county class, so-called because the ships are named after the counties of Great Britian. The squadron, which will be called the Pacific and North American, will, it is expected, have its base at Esquimalt near Victoria, B. C. The scheme will become effective in May 1908.

Acc. 1010

"*Reprinted from the Canadian Record of Science, October*, 1895."

Review of the Evidence for the Animal Nature of Eozoön Canadense.

By Sir William Dawson, C.M.G., LL.D., F.R.S., Etc.[1]

I. HISTORICAL AND STRATIGRAPHICAL.

The writer of these notes had hoped to have been able long ago to let the vexed questions respecting Eozoön repose in peace in so far as he was concerned, and he is now induced to offer a short summary of the evidence in the case only with the view of correcting some misapprehensions that seem to have arisen in regard to points well established, and which, independently of any question as to the nature of Eozoön, belong to the certain data of geology. These misapprehensions lead to the confounding of the structures originally discovered by Logan with things in no way related to them, and from which they had been clearly distinguished by my own original studies, and by those of Hunt, Carpenter, and Rupert Jones. New facts relating to pre-Cambrian life have also been coming to light from time to time, and many of these are connected, either directly or indirectly, with the evidence respecting Eozoön.

As early as 1858, Sir William Logan had begun to suspect that the Stromatoporoid forms collected from the great Laurentian limestones in different parts of Canada must be of organic origin, and he ventured to mention them as possibly of this nature at the meeting of the American Association in 1859, and in his General Report on the Geology of Canada in 1863. The evidence on which he relied was their occurrence only in the limestones, their similarity in form and general structure to the Stromatoporæ, or "Layer-Corals" of the Palæozoic, and the circumstance that, while the forms and structures seemed to be identical, they were mineralized by Serpent-

1 [Reprinted from the Geological Magazine, Decade IV., Vol. II., October, November, December, 1895.]

ine, Loganite, Pyroxene, and Dolomite, an indication that a similar mould had been filled by diverse minerals.

At that time the little leisure that I could spare for original work was occupied with Carboniferous and Pleistocene geology, and I had no ambition to invade the great and difficult pre-Cambrian districts of Northern Canada any further than might be necessary to my work as a teacher of geology. In the interest of that work, however, I had gone over considerable portions of the Laurentian and Huronian districts surveyed by Logan and Murray, with the aid of their maps and reports, and had satisfied myself of the great accuracy of their work, which led in my judgment to the following results :—

(1) That the upper part of the Lower Laurentian of Logan, since called the Grenville Series,[1] consisted of truly stratified metamorphic deposits, including great and extensive beds of limestone, quartzite, iron-ore, and other rocks, evidently of aqueous origin, and that the condition and crystalline and chemical characters of these rocks were not essentially different from those of the altered Palæozoic beds with which I was familiar in Nova Scotia and New England.

(2) That the Huronian, a less disturbed, less altered, and in the main evidently a clastic series, rested unconformably on the Laurentian, and was in part composed of its materials.

(3) That the "Upper Copper-bearing series" of Lake Superior, since known as Kewenian, was newer than the Huronian, but older than the oldest fossiliferous Cambrian rocks then known in Canada.

(4) That, while the Kewenian and Huronian rocks, and those designated by Logan as Upper Laurentian, indicated by the presence of igneous masses, and, in the case of the two former, by the prevalence of coarse, clastic material, littoral conditions and much volcanic disturbance, the

[1] By Dr. Sterry Hunt.

still older Grenville Series was of a character more indicative of long-continued quiescence, accompanied by the accumulation of great calcareous deposits, possibly of organic origin.

These conclusions were noticed in papers contributed to local societies, in published lecture-notes, and in class-teaching, and were frequently discussed with Logan and Hunt. Accordingly, when, in 1863, at the urgent request of Logan, I undertook the microscopic examination of large series of his supposed Laurentian fossils and the containing limestones, as well as of other crystalline limestones of various ages, slices of which he had caused to be made, I was not unprepared to find the curious and beautiful structures which developed themselves in his Stromatoporoid forms, and in portions of the limestone in which they were contained, but which appeared to resemble those of Foraminifera rather than those of Corals.

The results thus attained, in 1864, were not fully published until after Logan was prepared to sustain them by detailed maps and sections of the district on the Ottawa containing Eozoön, a work extending over many years of arduous and skilful labour; and until Dr. W. B. Carpenter and Prof. Rupert Jones had studied the original specimens and others prepared for themselves, along with my notes, and camera drawings executed by the artist of the Geological Survey. Dr. Sterry Hunt had also examined chemically the serpentine and other minerals associated with the supposed fossils, and various hydrous silicates mineralizing organic remains in Silurian and other limestones, as terms of comparison. The whole was then communicated to the Geological Society of London, and appeared in the somewhat elaborate joint paper published in 1865.[1]

1 A preliminary accoount entitled "On the occurrence of Organic Remains in the Laurentian Rocks of Canada." had, however, been communicated to the British Association at Bath, Sept. 15-21, 1864, and was subsequently published in the Geological Magazine, Vol. I, for November, 1864, pp. 225-227.

I confess that in the intervening time I have seen no good reason to induce me to doubt the essential validity of the work embodied in this paper of 1865, or to modify to any considerable extent the conclusions therein stated. On the other hand, many new and confirmatory facts have been disclosed, and after careful and, I trust, candid study of the objections raised, down to those which have recently appeared in the Dublin Transactions, I believe that they largely depend on the want of knowledge of the character of the Grenville formation, and on misapprehension as to the form and structure of Eozoön and its mode of occurrence.

It is true that in those members of the Laurentian system of Logan which are below and above the Grenville Series, later observations have not only failed to detect fossils, but have shown valid reasons adverse to the probability of their occurrence, at least in the portions of those formations hitherto open to our study.[1]

The lowest Laurentian gneiss of Logan (Trembling Mountain gneiss, Ottawa gneiss, fundamental gneiss), which occupies a vast area in Northern Canada,[2] and is the only part of the system known to many geologists, consists, so far as known, wholly of foliated or massive orthoclase gneiss, with bands of hornblendic schist (amphibolite), and of hornblendo-micaceous schist. While in some places it appears to have a truly bedded structure, especially where different varieties of gneiss, amphibolite, and biotitic schist alternate, in others its foliation is obscure, or seems to have been induced by heat and pressure. Dr. F. D. Adams, who has given much study both to its character on the large scale, and to the microscopic structure of the rocks, in his latest publication on the subject[3] characterizes it as

[1] See *Geological Magazine*, June, 1895.

[2] According to the geological map of Northern Canada prepared by Dr. G. M. Dawson for the Geological Survey, the area of Laurentian rocks exceeds two millions of square miles. Of this, so far as is known the older or fundamental gneiss occupies by far the larger portion.

[3] Journal of Geology, Vol. i, No. 4, 1893.

a complicated series of rocks of unknown origin, but comprising a considerable amount of intrusive material. He regards it as either the remains of a primitive crust penetrated by much igneous matter, or as a series of altered rocks older than the Grenville Series, and formed under different conditions. In any case it seems to want the evidences of ordinary aqueous deposition presented by the limestones, ironstones, quartzite, and schists of the Grenville Series. Similar views were advocated in my address on the "Geological History of the Atlantic," before the British Association, in 1886.[1]

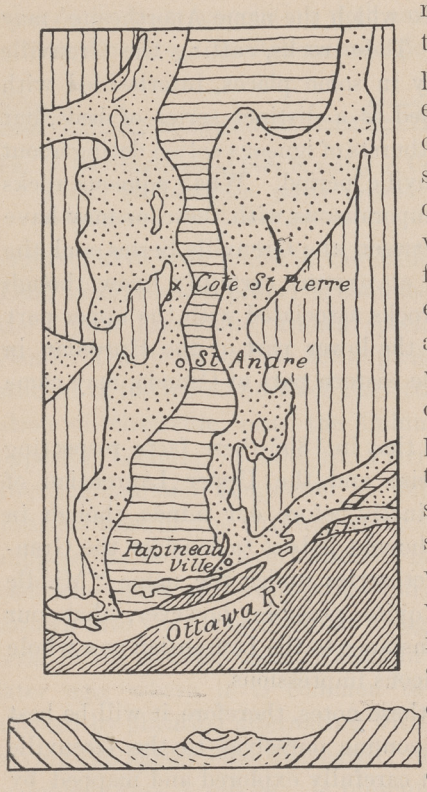


FIG. 1.—Distribution of Grenville Limestone in the district north of Papineauville, with section showing arrangement of the beds. Scale of map 7 miles to an inch. (See also Dr. Bonney's paper, *Geological Magazine*, July, 1895, p. 295.)

Dotted area: Limestone.

Horizontal lines: Upper gneiss (fourth gneiss of Logan.)

Vertical lines: Lower gneiss (third gneiss of Logan.)

Diagonal lines: Overlying Cambrian and Cambro-Silurian (Ordovician.)

The Upper Laurentian of Logan (Labradorite, Anorthosite, or Norian Series), supposed by him to overlie the

[1] See also Museum Memoir on Eozoon, pp. 2, 3. Montreal, 1888.

Grenville Series uncomformably, is now stated by Adams to consist of eruptive matter, mainly composed of triclinic or lime felspars, and to which the name Anorthosite[1] may properly be applied. These rocks, cutting the Grenville Series, and apparently in some places, interbedded with it, are not now regarded as a distinct series of beds, but as indicating local outbursts of igneous action dating about the close of the Grenville period. What aqueous rocks may have been contemporaneous with these, or may have filled the interval between the Grenville Series and the Huronian, we do not at present certainly know, though possibly some of the rocks associated with the upper part of the Laurentian, or the lower part of the Huronian in the interior, and in the eastern part of Canada, may come into this place.[2]

It is to be observed that in 1865 these facts respecting the fundamental gneiss and the Upper Laurentian of Logan, were not distinctly before our minds, though in subsequent papers I thought it best to consider the Grenville group as a distinct series under the name "Middle Laurentian." It is quite possible, however, that our referring in the first instance to the Laurentian as a whole may have led to erroneous impressions.

For the purpose of these notes, therefore, it will be best and most accurate to confine ourselves to the Grenville Series, which has been carefully explored and mapped by the officers of the Geological Survey in the country lying north of the Ottawa River, and also in some parts of the areas between that river and the St. Lawrence. In these regions Logan recognized a thickness of 17,250 feet of deposits, of which no less than 4,750 feet consisted of limestone, principally in three great bands, though with intercalated gneissose layers. The Grenville Series may

1 Proposed by Hunt.

2 Some of these beds are regarded by Von Hise (Jour. of Geology, Vol. i.) as a lower member of the Huronian. They may be identical in part with the "Kewatin" group of Lawson.

thus be regarded as one of the great calcareous systems, comparable with those of the Palæozoic period, which it also rivals in its association with carbonaceous and ferruginous, deposits. Though minute globular forms, probably

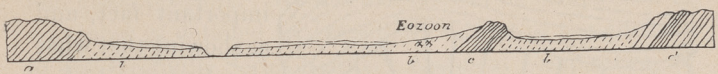


FIG. 2.—Arrangement of beds in valley of Calumet River—(*a*) Upper gneiss; (*b*) Limestone partly covered with soil; (*c*) Included bed of gneiss; (*d*) Lower gneiss.

organic, have been found in the Middle Limestone, that of Long Lake, Eozoön proper is confined, so far as known, to the Upper Limestone, known specially as the Grenville Band. This band and its accompaniments I have myself studied in the region north of the Ottawa, at the Augmentation of Grenville, near the Calumet, in the quarries opposite Lachute, at Côte St. Pierre, at Montebello, at Buckingham, and Templeton, as well as in some of the districts west of the Ottawa, where the same limestone is supposed to recur. Everywhere it is a large and regular bed, sometimes with even strike and dip, but at intervals thrown into violent contortions along with the enclosing beds, in the manner usually seen in disturbed strata of later age, where it is common to find portions little affected by plication alternating with strongly folded beds having the harder ones dislocated; others are merely bent or folded (Figs. 4 and 5). It presents subordinate beds of different qualities, dolomitic, serpentinous, or graphitic, and is immediately associated with thin-bedded, fine-grained gneisses, quartzite, and biotitic and hornblendic schists. In some beds it has disseminated crystals of minerals usually found in metamorphic limestones, while in others there are concretionary masses, nodules and grains of serpentine and pyroxene. Eozoön in masses occurs only in certain layers, most frequently in those which are serpentinous, but a careful examination detects in many layers, not showing perfect examples of Eozoön, small

fragments or patches having its characteristic structures, or detached chamberlets or groups of these. The occurrence of these fragments I regard as an important fact, and as showing that what may be termed "Eozoön sand" enters largely into the composition of the limestone.

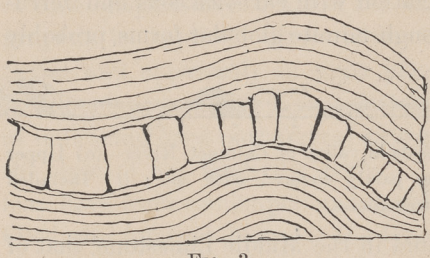


FIG. 3.

In illustration of this part of my subject, I present a rough map of the district near the Petite Nation River, in rear of Papineauville, referred to by Dr. Bonney in his valuable paper in the July No. of the Geol. Magazine, and in addition to the section given in his paper, one showing the order of succession in the valley of the Calumet, a little stream some distance to the eastward. I

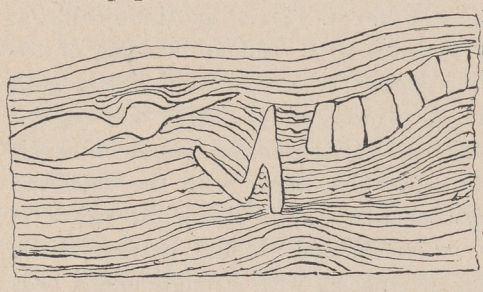


FIG. 4.

FIGS. 3 and 4.—Bent and dislocated Quartzite, in contorted schists interstratified with Grenville Limestone, near Montebello. The quartzites have been broken and displaced, while the schists have been bent and twisted. In the immediate vicinity the same beds may be seen slightly inclined and undisturbed.

also give examples of the manner in which the associated gneiss, though often very regular, is along certain lines contorted, and the manner in which, in these contorted spots, the quartzite bands are cracked and broken, exactly as may be observed in the shales and sandstones of the Quebec group on the Lower St. Lawrence.

I may add here that Dr. F. D. Adams has found that in certain localities the rocks of the Grenville Series become almost horizontal, though even in this case they show evidence of having been subjected to much alteration and great pressure. He has also shown, by comparison of a number of detailed analyses, that several of the gneisses of the Grenville Series have the chemical composition of Palæozoic slates, snd thus that there can be no chemical objection to regarding them as altered sediments. This I consider a very important observation; and I may refer for details to his paper in the *American Journal of Science*, 1895, p. 58.

The summary of facts above given should, I think, be sufficient to show that in the case of the Grenville limestone we have phenomena which cannot be explained by mere pressure acting on massive rocks, or by segregation of calcite from igneous rocks, or by vein structures, or by any contact structures arising at the junction of igneous and aqueous deposits. We have, on the contrary, to deal with a formation which indicates that in the early period to which it belongs regular sedimentation was already in full operation. The more precise vital and chemical agencies which prevailed in the ocean of the Laurentian period we must notice later.

I have merely to add here that the characters assigned above to the Grenville Series have not only been fully corroborated by the recent work of Adams and Ells in Canada,[1] but also by the surveys of Kemp and Smyth in the more disturbed and elevated district of the Adirondack Mountains in New York.[2]

We have thus paved the way for the consideration of evidence of a structural and chemical character.

To be Continued.

1 *American Journal of Geology*, 1893, No. 4. Also Reports Geol. Surv. of Canada.
2 Bulletin Geol. Soc. of America, March, 1895.

Athenæum Club.

67 Aylmer Street,
31st March, 1877.

Dear Sir,

I have been directed to forward you a list of the members who at present compose the Athenæum Club, and to draw your attention to the subjoined resolutions.

I remain, dear sir,
Yours truly,
GEORGE MURRAY,
Secretary.

"The Athenæum Club shall consist of not more than twenty-five persons, resident in Montreal, each of whom shall be required within six months after entering to read a Paper before the Club."

"Any member of the Club not being absent from the city, and absenting himself for four consecutive meetings, without sending a written excuse to the Secretary, shall be considered as having resigned his membership."

"A list of members, in the order of their election, shall be printed, and forwarded to each member of the Club; and the Chairman and the Essayist for each meeting shall be taken in rotation from such list."

LIST OF MEMBERS.

	PAPERS READ
Rev. J. F. Stevenson, LL.B.	November 7, 1876.
Rev. J. Clark Murray, LL.D.	December 19, 1876.
Rev. Arch. Duff, M.A.	February 6, 1877. February 20, 1877.
Samuel E. Dawson,	December 5, 1876. April 3, 1877.
J. Redpath Dougall, M.A.	November 21, 1876.
Bernard J. Harrington, B.A., Ph. D.	
Geo. Murray, B.A.	January 23, 1877.
Rev. R. W. Norman, M.A.,	
Rev. Robt. Laing, B.A.	March 6, 1877.
Rev. A. Sommer, M.D.	January 9, 1877.
Rev. J. Roy, M.A.	
W. Osler, M.D.	
Rev. J. B. Green.	March 20, 1877.
Alex. Johnson, LL.D.	
Geo. M. Dawson, Assoc. R.S.M., F.G.S.	
J. J. Maclaren, M.A., LL.B.	
Geo. Iles.	
W. H. Kerr, Q.C.	
R. A. Ramsay, M.A., LL.B.	
Hugh McLennan.	
A. T. Drummond, M.A., B.C.L.	
Peter Redpath.	
J. McGregor, M.A.	
Hon. John S. Sanborn, LL.D.	

Papers are due from the other members at intervals of a fortnight in the order in which they appear blank on this paper.

Acc. 1015

SHEFFIELD

SCIENTIFIC SCHOOL

OF

YALE COLLEGE,

JULY 18th, 1870.

Exercises of the Graduating Class,

AT 9 A. M. AND 8 P. M.

CLASS COMMITTEE:

FREDERIC H. CHURCHILL,
THOMAS E. CALVERT,
FRANCIS A. LOWE,
DANIEL S. BRINSMADE,
ALFRED R. CONKLING,
CHARLES S. HASTINGS.

DOCTOR OF PHILOSOPHY.

NELSON POWELL HULST, A. B., Ph. B., *New Haven.* A Chemical Examination of the "Malleable Iron process."

CIVIL ENGINEERS.

AUGUSTUS JAY DUBOIS, Ph. B.. *New Haven.* Design of a Parabolic Truss Railway Bridge.

ALBERT BANKS HILL, Ph. B., *Redding.* Design of a Steel Railway Bridge.

BACHELORS OF PHILOSOPHY.

JAMES WHITIN ABBOTT, A. B., (Engineering), *Yarmouth, Me.* "On a Two-feet guage Railway in Wales."

HENRY MOORE BAILEY, (Select), *Rutland, Vt.* "On the Marble Quarries of the Neighborhood of Rutland."

CHARLES THRUSTON BALLARD, (Select), *Louisville, Ky.* "On Sheep raising in the United States."

THOMAS GRAY BENNETT, (Engineering), *New Haven.* "On the Works of the Fair Haven Water Company."

TOWNSEND STITH BRANDEGEE, (Engineering), *Berlin.* "On the Hoosac Tunnel."

DANIEL SEYMOUR BRINSMADE, (Engineering), *Trumbull.* "On the Water Power at Birmingham, Conn."

CHARLES PETER BROOKS, (Engineering), *Blooming Grove, N. Y.* "On the Elevated Railroad in New York."

THOMAS ELWOOD CALVERT, (Engineering), *Newtown, Penn.* "On the Pneumatic Underground Railway in New York."

FREDERIC HOSEA CHURCHILL, (Select), *New Britain.* "On Technical Education in its relations to American Manufactures."

DORR CLARKE, (Engineering), *Batavia, N. Y.* "On Leffel's Double Turbine."

ALFRED RONALD CONKLING, (Mining), *New York City.* "On the new Barytes Mines in Cheshire, Conn."

JUSTUS HERBERT GRANT, (Engineering), *Auburn, N. Y.* "On Permanent Way."

CHARLES SHELDON HASTINGS, (Engineering), *Hartford.* "On the Properties of Réseaux."

WILLIAM ALFRED HINDS, (Select), *Wallingford.* "On the Recurrence of Civilizing Forces."

EDWARD VAN BUREN HOES, (Select), *Ottawa, Ill.* "On Trade Unions."

WILLIAM RUFUS HOPSON, (Select), *Bridgeport.* "On the Vegetable Kingdom in its relations to Man."

HENRY CORREL HUMPHREY, (Chemistry), *Stamford.* "On Cumarin and Cumaric Acid."

FRANCIS ASBURY LOWE, (Engineering), *Washington, D. C.* "On the Geared-screw type of Marine Engine."

WILLIAM DENNIS MARKS, (Engineering), *St. Louis, Mo.* "On the Best Form of a Ship for Speed," with an original example.

ARTHUR WOODS RICE, (Engineering), *West Meriden.* "On a Preliminary Survey of a Branch Railway."

GEORGE DOUGLASS ROSEBERRY, (Chemistry), *Pottsville, Pa.* "On Anthracite Coal and Coal Mining."

ALFRED STANTON, (Engineering), *Sligo, Md.* "On the Desirability of Irrigation in this Country."

CLARENCE AUGUSTUS WARREN, (Engineering), *Louisville, Ky.* "On Railway Rails."

JOHN GEORGE WATSON, (Engineering), *Ayr, Canada.* "On an improved Mowing and Reaping Machine."

PRIZES.

1. *For excellence in the Engineering Studies of Senior Year.*

   A prize of $20.00, divided between JUSTUS H. GRANT, of *Auburn, N. Y.*, and ARTHUR W. RICE of *West Meriden;* with honorable mention of CHARLES S. HASTINGS of *Hartford.*

2. *For excellence in Chemistry.*

   A prize of $20.00, to HENRY C. HUMPHREY of *Stamford.*

3. *For excellence in Mineralogy.*

   A prize of $20.00, to BERNARD J. HARRINGTON.

4. *For the best English Essay.*

   A prize of $20.00, to WILLIAM H. HINDS of *Wallingford*, for "an Essay on the Physical Structure of England in relation to her History."

5. *For excellence in French.*

   A prize of $10.00, to JOHN G. WATSON of *Ayr, Canada.*

6. *For excellence in German.*

   A prize of $10.00, to TOWNSEND STITH BRANDEGEE, *Berlin.*

7. *For excellence in Mathematics of the Junior Year.*

   A prize of $20.00, to CHARLES W. GRISWOLD, *New Britain.*

8. *For excellence in the Freshman Studies.*

   A prize of $20.00, to DANIEL W. HERRING, *Johnsville, Md.*; with honorable mention of J. J. ABBOT, *Yarmouth, Me.*, Second in Rank.

PUBLIC READING

OF A

SELECTION FROM THE THESES,

Monday Evening, at 8 o'clock.

1. Prayer by the PRESIDENT.
2. JOHN GEORGE WATSON, (Engineering), *Ayr, Canada.* "On an improved Mowing and Reaping Machine.
3. JAMES WHITIN ABBOTT, A. B., (Engineering,) *Yarmouth. Me.* "On a Two-feet guage Railway in Wales."
4. FREDERIC HOSEA CHURCHILL, (Select), *New Britain.* "On Technical Education in its relations to American Manufactures."
5. WILLIAM DENNIS MARKS, (Engineering), *St. Louis, Mo.* "On the best form of a Ship for speed," with an original example.
6. CHARLES PETER BROOKS, (Engineering), *Blooming Grove, N. Y.* "On the Elevated Railroad in New York."
7. ARTHUR WOODS RICE, (Engineering), *West Meriden.* "On a preliminary survey of a branch Railway."
8. CHARLES SHELTON HASTINGS, (Engineering), *Hartford.* "On the Properties of Reseaux."
9. WILLIAM ALFRED HINDS, (Select), *Wallingford.* "On the Recurrence of Civilizing Forces."
10. JUSTUS HERBERT GRANT, (Engineering), *Auburn, N. Y.* "On Permanent Way."
11. DANIEL SEYMOUR BRINSMADE, (Engineering), *Trumbull.* "On the Water Power at Birmingham, Conn."

☞ It should be borne in mind that these Theses are not prepared for a public audience, but are presented in the final examination by the candidates for degrees, as evidence of their ability to investigate selected themes. This may explain the technical aspect of the programme.

☞ The reading of Extracts from the above Theses will close at ten o'clock, at which time some refreshments will be served in the lower hall of the north-east wing.

SHEFFIELD

SCIENTIFIC SCHOOL

OF

YALE COLLEGE.

MONDAY, JULY 10th, 1871.

Public Reading of the Theses.

AT 9 A. M. AND 8 P. M.

CLASS COMMITTEE.

HORACE ANDREWS, HENRY BRADFORD SARGENT,
CHARLES W. GRISWOLD. PHILIP OWEN HAWKINS,
HARRY DEGEN ZEIGLER.

TUTTLE, MOREHOUSE & TAYLOR, PRINTERS, NEW HAVEN.

CANDIDATES FOR DEGREES,

WITH THE

Subjects of their Graduation Theses.

DOCTORS OF PHILOSOPHY. (2)

BERNARD JAMES HARRINGTON, B.A. (McGill Univ.), *Montreal, Canada.* On the Siemens-Martin Steel Process.

This thesis occupies about sixty manuscript pages, with working drawings of furnaces, and a detailed account of the process, from a study of its practice at Trenton, N. J. It also contains a chemical investigation of the materials used, and the changes which take place in their conversion to steel, with quantitative analysis of different grades of Martin steel.

HENRY SHALER WILLIAMS, Ph.B. *New Haven.* On the Muscular System of Turtles.

This thesis contains ninety-five manuscript pages with numerous drawings. The greater part of it is devoted to a careful and original description of a fresh-water Turtle (*Trionyx*), of which the anatomy has not been previously described.

CIVIL ENGINEER. (1)

WILLIAM DENNIS MARKS, Ph.B. *St. Louis, Mo.* Design of a Bowstring Girder Bridge.

BACHELORS OF PHILOSOPHY. (23)

HORACE ANDREWS (Engineering), *Tarrytown, N. Y.* On the most Advantageous Employment of Wind as a Motive Power.

EDWIN FAXON BACON (Select), *Norwalk.* On the Rise of the Mark Brandenburg.

LUTHER WHITE BURT (Engineering), *Hartford.* On the Hartford Double Tunnel.

GEORGE BENJAMIN CHITTENDEN (Engineering), *East River.* On Safety Railway Brakes.

RUSSELL WHEELER DAVENPORT, (Chemistry), *New York City.* On the Hot Blast Applied to Iron in Smelting.

WILLIAM CECIL DURAND (Select), *Milford.* On the Historical Changes of Alsace and Lorraine.

CHARLES HASCALL DWINELLE (Agriculture), *Oakland, Cal.* On Forage Crops for Dry Climates.

CHARLES ADDISON FERRY (Engineering), *New Haven.* On the Comparative Value of Iron and Steel for Bridges.

CHARLES HENRY GREEN (Engineering), *Cincinnati, O.* On the Generation and Utilization of Steam.

CHARLES WOODFORD GRISWOLD (Engineering), *New Britain.* On the Modern Methods of Laying Foundations in Water.

GEORGE MACCULLOCH KEASBEY (Select), *Newark, N. J.* On the Fire Clay Deposit of New Jersey.

JOSEPH FREDERICK KLEIN (Engineering), *New Haven.* On Turbine Water-Wheels.

GEORGE GRANVILLE LOBDELL (Chemistry), *Wilmington, Del.* On the Siemens-Martin Steel Process.

THOMAS WILLIAM MATHER (Engineering), *New Haven.* On the Teeth of Wheels.

MANSFIELD MERRIMAN (Engineering), *Plantsville.* Preliminary Design of a Bowstring Wrought Iron Roof.

ALFRED LOUIS MOORE (Engineering), *Fond du Lac, Wis.* On an Iron Pier of the Crumlin Viaduct.

DANIEL HOBART PIERPONT (Engineering), *North Haven.* On a newly invented Pump for Raising Water from Deep Mines.

FERDINAND EUGENE POWELL (Engineering), *North Haven.* On Centrifugal Pumps.

JOHN FRANKLIN QUIGLEY (Engineering), *Wilmington, Del.* On the Potomac Aqueduct.

FREDERICK LOCKWOOD SANFORD (Engineering), *New Haven.* On the Bucket Wheel as a Hydraulic Motor.

HENRY BRADFORD SARGENT (Chemistry), *New Haven.* On the Working of Zinc Ores at Bethlehem, Penn.

EDWARD CLINTON TERRY (Engineering), *Terryville.* Some Calculations for a Wrought Iron Crane.

HARRY DEGEN ZIEGLER (Chemistry), *Philadelphia, Pa.* Examination of a Copper Clay from Jones' Mine, Berks Co., Penn.

PRIZES.

CLASS OF 1871.

For excellence in French, a prize of $10 awarded to CHARLES H. DWINELLE, *Oakland, Cal.*

For excellence in Botany, a prize of $15 awarded to MANSFIELD MERRIMAN, *Plantsville*, with honorable mention of C. H. DWINELLE, second in rank.

For excellence in Zoology, a prize of $15 awarded to GEORGE G. LOBDELL, *Wilmington, Del.*

For excellence in Chemistry, a prize of $15 awarded to GEORGE G. LOBDELL, *Wilmington, Del.*

For excellence in Civil Engineering, a prize of $15 awarded to D. H. PIERPONT, *North Haven.*

For excellence in Mineralogy, a prize of $15 divided between R. W. DAVENPORT, *New York City*, Class of 1871, T. M. PRUDDEN, *New Haven*, Class of 1872, equal in rank.

CLASS OF 1872.

For excellence in Mathematics, a prize of $15 awarded to DANIEL W. HERING, *Johnsville, Md.*, with honorable mention of FRANK O. MAXSON, *Norwich*, second in rank.

For excellence in English, a prize of $15 awarded to GEORGE N. MILLER, *Wallingford.*

CLASS OF 1873.

For excellence in the studies of Freshman Year, a prize of $15 awarded to WILLIAM L. SCAIFE, *Pittsburg, Pa.*, with honorable mention of WILLIAM H. JENKS, *Brookville, Pa.*, second in rank.

SELECTIONS FROM THE THESES,

TO BE READ

Monday Evening, at 8 o'clock.

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1. Prayer by the PRESIDENT.
2. GEORGE BENJAMIN CHITTENDEN (Engineering), *East River*. On Safety Railway Brakes.
3. RUSSELL WHEELER DAVENPORT (Chemistry), *New York City*. On the Hot Blast Applied to Iron in Smelting.
4. HORACE ANDREWS (Engineering), *Tarrytown, N. Y.* On the most Advantageous Employment of Wind as a Motive Power.
5. MANSFIELD MERRIMAN (Engineering), *Plantsville*. Preliminary Design of a Bowstring Wrought Iron Roof.
6. Theses for the Doctor's degree, HENRY SHALER WILLIAMS, Ph.B. (Natural History) *New Haven*. On the Muscular System of Turtles.
7. DANIEL HOBART PIERPONT (Engineering), *North Haven*. On a Newly Invented Pump for Raising Water from Deep Mines.
8. CHARLES WOODFORD GRISWOLD (Engineering), *New Britain*. On the Modern Methods of Laying Foundations in Water.
9. GEORGE GRANVILLE LOBDELL (Chemistry), *Wilmington, Del.* On the Siemens-Martin Steel Process.
10. JOSEPH FREDERICK KLEIN (Engineering), *New Haven*. On Turbine Water-Wheels.

Acc. 1377

Athenæum Club Calendar

FOR

1882-83.

List of Members and Papers Read by them, with Dates at which Papers are due.

REV. J. F. STEVENSON, D. D., LL.B.—Nov. 7, 1876, "Where is the Difficulty of assuming the Personality of a First Cause?"—April 23, 1878, "Some Aspects of Spiritualism as connected with Psychology."—October 21, 1879, "The Persistence of certain Fundamental Ideas."—April 19, 1881, "Goldwin Smith's Essays and Lectures."—March, 21, 1882, "Agnostic Philosophy and Modern Poetry."

REV. J. CLARK MURRAY, LL.D., Glasgow, F.R.S.C.—Dec. 5, 1876, "Kant; His Place in Philosophy."—March 12, 1878, "An Ancient Pessimist."—Nov. 4, 1879, "The Sense of Touch."—January 25, 1881, "Solomon Maimon."—April 4, 1882, "Bishop Berkeley."

SAMUEL E. DAWSON.—Dec. 19, 1876, "The Effect on Christendom of the Prevailing Doctrine of Future Punishment."—April 3, 1877, "The Nineteenth Century; an Estimate of the Results of Modern Progress."—Nov. 20, 1877, "Scientism: A reply to Professor Clifford's 'Ethics of Religion.'"—Dec. 3, 1878, "Spiritualism, Ancient and Modern."—Nov. 18, 1879, "The Quebec Act."—February 8, 1881, "Tennyson's 'Princess.'"—June 13, 1882, "A recent visit to Europe."

J. REDPATH DOUGALL, M. A.—Nov. 21, 1876, "On the Processes by which the Human Race has been Educated."—May 7, 1878, "Jack the Giant-Killer, a Study in Comparative Mythology."—Dec. 2, 1879, "Montreal English."—Feb. 22, 1881, "Goethe."—May 16, 1882, "Emerson."

BERNARD J. HARRINGTON, B.A., Ph. D., F.R.S.C.—May 8, 1877, "The Use of the Microscope in Geology."—Oct. 8, 1878, "Our Mineral Resources."—Dec. 16, 1879, "Life and Death Underground."—March 8, 1881, "Notes on Gems and Precious Stones."—Nov. 14, 1882.

GEO. MURRAY, B.A., Oxon., F.R.S.C.—Jan. 23, 1877, "Curiosities of English Etymology."—May 22, 1877, "Public Speaking."—Oct. 22, 1878, "The Value of a Classical Education."—April 8, 1879, "Bacon *versus* Shakespeare, a Review of the Question."—Jan. 6, 1880, "Dean Stanley and Socrates."—March 22, 1881, "A Modern Troubadour—Jacques Jasmin."—May 30, 1882, "Poetry compared with some of the other Fine Arts."

REV. J. ROY, M. A.—April 17, 1877, "The French Language in Canada."—Sept. 24, 1878, "Law in Language."—Feb. 3, 1880, "The Ontario School System."—Jan. 11, 1881, "Moses and the Red Sea."—Nov. 28, 1882.

J. J. MACLAREN, M.A., LL.B.—Nov. 6, 1877, "The Grand Jury System."—March 11, 1879, "The History of Property."—March 30, 1880, "Church and State in Quebec."—May 31, 1881, "Party Government."—Dec. 12, 1882.

GEO. ILES.—June 19, 1877, "The Law of Continuity."—June 4, 1878, "The Law of Heredity."—March 25, 1879, "Commercial Morality."—April 13, 1880, "Co-operation."—June 14, 1881, "Property."—Jan. 9, 1883.

R. A. RAMSAY, M.A., B.C.L.—December 18, 1877, "Russian Serfage, its Rise and its Extinction."—May 20, 1879, "Wycliffe."—April 27, 1880, "The Troubadours."—Sept. 6, 1881, "Canada, 1760-64—Le Règne Militaire."—Jan. 23, 1883.

HUGH McLENNAN.—July 17, 1877, and Sept. 25, 1877, "The Labor Question."—May 11, 1880, "International Tariffs."—Nov 1, 1881, "Work and Wages."—Feby. 6, 1883.

A. T. DRUMMOND, B.A., LL.B—July 31, 1877, and Sept. 11, 1877, "The Political Unity of the Confederation of Canada."—November 19, 1878, "Canadian Timber Trees—their Distribution and Preservation."—May 25, 1880, "Imperial Confederation."—Oct. 4, 1880, "The Canadian North-West Territory: its River and Railway Communications."—Feby. 20, 1883.

J. McGREGOR, LL. D.—Dec. 4, 1887, "Bees."—Jan. 14, 1879, "A Tramp."—June 8, 1880, "Christian Art."—Oct. 18, 1881, '1 and 2, and 2 times 2."—March 6, 1883.

R. W. BOODLE, B. A., Oxon.—Oct. 9, 1877, "Mystic Memory."—May 21, 1878, "Lord Macaulay, a Mental Study."—Dec. 17, 1878, "The Puritan Revolution."—March 16, 1880, "Oxford and Mr. Mallock."—Dec. 21, 1880, "Tennyson's 'Idylls of the King.'"—Sept. 20, 1881, "The Life of Nations."—April 18, 1882, "Lord Chesterfield."—Sept. 19, 1882, "Prof. Seeley's Natural Religion."—March 20, 1883.

F. H. REYNOLDS.—April 9, 1878, "A Plea for Heraldry."—Feb. 11, 1879, "Modern Æsthetics."—Oct. 12, 1880, "Novels and Novel Writers."—Nov. 15, 1881, "Patents."—April 3, 1883.

T. STERRY HUNT, LL.D., Cantab., F.R.S., F.R.S.C.—May 6, 1879, "The Relations of Chemistry to Medical Science."—Dec. 7, 1880, "The Physical and Chemical Relations of the Universe."—May 3. 1871, "The Scope of Physiology."—March 7, 1882, "The Physical Geography of North America."—April 17, 1883.

C. E. MOYSE, B.A.—June, 1879, "Euphuism."—Oct. 26, 1880, "Tennyson's 'In Memoriam.'"—Dec. 13, 1881, "Dante's 'Inferno.'"—Feb. 21, 1882, "Byron."—May 1, 1883,

J. BEMROSE.—Oct. 7, 1879, "Radiant Matter."—Nov. 9, 1880, "Electric Lighting."—Jan. 10, 1882, "The Drugs that Enslave."—May 15, 1883.

JOHN McLENNAN, B. A.—Sept. 28, 1880, "The Value of a University Training."—Jan. 24, 1882, "The Political Future of Canada."—May 29, 1883.

REV. W. N. CLARKE, D.D.—Nov. 29, 1881, "Christianity and the Nineteenth Century."—June 12, 1883.

RICHD. MACDONNELL, B.A., M.D., M.R.C.S.E.—Feb. 7, 1882, "The Medical Accuracy of Dickens."—June 26, 1883.

GEO. A. DRUMMOND.—Oct. 31, 1882.

THOMAS McDOUGALL.—Oct. 3, 1882.

FRANCIS J. SHEPHERD, M.D.—Oct. 17. 1882.

CORRESPONDING MEMBERS.

REV. A. SOMMER, M.D.—Jan 9, 1877, "The Spectroscope."—July 3, 1877, "The Moon."—March 26, 1878, "What is the Highest Good of Man ?"—Feb. 25, 1879, "The Disharmony between Nature and Spirit."—Jan. 20, 1880, "What is Reason ?"—April 5, 1881, "The End of the World."

REV. A. DUFF, LL.D.—Feb. 6, 1877, "Method in Theological Use of the Bible."—Feb. 20, 1877, "Christian Perfection."—Jan. 29, 1878, "Some Semitic Results."—Feb. 26, 1878, "Theological Student-Life in Germany."

REV. ROBERT LAING, M.A.– March 6, 1877, "Socrates."

REV. J. B. GREEN.—March 20, 1877, "A Review of Mr. Gladstone's Courses of Religious Thought."—Nov. 5 1878, "Spiritualism."

GEO. M. DAWSON, F.G.S.—Jan. 15, 1878, "A Sketch of the Past and Present of the Indians of the Dominion."—Jan. 28, 1879, "The Indians of Queen Charlotte Islands."

PETER REDPATH.

ACC-1070

University Musical Association,

McGILL COLLEGE,

1879-1880.

Analytical and Historical Programme.

FIRST SYMPHONY CONCERT

BY THE

Société des Symphonistes de Montréal,

M. GUILLAUME COUTURE,

Conductor,

AND

MRS. REIPLINGER,

Contralto.

THURSDAY EVENING,

MARCH 4th, 1880.

PROGRAMME.

1. Overture to "Il Don Giovanni" ..... MOZART.

Andante—Allegro molto.

2. Recitative & Aria "Che faro senza Euridice" from "Orpheus" ..... GLUCK.

MRS. REIPLINGER.

3. Violin Concerto, D. Major ..... BEETHOVEN.

Allegro ma non troppo.

M. DESEVE.

4. Menuetto and Trio from G. Minor Symphony ..... MOZART.

5. Symphony, No. 1, in C. Major ..... BEETHOVEN.

Adagio molto—Allegro con brio,

Andante cantabile con moto.

Scherzo—Adagio—Allegro molto e vivace.

6. Aria, "O rest in the Lord" from "Elijah" ..... MENDELSSOHN.

MRS. REIPLINGER.

7. Réverie in E flat ..... VIEUXTEMPS.

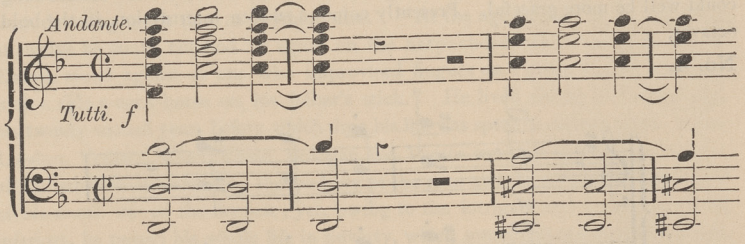
1. OVERTURE to Il Don Giovanni ... ... *Mozart.*

Andante—Allegro molto.

THE opera of "Il Don Giovanni," one of the greatest musical dramas that the world has ever enjoyed, was written in less than two months in the autumn of 1787, during a visit to Prague. It was composed expressly for Prague audiences, and was first produced in the Bohemian Capital. The opera was completed before the end of October; and the evening of the 29th of October was chosen for the first performance. On the previous evening, Mozart, who had not yet touched the overture, was present at a brilliant gathering at the house of Dussek, the well-known pianist, and had apparently forgotten the opera and everything connected with it, when some of his friends, growing uneasy, reminded him that the overture must be composed and the parts copied before the next evening. Mozart appeared to be engaged in deep thought, and at midnight withdrew, accompanied by his wife, whom he requested to sit up with him to keep him awake. He was so overpowered by sleep, however, that his wife persuaded him to lie down and take some rest, promising to call him in a couple of hours. He slept so soundly that she did not wake him till five o'clock. The copyists had been told to come at seven. When they appeared the overture was ready! The story goes that although Mozart had composed and written down this marvellous composition in two hours, the copyists were busied with it all day, and finally had not finished at the hour fixed for the commencement of the performance, which they delayed more than twenty minutes.

The Overture is supposed to begin at the moment when the statue of the Commandant (whom Don Giovanni has murdered) appears at a revel which Don Giovanni is holding with his mistresses. At midnight comes a stern knocking, indicated by the two opening chords :

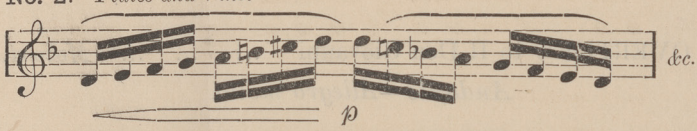
No. 1.



After the first startled pause, there ensue dread whisperings and anxious questions. Then after a short series of knocks, which are followed by shrieks of terror, the statue appears, and upon this we have, it may safely be said, one of the most

thoroughly dramatic and wonderful bits of tone-painting to be found, in the whole range of music. We refer to the following passage:

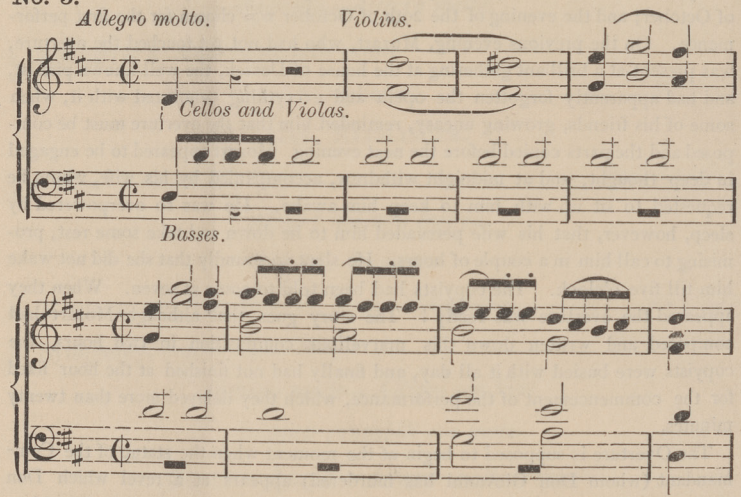
No. 2. *Flutes and Vlns.*



As an expression of horror and dread, it is impossible to conceive anything finer.

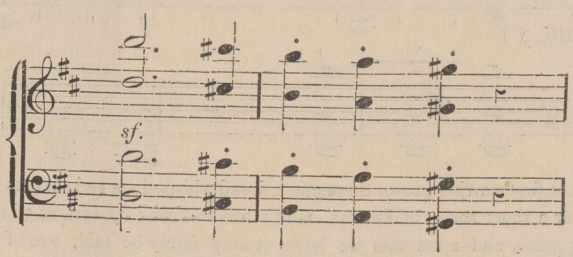
Suddenly the scene changes, and we are told of hope and love by the following charming theme for the violins:

No. 3.



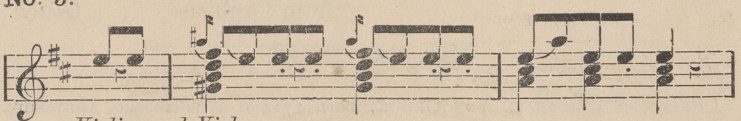
which is broken in upon by a few sharp chords from the wind instruments, only to be repeated in a still more engaging form; the flutes and bassoons playing a snatch of a second melody as a counterpoint to that given to the violins. Nothing could well be more graceful. Presently comes a sudden interruption, in the bold octaves,

No. 4.



which are immediately followed by and contrasted with

No. 5.



Violins and Violas.

and we now quickly reach the usual cadence.

Then we have the elaboration, which ultimately leads us, by means of a very beautiful modulation formed of a masterly combination of Nos. 4 and 5, to the key of G. But this key is hardly established before we pass by another equally beautiful modulation into B flat. The surprises throughout the whole of this part of the overture are constant, and as delightful as it is possible to imagine, and after the composer has lavished them upon us in the utmost profusion we suddenly come upon the Dominant (A) of the original key, and by means of a tolerably long pedal upon that note the leading theme is returned to, to be treated much as it was before, if we except the usual changes of key.

JOHANN CHRYSOSTOM WOLFGANG AMADEUS MOZART was one of the most transcendent musical geniuses that the world has ever seen. He was equally eminent in all styles of composition, from the simple song to the grand opera, and from a theme with variations for the harpsichord, to the symphony for full orchestra; while in almost every style he introduced new effects and improvements in form which placed his works in most respects far above anything that had preceded them, and which have made them the admiration of all lovers of the beautiful and the original in art. That his fertility was amazing is attested by the fact of his having left more than eight hundred works, though many of these were written in extreme youth, and were probably held by Mozart himself unworthy of notice. His important compositions are full of originality, grace, and dignity, and he discovered many new and beautiful combinations in the orchestra.

Born at Salzburg, on the 27th of January, 1756, he displayed, from the first, unwonted powers of intellect, and readily mastered whatever studies were prescribed for him, showing an unmistakable talent for mathematics and languages as well as for music. His love for the latter soon grew so absorbing as to preclude him from devoting much time to anything else. "At the age of four he wrote tunes, at twelve he could not find his equal on the harpsichord, while the professors of Europe stood aghast at one who improvised fugues on a given theme, and then took a ride a cock-horse on his father's stick." He lived chiefly in Vienna after his twenty-second year, before which time his life was spent in various cities. Paris, London, Verona, Milan, Rome, Bologna and Venice were all visited, and in them all the admiration excited by the modesty of the man and the surpassing excellence of his music was of the deepest; yet, owing to the intrigues and jealousies of his inferiors, he passed his whole life in poverty, which sometimes amounted to actual want, and at his death, which occurred in his thirty-sixth year, he was carried to the common burial ground of the poor, and nothing now remains to mark the spot where his remains once rested.

2. RECITATIVE AND ARIA, "Che faro senza Euridice," from Orpheus ... *Gluck.*

MRS. REIPLINGER.

CHRISTOPH WILLIBALD VON GLUCK, born 1714 at Weidenwang, Germany, died in Vienna, 1787, leaving a fortune of £25,000. He was the reformer of French dramatic music and the author of various works, including 21 operas, eight of which have Italian and thirteen French words. His operas are among the noblest musical dramas in existence, and have served as models for the most eminent operatic composers whose works have appeared subsequently to his.

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3. CONCERTO for Violin, in D major. Op. 61 ... *Beethoven.*

Andante ma non troppo.

M. DESEVE.

The form of the concerto was due to Guiseppi Torelli, violinist of Bologne, who in 1686 published a "*concerto da camera*" for two violins and bass. This form was further developed by Corelli, Geminiani, Vivaldi, Bach, and others, up to the time of Mozart, who finally determined its proportions and character, though it was reserved for Beethoven to enlarge and broaden the frame-work which had been bequeathed to him. The precise form varies of course with the particular style and temperament of the composer. Some writers give marked importance to the "*tutti*," the themes being developed quite as much through the agency of the orchestra, as of the solo instrument; while others prefer to leave the development entirely to the solo, the orchestra simply playing an accompaniment. The first class of composers in which Beethoven appears as the chief, makes of the concerto a true "*symphony with an obligato for solo instrument.*"

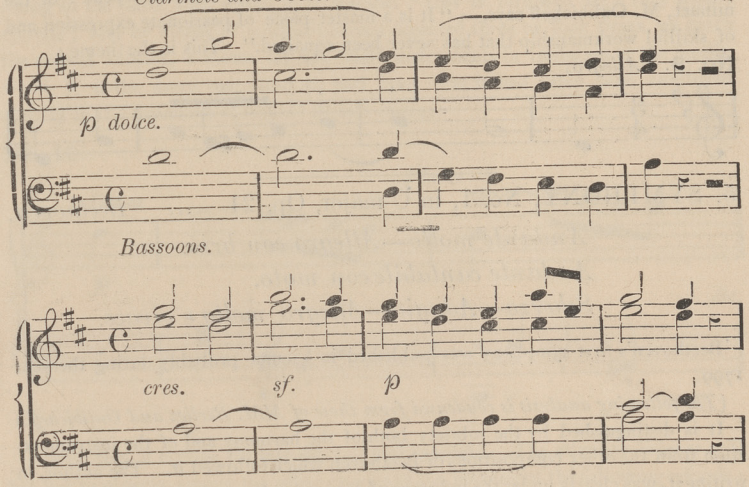
The violin concerto of Beethoven, which has been played only once or twice before in Montreal, was given for the first time, Dec. 23, 1806, by Clement, a virtuoso and leading violin of the "Theatre au der Wien." The manuscript, fairly bristling with corrections and erasures, particularly in the part of the solo, affords a singular instance of the care which the master of masters was wont to bestow upon his every work.

In the first movement "*allegro ma mon troppo*" the kettle-drums take the initiative by repeating the tonic (D) five times, an opening which upon any other instrument would have sounded thin and empty, but which is the very reverse as it stands in the score. (The importance of giving to each instrument the theme which is most appropriate to its character cannot be over-estimated. Any phrase, however charming in itself, may be rendered stiff, unnatural, and even trivial, if it be played by an instrument whose quality of tone is unsuitable.)

After the second measure, the oboes, clarinets and bassoons come upon the scene with a phrase of eight bars of exquisite freshness.

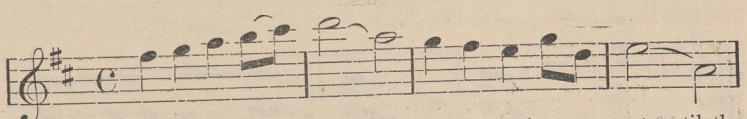
No. 6. *Allo. ma non troppo.*

Clarinets and Oboes.



The violins make their appearance on D sharp in such a manner as to recall the opening notes of the kettle-drum; the violas cellos and basses reply in imitation; now the wind instruments join with some scales in thirds, and finally comes the burst of the full orchestra. The music is radiant as a brilliant sun-rise. At the sixteenth measure, after a rhythmic prolongation, a device often employed by Beethoven, and one which in his hands is always productive of the noblest and most graceful effects, the oboes, clarinets and bassoons take the subject:

No. 7.



which is to form the soul of this magnificent symphonic movement, until the cadence; when the soloist first plays it. After the cadence, the different subjects are treated in a freer style, and the concerto is continued by a few calm measures in which the bassoon is employed in the happiest manner, when a very animated *accelerando* commences and ultimately brings about the climax and finale of this, one of the most beautiful productions of the "second style" of Beethoven.

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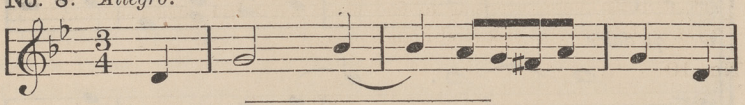
4. MENUETTO AND TRIO from G minor Symphony ...

Mozart.

This noble work was composed at Vienna, in the summer of 1788, a summer which also witnessed the production of the great symphonies in C (Jupiter) and E flat. It was at this time that Mozart was appointed a member of the Em-

peror's private band, which position was accompanied with a salary of 800 florins. Of the G minor symphony as a whole it is needless to speak: of the minuet, M. Oulibicheff says,— "It is a master-piece of passionate expression and of skillful workmanship that has never been equalled." This is the theme:

No. 8. *Allegro.*



5. SYMPHONY, No. 1, in C major, Op. 21 ... *Beethoven.*

Andante molto—Allegro con brio.
Andante cantabile con moto.
Scherzo—Adagio—Allegro molto e vivace.

Beethoven's first symphony was published in Vienna probably during the year 1799.

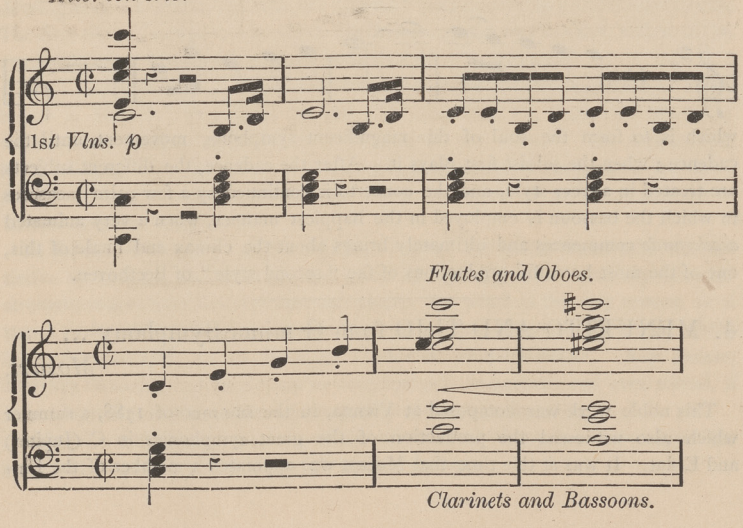
(*The following analysis is condensed from those of MM. Berlioz and Oulibicheff.*)

It is distinguished by the sobriety both of the harmony and of the instrumentation from the other compositions of Beethoven which followed it. The author, in writing it, was clearly under the influence of Mozart's ideas, which he has broadened sometimes and throughout ingeniously imitated. In the first and the second part, nevertheless, there appear certain rhythms, which, though they have been used, it is true, by the author of Don Giovanni, have been employed very rarely and in a much less striking manner than that in which they are here employed.

The opening Allegro, which is clear, brilliant and majestic, has for its first subject a phrase of six measures:

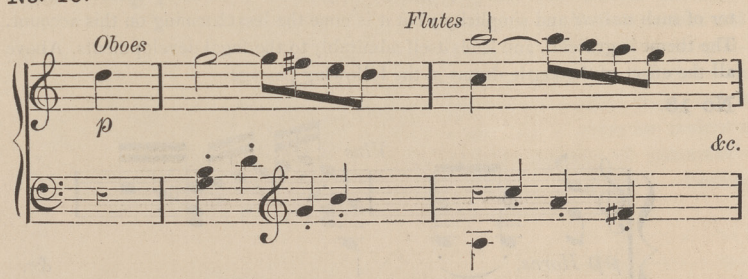
No 9.

Allo. con brio.



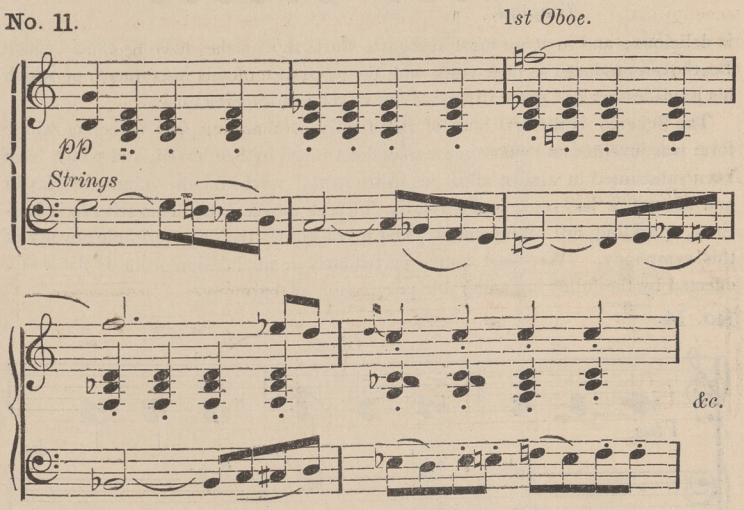
which, though of no particular intrinsic merit, immediately becomes interesting owing to the skill with which it is treated. This is followed by a very simple episode ; and by means of a semi-cadence repeated three or four times we reach the second subject, a theme for the wind instruments in imitation at the fourth, which it is the more surprising to find here, that it had often been employed already in the overtures of several French operas.

No. 10.



For all this, it is none the less effective and beautiful. The attentive listener will not fail to observe among the other charms of the movement the following episode :

No. 11.



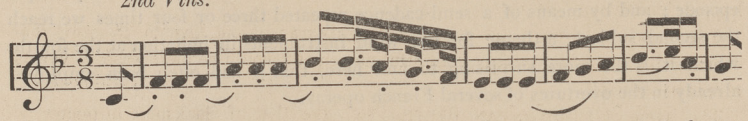
in which the Beethoven of the later symphonies appears more clearly perhaps than in any other part of this movement.

The Andante, in F Major ⅜, proceeds rather in the style of Haydn than of Mozart. M. Berlioz is perfectly right in saying that Beethoven is not there. It is the only one of the *Andantes* or *Adagios* that occur in the symphonies of our author whose theme

No. 12.

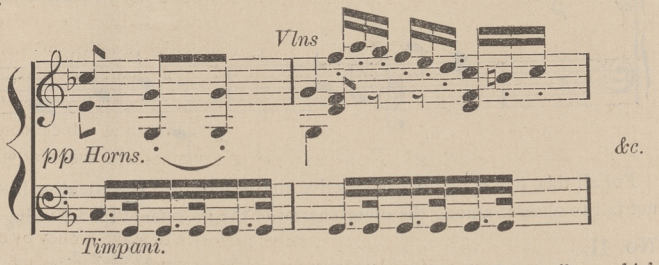
Andante cantabile con moto.

2nd Vins.



is treated in canonic imitation, and the only one also which presents a character of such *naïveté* and simplicity ; but it is none the less charming on this account. The theme is graceful, and lends itself admirably to the fugal developments. Above all the effect of the kettle-drums in the following passage

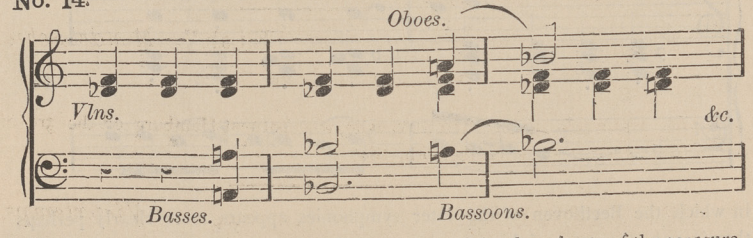
No 13.



is delicious ; and in it we must recognise the first of those striking effects which Beethoven produced in later years with the assistance of this instrument, of which his predecessors had generally made but slight and imperfect use.

The Scherzo is the first born of that family of charming *jests* (scherzi) whose form was invented and whose movement determined by Beethoven, and which have been substituted in almost all of his instrumental works for the minuet of Haydn and Mozart, a less rapid and a totally different movement. This scherzo is brilliant, sparkling, full of impetuosity, and it constitutes the only veritable novelty of this symphony. We must notice particularly a modulation from D flat to C, effected by the following admirable progression of harmony.

No. 14.



The violins in thirds play uniformly upon each of the three beats of the measure. At the same time the basses on one hand, and the oboes and bassoons on the other, interchange brief calls which occur at the distance of one measure apart, rising a semi-tone with every fresh call, and obliging the violins to advance at the same rate. Having reached the chord of C flat in this manner, the violins mount and take the

third—E G ; the bass C flat is transformed without change of position, whence results the chord of E minor in the position six and four, which chord introduces again the original motive and key. It would be difficult to find anywhere a happier enharmonic device.

The Finale is so clear, indeed so thoroughly transparent, that to do more than characterize it as a thoroughly delightful movement would be mere waste of words. It speaks for itself.

The name of LUDWIG VAN BEETHOVEN, like that of Shakspere in poetry, is generally accepted as the synonym of all that is best and noblest in music. Abounding in the greatest wealth of ideas, he was also the most conscientious and painstaking of writers, and many of his best known and seemingly most spontaneous melodies were altered time and again before the master was satisfied with them. Like Mozart, Beethoven was great in almost every possible style, and it is difficult to say in which he was most at home. As a writer for orchestra he has never been equalled, whether we regard the beauties of instrumentation, or the wonderful richness of episode in which his works abound. Beethoven was also the inventor of the "*Scherzo*," which is substituted for the older minuet in the majority of his symphonies and sonatas ; and which constitutes a decided improvement in the form of Beethoven symphonies over those by which they were preceded.

Beethoven was born in Bonn, on the 17th of December, 1770 or 1772. The date of his birth is not quite certain, for his father, anxious to make money by exhibiting his son for a prodigy, uniformly represented him as younger than he actually was. In 1793 he went to Vienna, where he studied for a short time under Haydn, and afterwards under Albrechtsberger. But he was already a distinguished composer at that time. By the year 1801 his deafness became very annoying to him, and soon increased to such an extent that he writes, "I must tell you my extraordinary deafness is such that in the theatre I am obliged to lean close up against the orchestra ; a little way off I lose the high notes of both instruments and singers." This deafness soon became total, and, combined with ill-health, caused him to withdraw from the society of all but his most intimate friends. All the more devotedly did he labor at his art, and in spite of vexations and disease he continued a most prolific composer until his death on the 26th of March, 1827.

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6. ARIA, "O rest in the Lord," from "Elijah" ... *Mendelssohn.*

MRS. REIPLINGER.

FELIX MENDELSSOHN BARTHOLDY, who was born at Hamburg on the 3rd of February, 1809, died November 6th, 1847.

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7. REVERIE in E Flat ... ... *Vieuxtemps.*

This "Réverie" was originally written for violin solo, and was scored for full orchestra by R. Lang. The work is interesting and original. One of the most noteworthy effects is obtained in a passage where all the strings, the double basses excepted, play the melody in unison, accompanied by the wind instruments.

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A. W. IMRIE, M.D.

W. P. SHARP.

K. MACPHERSON.

W. McLENNAN.

Secretary-Treasurer:

C. H. GOULD, B. A.

UNIVERSITY MUSICAL ASSOCIATION.

SYMPHONY CONCERT

IN THE

WILLIAM MOLSON HALL,

Thursday Evening, March 4th.

PROGRAMME.

1. Overture to "Il Don Giovanni" ..... MOZART.

Andante—Allegro Molto.

2. Recitative & Aria "Che faro senza" ..... GLUCK.

"Euridice" from Orpheus.

MRS. REIPLINGER.

3. Violin Concerto, D. Major ..... BEETHOVEN.

Allegro ma non troppo.

M. DESEVE.

4. Menuetto and Trio from G. Minor Symphony ..... MOZART.

5. Symphony, No. 1, in C. Major ..... BEETHOVEN.

Adagio molto—Allegro con brio.

Andante cantabile con moto.

Menuetto—Adagio—Allegro molto e vivace.

6. Aria, "O rest in the Lord" from Elijah ..... MENDELSSOHN.

MRS. REIPLINGER.

7. Réverie in E flat ..... VIEUXTEMPS.

N.B.—40 *Tickets for sale at Mr. C. C. DeZouche's, St. James Street.*

Acc. 1010

McGill University Glee Club.

SECOND ANNUAL CONCERT

In the MOLSON HALL, on

Tuesday Evening, Feb. 13, 1877,

In aid of the Montreal General Hospital.

President,	B. J. HARRINGTON, ESQ., B.A., PH. D.
Conductor,	E. HOUGHTON.
Secretary,	A. TAYLOR, B. A.
Manager,	C. LYMAN.

Organ,	*(by special request,)*	DR. CHAS. F. DAVIES.
Flute,		MR. QUINONES.
Pianoforte,		MR. HOUGHTON.

PROGRAMME.

PART I.

1.—OVERTURE, ORGAN AND PIANO,—"*A Night in Granada,*".....KREUTZER.
2.—CAROL ....."*The First Nowell,*".....TRADITIONAL.
3.—FLUTE SOLO....."*Fantaisie sur un Air National Russe,*"....HEINEMEYER.
4.—GLEE....."*Hark! the Lark,*".....DR. COOKE.
5.—PIANO SOLO ....."*Andante, Sonata, G. Major, Op. 14,*".....BEETHOVEN.
6.—CAROL ....."*Good King Wenceslas,*".....TRADITIONAL.
7.—SEXTETTE....."*The Cloud Cap't Towers,*".....STEVENS.

PART II.

1.—CAROL....."*The Boar's Head,*".....TRADITIONAL.
2.—DUET, ORGAN AND PIANO, ...TANCREDI.
3.—QUARTETTE,....."*Integer Vitae*".....FLEMING.
4.—CHORUS FROM "*Lily of Killarney,*".....BENEDICT.
5.—PIANO SOLO ....."*Tarantelle,*".....HELLER.
6.—CAROL ....."*The Manger Throne,*".....DR. STEGGAL.
7.—GLEE....."*King Arthur,*".....OLD ENGLISH

GOD SAVE THE QUEEN.

Carriages to be ordered at 10.15 o'clock.

PART I.

No. 2. CAROL. *Traditional.*

1.

The first Nowell the angel did say,
Was to certain poor shepherds in fields as they lay ;
In fields where they lay keeping their sheep,
On a cold winter's night that was so deep,
Nowell, Nowell, Nowell, Nowell,
Born is the King of Israel.

2.

They looked up and saw a star,
Shining in the East, beyond them far,
And to the earth it gave great light,
And so it continued both day and night,

Nowell, &c.

3.

And by the light of that same star,
Three wisemen came from country far ;
To seek for a king was their intent,
And to follow the star wherever it went.

Nowell, &c.

4.

This star drew nigh to the North-West,
O'er Bethlehem it took its rest,
And there it did both stop and stay,
Right over the place where Jesus lay.

Nowell, &c.

5.

Then entered in those wisemen three,
Full reverently upon their knee,
And offered there in His presence,
Their gold, and myrrh, and frankincense.

Nowell, &c.

No. 4. GLEE. *Dr. Cooke.*

Hark ! the lark at heav'n's gate sings,
And Phœbus 'gins arise,
His steeds to water at those springs
On chalic'd flow'rs that lies ;
And winking mary-buds begin to ope their golden eyes,
With ev'rything that pretty is, my lady sweet arise.

No. 6. CAROL. *Traditional.*

1.

Chorus.—Good King Wenceslas look'd out
On the feast of Stephen,
When the snow lay round about
Deep, and crisp and even.
Brightly shone the moon that night,
Though the frost was cruel ;
When a poor man came in sight,
Gath'ring winter fuel.

2.

King W.—"Hither, page, and stand by me,
If thou know'st it telling,
Yonder peasant, who is he ?
Where and what his dwelling ?"
Page.—"Sire, he lives a good league hence,
Underneath the mountain,
Right against the forest fence,
By St. Agnes' Fountain."

3.

King W.—"Bring me flesh, and bring me wine,
Bring me pine logs hither,
Thou and I will see them dine,
When we bear them thither."
Chorus.—Page and Monarch forth they went,
Forth they went together ;
Through the rude winds wild lament
And the bitter weather.

4.

Page.—"Sire, the night is darker now,
And the wind blows stronger ;
Fails my heart I know not how,
I can go no longer."
King W.—"Mark my footsteps, my good Page,
Tread thou in them boldly :
Thou shalt find the winter's rage
Freeze thy blood less coldly."

5.

Chorus.—In his master's steps he trod,
Where the snow lay dinted ;
Heat was in the very sod
Which the saint had printed.
Wherefore christian men be sure,
Wealth or rank possessing,
Ye who now will bless the poor,
Shall yourselves find blessing.

No. 7. SEXTETTE. *R. J. S. Stevens.*

"The cloud-capp'd towers, the gorgeous palaces,
The solemn temples, the great globe itself,
Yea all which it inherit, shall dissolve,
And, like this unsubstantial pageant faded,
Leave not a rack behind."

PART II.

No. 1. CAROL. *Traditional.*

1.

The boar's head in hand bear I
Bedeck'd with bays and rosmary.
And I pray you my masters, be merry,
Quot estis in convivio.
CHORUS.—*Caput apri defero,*
Reddens laudes domino.

2.

The Boar's head as I understand,
Is the bravest dish in all the land ;
When thus bedeck'd with a gay garland,
Let us servire cantico.
Caput, &c.

3.

Our steward hath provided this
In honour of the King of Bliss
Which on this day to be served is
In Regimensi atrio.
Caput, &c.

No. 3. QUARTETTE. *Music by F. Fleming*

HORACE ODE XXII.

1.

Integer vitae, scelerisque purus
Non eget Mauris jaculis, nec arcu,
Nec venenatis gravida saggitis,
Fusce, pharetra,

2.

Sive per Syrtes iter aestuosas
Sive facturus per inhospitalem
Caucasum, vel quae loca fabulosus
Lambit Hydaspes.

3.

Namque me silva lupus in Sabina,
Dum meam canto Lalagen, et ultra
Terminum curis vagor expeditis,
Fugit inermem.

No. 4. CHORUS. *Sir Julius Benedict.*

The wind is in the sou-sou-west,
A fine and cloudy morning,
It is a glorious hunting day.
The cheery dogs give warning.
Does she you love despise your sigh?
Does debt or trouble bind ye ?
Tally-ho ! to horse ! and as you fly
Leave sorrow far behind ye.
Yoicks, tally, ho !

No. 6. CAROL. *Traditional.*

1.

Like silver lamps in a distant shrine,
The stars are sparkling bright ;
The bells of the city of God ring out
For the son of Mary was born to-night ;
The gloom is past, and the morn at last
Is coming with orient light.

2.

The stars of heaven still shine as at first
They gleamed on this wonderful night ;
The bells of the city of God peal out,
And the angels' song still rings in the height ;
And love still turns where the Godhead burns,
Hid in flesh from fleshly sight.

3.

Faith sees no longer the stable floor,
The pavement of sapphire is there,
The clear light of heaven streams out to the world ;
And angels of God are crowding the air ;
And heaven and earth, through the spotless birth,
Are at peace on this night so fair.

---:o:---

No. 7. GLEE.

1.

King Arthur had three sons as big rogues as ever did swing
And he kick'd them all three out of doors because they could not sing.

2.

The first he was a Miller, the second he was a Weaver,
And the third he was a little Tailor, they thought him wond'rous clever.

3.

The Miller he stole corn, the Weaver he stole yarn,
And the little Tailor he stole broadcloth, to keep these three rogues warm.

4.

The Miller was drown'd in his pond, the Weaver was hanged in his yarn,
And the De'il flew away with the little Tailor, with the broadcloth under his arm.

GOD SAVE THE QUEEN.

To do with organizing
of music at McGill —

B. J. H. President of
McGill Glee Club.

Acc.1010

CIRCULAR

At an informal meeting of Graduates and others connected with McGill University, held on Tuesday the 27th inst., it was decided that an effort should be made to organize a Musical Association in connection with the University; the objects of said Association being to advance the interest of Music, by means of Annual Symphony Concerts, training of Students, &c.

In order to further consider the subject, a General Meeting will be held on SATURDAY, FEBRUARY 7th, at 8 o'clock P.M., in Class Room No. 1, centre building, McGill College.

Your attendance is respectfully requested.

B. J. HARRINGTON,

C. H. GOULD,

Provisional Committee.

MONTREAL, *January 31st, 1880.*

Acc. 1010

THE

QUEBEC & LAKE SUPERIOR MINING ASSOCIATION OF CANADA.

STATEMENT.

THE QUEBEC AND LAKE SUPERIOR MINING ASSOCIATION OF CANADA, was organised under a special Act of Incorporation in 1847. Since which time they have expended over £60,000 sterling in acquiring and exploring their mineral lands on Lake Superior. Their efforts were first directed to finding and developing the "sulphurets" of copper, and subsequently in seeking after native copper deposits known on the South Shore as "mass copper." In these early efforts which were made under all the disadvantages of inaccessibility, they were unsuccessful, "sulphurets" and native copper in large "masses" not being found in sufficient quantity to prove profitable; but in prosecuting these searches, the miners were fortunate enough to discover on their location on Michipicoten Island, beds containing native copper disseminated in small particles and now well known as "ash beds." Such "Ash Beds," at the time that these operations were carried on, were considered of little or no value, but for some years past the miners of the South Shore, who had also been disappointed in their efforts to secure "Mass" copper in persistent veins, have directed their attention to the working of similar "Ash Beds." The result has been most satisfactory, and nearly the whole supply of copper from the American Mines is now derived from such beds, and the profits of these Companies have been enormous, reaching in one instance to three million dollars per annum. In the light of these facts the Quebec and Lake Superior Mining Association, under the advice of Dr. T. Sterry Hunt, who has given these mines a great deal of attention, recommenced exploratory work on their Michipicoten location in 1875, which they have since continued, with the object of further proving the existence, extent, and persistency of these "Ash Beds." This, they are convinced, they have now sufficiently done. The extent and result of these labours are fully set forth in the annexed Report of Mr. Charles Robb, Mining Engineer, who examined their mine in October last and took specimens therefrom which may now be seen in England. From this Report it will be seen that Mr. Robb estimates the "Beds" to contain 2½ per cent of native copper, whilst it has been proved by works on the South Shore, that "Beds" containing only 1¼ per cent are capable of being worked at an extraordinary profit.

The Proprietors being now fully convinced of the profitable character of the "Ash Beds" on their Michipicoten location invite the co-operation of others, on what they believe to be very reasonable terms, to erect a suitable stamp-mill and dressing machinery to develop them. From the experience obtained on the South Shore, the Proprietors are fully convinced that within a year or eighteen months after the erection of their stamp-mill the whole moneys subscribed will be returned.

The annexed letters of Dr. T. Sterry Hunt, and James Douglas, two of the most competent authorities in America, to the President of the Association, will speak for themselves as to the estimate these gentlemen have of the property.

The following extract from a letter to the President of the Association, dated 16th January, 1877, from Principal Dawson, of McGill University, Montreal, ought to carry great weight:—"I regard it as certain that the rocks of Michipicoten and Mamainse belong to the same geological formation with those of the Keeweenaw Peninsula on the South Shore, and that the native copper occurs in them under similar conditions. It has long been my opinion that, if capital and skill could be brought to bear on these copper deposits of the North Shore of Lake Superior as they have been on the South Shore, similar results might be expected.

REPORT ON THE
QUEBEC MINE, MICHIPICOTEN ISLAND,
LAKE SUPERIOR.

22, ST. JOHN STREET, MONTREAL,
2nd October, 1876.

W. W. STUART, Esq.,
President Quebec and Lake Superior Mining Association.

DEAR SIR,

Having recently been commissioned by you to visit your extensive and highly important copper mining property on Michipicoten Island, Lake Superior, for the purpose of making certain topographical surveys thereon, I availed myself, at the same time, of the opportunity of observing its mineral characteristics and capabilities for mining purposes, and also of inspecting the underground workings in which you are now engaged. I beg now, in accordance with your request, to hand you the following Report in reference to the matters which came under my observation, and which are further illustrated by the accompanying maps.

The situation, extent, and general description of your property, together with the results of working and exploration at this and similar places on the Island, and remarks on the same by previous authorities, are fully detailed in the printed pamphlet with which you have furnished me, and the general accuracy of which I can fully endorse so far as my observations have extended. One important fact to which I would direct your attention, and which has not been noticed in your pamphlet, is, that in comparing your property with most other copper mining locations it possesses the very great advantage of yielding the metal in the native state and not as a sulphuret. This circumstance is of very great practical importance in facilitating and reducing the cost of dressing, smelting, and transporting the produce of the mine. On this subject I may quote the remarks of Mr. James Douglas, the general superintendent of the Phœnixville Chemical Copper Company:—"In 1872 the ore" (at the Quiney Mine, one of the best paying mines on the South Shore of Lake Superior) "averaged one and a quarter per cent. " of copper, and the Company distributed 350,000 dollars in dividends. Such a result would be extraordinary "were it not that the concentration of native copper to 80 per cent. is a cheaper and more rapid process than the "concentration of sulphuret ores to 20 per cent.—a fact which should always be borne in mind."

With regard to the surveys which formed the more special object of my recent visit to the island, I have the pleasure of informing you, pending the preparation of detailed plans and estimates, that I have ascertained, by actual measurements and surveys that there is a sufficient quantity and head of water at the "Little Lake" to give all the requisite power for driving a stamp mill of fifty head of stamps. The lake is situated at the distance of little over a mile from the proposed mill site, which is immediately at the mine and near all the shafts and workings. The surveyed line is extremely favourable for the conveyance of the water either by an open flume or a pipe. The difference of level between the "Little Lake" and Lake Superior (where the mill would be situated) is 228 feet, and the quantity of water flowing out at the outlet, together with that which could be obtained by damming up the lake, is probably sufficient to afford 120 horse power at all times and at a very moderate cost, for with such a great head the size both of the turbine and the conducting pipe will be comparatively small.

On the accompanying map of the island I have marked approximately the position of your property, and of that part of it on which the mining operations are carried on; and on the map of the "Quebec Mine" are marked the crops of the lodes or metalliferous beds, so far as ascertained, the position of the shafts, buildings, &c., also a plan and profile of the surveyed line between the mine and the Little Lake.

The mineralogical character of the rocks and mode of occurrence of the metal at this location are explicitly set forth in the Reports by Sir William Logan, Dr. T. Sterry Hunt and others, as cited in your pamphlet. The rock formation is undoubtedly identical with that of the great copper mining region of the South Shore of Lake Superior. The principal metalliferous beds or lodes at the Quebec Mine, so far as yet ascertained, are three in number, running parallel to each other, and skirting the shore of the lake. Their breadth varies from eight to, perhaps, thirty feet, distant about fifty feet apart, across the measures, running N. 35° E., and dipping at an angle of 55° to S.W. The crops of the two outer beds are under the water, but show their metallic contents distinctly, even at the depth of eight or ten feet through the clear waters of the lake, which, however, do not appear to percolate through the rock, which has been penetrated to a considerable depth below the surface of the

water in one of the underground workings. This is on the inner or "office shaft" vein, which has been traced by a series of trial shafts and openings, extending over a distance of 1,800 feet, or upwards of one third of a mile, and has been sufficiently explored to prove its high value for mining purposes. Without going into details on the present occasion as to the results of working at each of the trial pits (which are marked on the map) I may mention, in order to show the extent of the works, that they amount, in the aggregate, to 61 fathoms of shafting and about 70 fathoms of drifts, adits, and cross-cuts, in all of which native copper has been found in quantity which, with the modern very perfect appliances for dressing, cannot fail to prove highly remunerative.

In the office shaft, now 63 feet in depth, and situated towards the south-west end of the location, I had an opportunity of observing minutely the character and metallic contents of the bed, which may be taken as a type of the others, and which I may state as follows :—

The rock of the country is a compact massive, sometimes basaltic, trap or greenstone, alternating with beds of amygdaloid, sandstone, and volcanic ash. Some of these latter beds are highly metalliferous, although in some instances the distribution of the copper is so irregular as to render it difficult to estimate the exact proportion. The shaft is sunk on one of these beds, having an average thickness of eight feet, and underlying to the east about four feet to a fathom. Next the hanging wall, which is well defined, is a band of greenish grey and purple amygdaloid trap, six or eight inches in thickness, containing native copper in coarse grains and small masses, generally imbedded in calc-spar. This band I should estimate to contain, on an average, about ten per cent. of copper (10$_{o}$/^{o}). Underlying this is a band of purple sandstone, streaked with grey (from the presence of lime), averaging two feet six inches in thickness, impregnated with native copper in minute grains and threads; the proportion of metal in this bed will be about three per cent. (3$_{o}$/^{o}). It is remarkable that the copper is concentrated chiefly in the calcareous portions of this rock. Succeeding this is a soft argillaceous bed, sometimes slightly amygdaloidal, five feet in thickness, also containing native copper, disseminated in particles and occasional small masses. This bed may be estimated to contain one per cent. (1$_{o}$/^{o}) of copper, and although much of it may be almost barren, yet on account of its soft nature it will probably all pay for mining, crushing, and dressing.

According to the above estimates the average copper contents of the whole thickness of this metalliferous course of rocks will be two and a half per cent. (2$\frac{1}{2}$$_{o}$/^{o}), which, from the results of experience on the South Shore of Lake Superior, is proved to be amply remunerative in working.

At the opposite end of the location, about one third of a mile distant on the course of the same bed (which, however, seems here to be affected by a cross-course, or dyke), "Bevan's" shaft has been sunk to a depth of 95 feet, with an adit of 140 feet in length, about the level of the lake and 40 feet deep from the surface at the shaft. A level has also been driven to the east 66 feet in length. In these works the metalliferous quality of the bed or lode, as above stated, is fully maintained, and in some places greatly exceeded; and masses of native copper of considerable size have occasionally been met with. Two shafts have been sunk to some depths at points intermediate between the "Office" and "Bevan" shafts, but have not yet cut the bed or lode. It is reasonable to assume that the ground is equally favourable throughout to that proved and above described. It is, also, throughout highly favourable for mining and stamping at the cheapest rate, being remarkably soft and easily worked.

The other two parallel lodes in immediate proximity to the "Office" vein, and which can be worked from the same shafts, &c., have not been so thoroughly tested in depth. A cross-cut at the bottom of the "Office" shaft, 50 feet in length, has, however, intersected the intermediate or "middle lode," and although at this point the metal is more irregularly distributed than in the other, much, if not all, of the lode, which is here 12 feet in width, will pay for stamping. From the appearance of the vein-stuff, both in the middle and outer lodes, at the cross, the fine show of copper actually visible under the water, and the quantity of rich blocks of ore torn from them by the waves and scattered on the beach, they are probably, at least, as rich as that described.

Other copper-bearing lodes, which appear to be of importance but have been little explored, crop out in the cliffs about 100 yards from the lake shore. A little silver has also been found in all the lodes, and it is noteworthy that the rich veins of silver and nickel, which are fully described in your pamphlet, occur in rocks, which are probably the continuation of the same metalliferous bands underlying your property at the "Quebec Mine."

With a stamp mill of 50 heads, which it is proposed to erect here, there will be no difficulty in treating annually 50,000 tons of rock, producing one and a half per cent. of copper. This will be equal to 750 tons of pure copper, on which there will be a profit of about £50 sterling per ton, or say 250 dollars, equal to £37,500 sterling, or 187,500 dollars of profit annually.

The soil in the neighbourhood of the mine and on the upland tract, extending into the interior of the island, is extremely rich and fertile, and is especially favourable for the growth of root-crops and oats, which have been already cultivated to some extent with favourable results. The climate during both summer and winter is much more moderate than on the main land bordering on the lake. The timber, consisting of maple, birch, spruce, cedar, balsam, and mountain ash, is heavy and abundant, and will afford a never-failing supply for mining, building, and road-making purposes, and for fuel.

There is no natural harbour immediately near the mine, but on the south side of the island there is a splendid harbour, to which a tramway about eight miles in length could easily be constructed. In favourable weather, during the summer, vessels could take in and discharge cargo at a pier which could be cheaply constructed at the mine, and in rough weather could easily obtain shelter at the harbour referred to.

I have the honour to be, dear sir,

Yours very respectfully,

(Signed) CHARLES ROBB,

Mine Engineer, &c.

Letter from Dr. T. STERRY HUNT, LL.D., F.R.S., F.G.S.

MONTREAL, *Jan.* 31, 1877.

W. W. STUART, Esq., Pres. Quebec and Lake Superior Mining Association.

MY DEAR SIR,

I am much pleased to learn of the favourable prospects at your mine on Michipicoten Island, the collections from which I had occasion to call to the favourable notice of my colleagues at the Philadelphia Exhibition. My conviction is very strong that judicious working there may be expected to develope a mine of great richness, and I shall be happy to give my testimony to that effect to anyone who desires to consult me in the matter. You have already, I believe, my opinion, based upon my examination of the preperty four years since, but you are at liberty to refer to me farther in any question which may arise with regard to it.

Wishing all success in your enterprise, in which you have shown a zeal and an intelligence which should command success,

I remain, my dear sir,

Very faithfully yours,

(Signed) T. STERRY HUNT.

(*Copy.*)

PHŒNIXVILLE, PENNSYLVANIA.

W. W. STUART, Esq.

DEAR SIR,

I am glad to hear that you have gone to England for the purpose of securing means to fairly develope the copper deposits of Michipicoten Island, in which I heartily trust you will succeed, for there are few more promising mining speculations than that you offer.

The indications on Michipicoten Island are certainly as good as many which attracted attention to spots on the South Shore, where great native copper mines have since been opened. Unfortunately, when the native copper deposits on the island were originally opened, the "Mass" copper veins of Michigan were alone thought valuable; now the reverse is the case, for the mines on amygdaloidal trap and conglomerate beds are being worked to greatest profit, and are yielding the whole supply. Your Michipicoten beds undoubtedly promise to be as productive as that from which the Quincy Mining Company on Portage Lake, with a capital of 200,000 dollars, has paid itself 1,890,000 dollars in dividends. I gave particulars, in an article I communicated in April, 1874, to the *Quarterly Journal of Science*, as to the per-centage of copper in the Quincy Ore and the mode of its treatment. In 1872 the ore averaged $1\frac{1}{16}$% of copper, and the Company distributed 350,000 dollars in dividends. Such a result would be very extraordinary were it not that the concentration of native copper ore to 80 % is a cheaper and more rapid process than the concentration of sulphuret ores to 20 %—a fact which should always be borne in mind.

Yours truly,

(Signed) J. DOUGLAS.

Acc. 1377

McGill University Athletic Association.

1890. 1890.

ANNUAL FIELD MEETING,

FRIDAY, 17TH OCTOBER,

ON THE COLLEGE GROUNDS.

FIELD OFFICERS.

Referee.

PROF. B. J. HARRINGTON B.A., PH., D.

Time-Keepers.

PROF. C. H. McLEOD, MA. E.
" C. McEACHERN, D.V.S.
" F. D. ADAMS, M.A., Sc.

Judges at Finish.

PROF. C. E. MOYSE, B.A.
" H. I. BOVEY, M.A.
" A. McGOUN, B.A. B.C.L.

Starter.

R. F. RUTTAN, B.A., M.D.

Clerk and Assistant Clerk of Course.

D. ST. LOUIS, F. W. HIBBARD,

Measurers.

H. Y. RUSSELL. W. G. SMART.

Scorers.

H. V. TRUELL. J. L. WALKER.

Judge of Walking.

PROF. T. FORTIN, LL. L.

PROGRAMME.

Morning 9.30 a.m.

1. KICKING FOOTBALL

Won by 1st..... ..... 2nd..... .....

2. THROWING HAMMER (16 lbs)

Won by 1st..... 2nd.....

3. RUNNING BROAD JUMP

Won by 1st..... ..... 2nd..... .....

4. THROWING HEAVY WEIGHT (56 lbs.)

Won by 1st..... 2nd.....

5. THROWING CRICKET BALL

Won by 1st..... 2nd ....

6. STANDING BROAD JUMP

Won by 1st..... ..... 2nd.....

7. HURDLE RACE (First Heat)

Won by 1st ..... 2nd..... .....

8. PUTTING SHOT (16 lbs.)

Won by 1st..... 2nd..... .....

9. TUG OF WAR (First Heat)

Won by ....

Afternoon 2 p.m.

1. HIGH JUMP

Won by 1st..... 2nd..... .. ..

2. 440 YARDS RUN

Won by 1st..... 2nd.....

3. POLE LEAP

Won by 1st..... 2nd ....

4. 100 YARDS RUN (First Heat)

Won by 1st..... .... 2nd..... ...

5. 880 YARDS RUN

Won by 1st..... .. 2nd .....

6. HURDLE RACE (Final Heat)

Won by 1st.... .... 2nd..... .....

7. 100 YARDS RUN (Final Heat)

Won by 1st..... 2nd..... .....

8. THREE-LEGGED RACE

Won by 1st..... 2nd.....

9. ONE MILE RACE

Won by 1st..... 2nd.....

10. ONE MILE WALK

Won by 1st..... 2nd ....

11. 220 YARDS RUN

Won by 1st..... 2nd..... .....

12. ONE MILE BICYCLE

Won by 1st..... 2nd..... .....

13. TUG OF WAR (Final Heat)

Won by..... . ...

McGILL U. A. A.

President -	SIR J. W. DAWSON, LL.D., F.R.S.
Vice-President -	A. RIVES HALL, B.A., Law.
Secretary -	D. B. HOLDEN, B.A., Medicine.
Treasurer - -	Prof. B. J. HARRINGTON, Ph. D.
Assistant-Treas.	J. T. WHYTE, Arts.

Committee:

G. W. MacDOUGALL,	Arts	W. DONAHUE,
H. Y. RUSSELL,	Science	W. GREGORY SMART,
W. S. MORROW,	Medicine	J. L. WALKER,
F. W. HIBBARD, B.A.,	Law	H. V. TRUELL, B.A.,
H. RAMSAY,	Vet. Science	D. ST. LOUIS,

RULES.

1. Races will be governed by laws of the Amateur Athletic Association of Canada.
2. All events open only to Members of the Association.
3. Each entry must be accompanied by a fee of 25 cents.
4. Entries must be made to the Committee before 5 p.m. Wednesday, Oct. 15th.
5. A bell will ring before each event when competitors must at once proceed to the starting place.
6. Only Club Officials, the Press, and Competitors in uniform, to be allowed within the ropes.
7. Three *bona fide* competitors in each event are necessary to secure a second prize.
8. All starts to be made by report of pistol.

Should the weather prove unfavorable the sports will be postponed until further notice.

The prizes will be distributed in Molson Hall immediately after the sports are concluded.

Acc. 1377

McGill University Athletic Association

ANNUAL FIELD MEETING,

FRIDAY, 23rd OCTOBER, 1891,

ON THE COLLEGE GROUNDS.

FIELD OFFICERS

Referee.

PROF. B. J. HARRINGTON, B.A., PH. D.

Time-Keepers.

PROF. C. H. McLEOD, MA. E.
" C. McEACHRAN.
W. A. CARLYLE, B.A. Sc.

Judges.

PROF. H. J. BOVEY, M.A.
" A. McGOUN, B.A., B.C.L.
" J. WESLEY MILLS, M.A., M.D.
" J. COX, M.A.

Starter.

R. F. RUTTAN, B. A., M.D.

Clerk and Assistant Clerk of Course.

R. T McKENZIE, B.A. W. L. BOND.

Measurers.

J. G. H. PURVES.
H. MOLSON.

Scorers.

V. HALLIDAY.
R. G. DYER.

Judges of Walking.

PROF. J. FORTIN, L L.L. PROF. J. WESLEY MILLS, M.A., M.D.

Programme.

MORNING, 9.30.

1. Kicking Football, ft. in.
   1
   2
2. Throwing Hammer, (16 lbs.) ft. in.
   1
   2
3. Running Broad Jump, ft. in.
   1
   2
4. Throwing Heavy Weight, (56 lbs.) ft. in.
   1
   2
5. Throwing Cricket Ball, ft. in.
   1
   2
6. Standing Broad Jump, ft. in.
   1
   2
7. Hurdle Race, (First Heat,) sec.
   1
   2
8. Putting Shot, (16 lbs.,) ft. in.
   1
   2
9. Tug of War, (First Heat.)

AFTERNOON, 2 O'CLOCK.

1.	High Jump,	ft. in.
	1/2	
2.	100 Yards, (First Heat,)	sec.
	1/2	
3.	880 Yards Run,	min. sec.
	1/2	
4.	One Mile Bicycle, (Safety,)	min. sec.
	1/2	
5.	Hurdle Race, (Final Heat,)	sec.
	1/2	
6.	One Mile Walk,	min. sec.
	1/2	
7.	440 Yards Run,	min. sec.
	1/2	
8.	Pole Leap,	ft. in.
	1/2	
9.	100 Yards, (Final Heat.)	sec.
	1/2	
10.	Mile Race,	min. sec.
	1/2	
11.	Sack Race,	sec.
	1/2	
12.	One Mile Bicycle, (Ordinary,)	min. sec.
	1/2	
13.	220 Yards Run,	sec.
	1/2	
14.	Tug of War, (Final Heat.)	

McGill University A. A.

PRESIDENT, - - -	SIR J. W. DAWSON, L.L.D., F.R.S.
VICE-PRESIDENT, - -	W. E. WALSH, MED.
SECRETARY, - - - -	W. GREGORY SMART, APP. SC.
TREASURER, - - -	PROF. B. J. HARRINGTON, B.A. PH, D.
ASST.-TREASURER, - -	V. HALLIDAY, MED.

Committee.

H. M. JAQUAYS,	ARTS,	W. L. BOND.
J. A. CAMERON,	LAW,	A. R. JOHNSON.
N. TAYLOR,	MEDICINE,	D. JACQUES.
H. MOLSON,	APP. SCIENCE,	J. G. H PURVES.
R. E. DYER,	COMP. MED.	E. M. ROBB.

THE BENALLACK LITH. & PRINTING CO.

The Officers and Members of the
Mc. Gill University Athletic Association
request the honor of

_____

attendance at their Annual Games,
to be held on the College Grounds,
Friday, 23rd October, 1891.

W. Gregory Smart,

Hon. Secretary.

Modern Business

A SERIES OF TEXTS PREPARED AS PART OF THE MODERN BUSINESS COURSE AND SERVICE OF THE ALEXANDER HAMILTON INSTITUTE

ALEXANDER HAMILTON INSTITUTE
NEW YORK

Modern Business

EDITOR-IN-CHIEF

JOSEPH FRENCH JOHNSON

Dean, New York University School of Commerce, Accounts and Finance

MANAGING EDITOR

ROLAND P. FALKNER

ASSOCIATE EDITORS

LEO GREENDLINGER, CHARLES W. HURD

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22.	FINANCIAL AND BUSINESS STATEMENTS	Leo Greendlinger
23.	INVESTMENT	Edward D. Jones
24.	COMMERCIAL LAW	Walter S. Johnson

Athenæum Club Calendar

FOR

1882-83.

List of Members and Papers Read by them, with Dates at which Papers are due.

REV. J. F. STEVENSON, D. D., LL.B.—Nov. 7, 1876, "Where is the Difficulty of assuming the Personality of a First Cause?"—April 23, 1878, "Some Aspects of Spiritualism as connected with Psychology."—October 21, 1879, "The Persistence of certain Fundamental Ideas."—April 19, 1881, "Goldwin Smith's Essays and Lectures."—March, 21, 1882, "Agnostic Philosophy and Modern Poetry."

REV. J. CLARK MURRAY, LL.D., Glasgow, F.R.S.C.—Dec. 5, 1876, "Kant; His Place in Philosophy."—March 12, 1878, "An Ancient Pessimist."—Nov. 4, 1879, "The Sense of Touch."—January 25, 1881, "Solomon Maimon."—April 4, 1882, "Bishop Berkeley."

SAMUEL E. DAWSON.—Dec. 19, 1876, "The Effect on Christendom of the Prevailing Doctrine of Future Punishment."—April 3, 1877, "The Nineteenth Century; an Estimate of the Results of Modern Progress."—Nov. 20, 1877, "Scientism: A reply to Professor Clifford's 'Ethics of Religion.'"—Dec. 3, 1878, "Spiritualism, Ancient and Modern."—Nov. 18, 1879, "The Quebec Act."—February 8, 1881, "Tennyson's 'Princess.'"—June 13, 1882, "A recent visit to Europe."

J. REDPATH DOUGALL, M. A.—Nov. 21, 1876, "On the Processes by which the Human Race has been Educated."—May 7, 1878, "Jack the Giant-Killer, a Study in Comparative Mythology."—Dec. 2, 1879, "Montreal English."—Feb. 22, 1881, "Goethe."—May 16, 1882, "Emerson."

BERNARD J. HARRINGTON, B.A., Ph. D., F.R.S.C.—May 8, 1877, "The Use of the Microscope in Geology."—Oct. 8, 1878, "Our Mineral Resources."—Dec. 16, 1879, "Life and Death Underground."—March 8, 1881, "Notes on Gems and Precious Stones."—Nov. 14, 1882.

GEO. MURRAY, B.A., Oxon., F.R.S.C.—Jan. 23, 1877, "Curiosities of English Etymology."—May 22, 1877, "Public Speaking."—Oct. 22, 1878, "The Value of a Classical Education."—April 8, 1879, "Bacon *versus* Shakespeare, a Review of the Question."—Jan. 6, 1880, "Dean Stanley and Socrates."—March 22, 1881, "A Modern Troubadour—Jacques Jasmin."—May 30, 1882, "Poetry compared with some of the other Fine Arts."

REV. J. ROY, M. A.—April 17, 1877, "The French Language in Canada."—Sept. 24, 1878, "Law in Language."—Feb. 3, 1880, "The Ontario School System."—Jan. 11, 1881, "Moses and the Red Sea."—Nov. 28, 1882.

J. J. MACLAREN, M.A., LL.B.—Nov. 6, 1877, "The Grand Jury System."—March 11, 1879, "The History of Property."—March 30, 1880, "Church and State in Quebec."—May 31, 1881, "Party Government."—Dec. 12, 1882.

GEO. ILES.—June 19, 1877, "The Law of Continuity."—June 4, 1878, "The Law of Heredity."—March 25, 1879, "Commercial Morality."—April 13, 1880, "Co-operation."—June 14, 1881, "Property."—Jan. 9, 1883.

R. A. RAMSAY, M.A., B.C.L.—December 18, 1877, "Russian Serfage, its Rise and its Extinction."—May 20, 1879, "Wycliffe."—April 27, 1880, "The Troubadours."—Sept. 6, 1881, "Canada, 1760-64—Le Règne Militaire."—Jan. 23, 1883.

HUGH McLENNAN.—July 17, 1877, and Sept. 25, 1877, "The Labor Question."—May 11, 1880, "International Tariffs."—Nov. 1, 1881, "Work and Wages."—Feby. 6, 1883.

A. T. DRUMMOND, B.A., LL.B—July 31, 1877, and Sept. 11, 1877, "The Political Unity of the Confederation of Canada."—November 19, 1878, "Canadian Timber Trees—their Distribution and Preservation."—May 25, 1880, "Imperial Confederation."—Oct. 4, 1880, "The Canadian North-West Territory: its River and Railway Communications."—Feby. 20, 1883.

J. McGREGOR, LL. D.—Dec. 4, 1887, "Bees."—Jan. 14, 1879, "A Tramp."—June 8, 1880, "Christian Art."—Oct. 18, 1881, "1 and 2, and 2 times 2."—March 6, 1883.

R. W. BOODLE, B. A., Oxon.—Oct. 9, 1877, "Mystic Memory."—May 21, 1878, "Lord Macaulay, a Mental Study."—Dec. 17, 1878, "The Puritan Revolution."—March 16, 1880, "Oxford and Mr. Mallock."—Dec. 21, 1880, "Tennyson's 'Idylls of the King.'"—Sept. 20, 1881, "The Life of Nations."—April 18, 1882, "Lord Chesterfield."—Sept. 19, 1882, "Prof. Seeley's Natural Religion."—March 20, 1883.

F. H. REYNOLDS.—April 9, 1878, "A Plea for Heraldry."—Feb. 11, 1879, "Modern Æsthetics."—Oct. 12, 1880, "Novels and Novel Writers."—Nov. 15, 1881, "Patents."—April 3, 1883.

T. STERRY HUNT, LL.D., Cantab., F.R.S., F.R.S.C.—May 6, 1879, "The Relations of Chemistry to Medical Science."—Dec. 7, 1880, "The Physical and Chemical Relations of the Universe."—May 3. 1871, "The Scope of Physiology."—March 7, 1882, "The Physical Geography of North America."—April 17, 1883.

C. E. MOYSE, B.A.—June, 1879, "Euphuism."—Oct. 26, 1880, "Tennyson's 'In Memoriam.'"—Dec. 13, 1881, "Dante's 'Inferno.'"—Feb. 21, 1882, "Byron."—May 1, 1883,

J. BEMROSE.—Oct. 7, 1879, "Radiant Matter."—Nov. 9, 1880, "Electric Lighting."—Jan. 10, 1882, "The Drugs that Enslave."—May 15, 1883.

JOHN McLENNAN, B. A.—Sept. 28, 1880, "The Value of a University Training."—Jan. 24, 1882, "The Political Future of Canada."—May 29, 1883.

REV. W. N. CLARKE, D.D.—Nov. 29, 1881, "Christianity and the Nineteenth Century."—June 12, 1883.

RICHD. MACDONNELL, B.A., M.D., M.R.C.S.E.—Feb. 7, 1882, "The Medical Accuracy of Dickens."—June 26, 1883.

GEO. A. DRUMMOND.—Oct. 31, 1882.

THOMAS McDOUGALL.—Oct. 3, 1882.

FRANCIS J. SHEPHERD, M.D.—Oct. 17. 1882.

CORRESPONDING MEMBERS.

REV. A. SOMMER, M.D.—Jan. 9, 1877, "The Spectroscope."—July 3, 1877, "The Moon."—March 26, 1878, "What is the Highest Good of Man?"—Feb. 25, 1879, "The Disharmony between Nature and Spirit."—Jan. 20, 1880, "What is Reason?"—April 5, 1881, "The End of the World."

REV. A. DUFF, LL.D.—Feb. 6, 1877, "Method in Theological Use of the Bible."—Feb. 20, 1877, "Christian Perfection."—Jan. 29, 1878, "Some Semitic Results."—Feb. 26, 1878, "Theological Student-Life in Germany."

REV. ROBERT LAING, M.A.– March 6, 1877, "Socrates."

REV. J. B. GREEN.—March 20, 1877, "A Review of Mr. Gladstone's Courses of Religious Thought."—Nov. 5 1878, "Spiritualism."

GEO. M. DAWSON, F.G.S.—Jan. 15, 1878, "A Sketch of the Past and Present of the Indians of the Dominion."—Jan. 28, 1879, "The Indians of Queen Charlotte Islands."

PETER REDPATH.

McGill University Glee Club.

SECOND ANNUAL CONCERT

In the MOLSON HALL, on

Tuesday Evening, Feb. 13, 1877,

In aid of the Montreal General Hospital.

President,	B. J. HARRINGTON, ESQ,, B.A., PH. D.
Conductor,	E. HOUGHTON.
Secretary,	A. TAYLOR, B. A.
Manager,	C. LYMAN.

Organ,	*(by special request,)*	DR. CHAS. F. DAVIES.
Flute,		MR. QUINONES.
Pianoforte,		MR. HOUGHTON.

PROGRAMME.

PART I.

1.—OVERTURE, ORGAN AND PIANO,—"*A Night in Granada,*".....KREUTZER.
2.—CAROL ....."*The First Nowell,*".....TRADITIONAL.
3.—FLUTE SOLO....."*Fantaisie sur un Air National Russe,*"....HEINEMEYER.
4.—GLEE....."*Hark! the Lark,*".....DR. COOKE.
5.—PIANO SOLO ....."*Andante, Sonata, G. Major, Op. 14,*".....BEETHOVEN.
6.—CAROL ....."*Good King Wenceslas,*".....TRADITIONAL.
7.—SEXTETTE....."*The Cloud Cap't Towers,*".....STEVENS.

PART II.

1.—CAROL....."*The Boar's Head,*".....TRADITIONAL.
2.—DUET, ORGAN AND PIANO, ...TANCREDI.
3.—QUARTETTE,....."*Integer Vitae*".....FLEMING.
4.—CHORUS FROM "*Lily of Killarney,*".....BENEDICT.
5.—PIANO SOLO ....."*Tarantelle,*".....HELLER.
6.—CAROL ....."*The Manger Throne,*".....DR. STEGGAL.
7.—GLEE....."*King Arthur,*".....OLD ENGLISH

GOD SAVE THE QUEEN.

Carriages to be ordered at 10.15 o'clock.

PART I.

No. 2. CAROL. *Traditional.*

1.

The first Nowell the angel did say,
Was to certain poor shepherds in fields as they lay ;
In fields where they lay keeping their sheep,
On a cold winter's night that was so deep,
Nowell, Nowell, Nowell, Nowell,
Born is the King of Israel.

2.

They looked up and saw a star,
Shining in the East, beyond them far,
And to the earth it gave great light,
And so it continued both day and night,

Nowell, &c.

3.

And by the light of that same star,
Three wisemen came from country far ;
To seek for a king was their intent,
And to follow the star wherever it went.

Nowell, &c.

4.

This star drew nigh to the North-West,
O'er Bethlehem it took its rest,
And there it did both stop and stay,
Right over the place where Jesus lay.

Nowell, &c.

5.

Then entered in those wisemen three,
Full reverently upon their knee,
And offered there in His presence,
Their gold, and myrrh, and frankincense.

Nowell, &c.

No. 4. GLEE. *Dr. Cooke.*

Hark ! the lark at heav'n's gate sings,
And Phœbus 'gins arise,
His steeds to water at those springs
On chalic'd flow'rs that lies ;
And winking mary-buds begin to ope their golden eyes,
With ev'rything that pretty is, my lady sweet arise.

No. 6. CAROL. *Traditional.*

1.

Chorus.—Good King Wenceslas look'd out
On the feast of Stephen,
When the snow lay round about
Deep, and crisp and even.
Brightly shone the moon that night,
Though the frost was cruel ;
When a poor man came in sight,
Gath'ring winter fuel.

2.

King W.—"Hither, page, and stand by me,
If thou know'st it telling,
Yonder peasant, who is he ?
Where and what his dwelling ?"
Page.—"Sire, he lives a good league hence,
Underneath the mountain,
Right against the forest fence,
By St. Agnes' Fountain."

3.

King W.—"Bring me flesh, and bring me wine,
Bring me pine logs hither,
Thou and I will see them dine,
When we bear them thither."
Chorus.—Page and Monarch forth they went,
Forth they went together ;
Through the rude winds wild lament
And the bitter weather.

4.

Page.—"Sire, the night is darker now,
And the wind blows stronger ;
Fails my heart I know not how,
I can go no longer."
King W.—"Mark my footsteps, my good Page,
Tread thou in them boldly :
Thou shalt find the winter's rage
Freeze thy blood less coldly."

5.

Chorus.—In his master's steps he trod,
Where the snow lay dinted ;
Heat was in the very sod
Which the saint had printed.
Wherefore christian men be sure,
Wealth or rank possessing,
Ye who now will bless the poor,
Shall yourselves find blessing.

No. 7. SEXTETTE. *R. J. S. Stevens.*

"The cloud-capp'd towers, the gorgeous palaces,
The solemn temples, the great globe itself,
Yea all which it inherit, shall dissolve,
And, like this unsubstantial pageant faded,
Leave not a rack behind."

PART II.

No. 1. CAROL. *Traditional.*

1.

The boar's head in hand bear I
Bedeck'd with bays and rosmary.
And I pray you my masters, be merry,
Quot estis in convivio.
CHORUS.—*Caput apri defero,*
Reddens laudes domino.

2.

The Boar's head as I understand,
Is the bravest dish in all the land ;
When thus bedeck'd with a gay garland,
Let us servire cantico.
Caput, &c.

3.

Our steward hath provided this
In honour of the King of Bliss
Which on this day to be served is
In Regimensi atrio.
Caput, &c.

No. 3. QUARTETTE. *Music by F. Fleming.*

HORACE ODE XXII.

1.

Integer vitae, scelerisque purus
Non eget Mauris jaculis, nec arcu,
Nec venenatis gravida saggitis,
Fusce, pharetra,

2.

Sive per Syrtes iter aestuosas
Sive facturus per inhospitalem
Caucasum, vel quae loca fabulosus
Lambit Hydaspes.

3.

Namque me silva lupus in Sabina,
Dum meam canto Lalagen, et ultra
Terminum curis vagor expeditis,
Fugit inermem.

No. 4. CHORUS. *Sir Julius Benedict.*

The wind is in the sou-sou-west,
A fine and cloudy morning,
It is a glorious hunting day.
The cheery dogs give warning.
Does she you love despise your sigh?
Does debt or trouble bind ye ?
Tally-ho ! to horse ! and as you fly
Leave sorrow far behind ye.
Yoicks, tally, ho !

No. 6. CAROL. *Traditional.*

1.

Like silver lamps in a distant shrine,
The stars are sparkling bright ;
The bells of the city of God ring out
For the son of Mary was born to-night ;
The gloom is past, and the morn at last
Is coming with orient light.

2.

The stars of heaven still shine as at first
They gleamed on this wonderful night ;
The bells of the city of God peal out,
And the angels' song still rings in the height ;
And love still turns where the Godhead burns,
Hid in flesh from fleshly sight.

3.

Faith sees no longer the stable floor,
The pavement of sapphire is there,
The clear light of heaven streams out to the world ;
And angels of God are crowding the air ;
And heaven and earth, through the spotless birth,
Are at peace on this night so fair.

---:o:---

No. 7. GLEE.

1.

King Arthur had three sons as big rogues as ever did swing
And he kick'd them all three out of doors because they could not sing.

2.

The first he was a Miller, the second he was a Weaver,
And the third he was a little Tailor, they thought him wond'rous clever.

3.

The Miller he stole corn, the Weaver he stole yarn,
And the little Tailor he stole broadcloth, to keep these three rogues warm.

4.

The Miller was drown'd in his pond, the Weaver was hanged in his yarn,
And the De'il flew away with the little Tailor, with the broadcloth under his arm.

GOD SAVE THE QUEEN.

Saturday Evening, 24th December

1898

Menu..

HORS D'OEUVRES

Canapés à la Provençale

Malpecques au Naturel

POTAGE

Terrapin Clair

POISSON

Achigan de Mer Sauté

à la Normandie

ENTREES

Filet de Perdrix à la Claremont

Noisettes de Mouton à la St. Cloud

SORBET

Ponche à l'Imperial

ROTI

Fillet de Boeuf

a la Bordelaise

GIBIER

Bécasse sur Croute

Salade

ENTREMETS

Pouding Glacé Santa Cruz

Bouchées à la Lorenzo

CELERI

Sir William Macdonald's
Dinner,

---

on occasion of his being
Knighted, and also
of the opening of the
Chemistry & Mining
Building.

St James's Club

8 A.M. is the hour for opening

W. H. S

St. Catherine, Univers

Sensational Selling

Values are Double

YOU all remember what a sensation we made whe patterns at $1.75, Sold completely out in the da give you another somewhat similar genuine barg are the very same quality, same patterns and same colors broidered rich heavy work on cream, white, crimson a Egyptian mull Poplinette, Mexican cloth, etc., etc.

Slightly mercerized fabrics, others with silk embroi ground with Alice blue, and white silk work, others ec of plain black and plain white with self embroidery. T

that such reserves will tend to secure a continuance of natural rainfalls and also preserve the game of the country. The bill will be fully discussed when it comes up for a second reading.

The following private bills were read a second time:—

An Act to incorporate the Western Loan and Trust Company.—Mr. Adamson; an Act respecting the Canadian Niagara Power Company.—Mr. Ger

Park and Island Railway Company.—Mr. Geoffrion; an Act respecting the Canada Atlantic Railway Company.—Mr. Macdonald.

CANADIAN VISITORS.

They Will Inspect the University of Pennsylvania Buildings.

A party of Montreal gentlemen, including W. C. McDonald, Professor Henry T. Bovey and Professor B. J. Harrington, of McGill University, and A. T. Taylor, a prominent architect, arrived at the Lafayette last evening. Through the liberality of Mr. McDonald McGill University is to have a handsome new building, which will be equipped in the most approved manner for the departments of chemistry, mineralogy, mining and metallurgy.

The gentlemen are now on a tour of inspection of the leading colleges of the country for the purpose of getting points for the new building. Mr. McDonald is a wealthy philanthropist, whose gifts to McGill University have been numerous. Professor Bovey holds the Chair of Civil Engineering and Applied Mechanics, and is also the Dean of the Faculty of Applied Science. Dr. Harrington is Professor of Chemistry and Mineralogy. Mr. Taylor is the architect who has designed the other late buildings of the institution.

To-day the visitors will visit the Harrison Chemical Laboratory at the University of Pennsylvania, and also the new observatory on the West Chester pike. After leaving Philadelphia they will go to Washington, South Bethlehem, New Haven, Amherst, Boston, Cambridge and New York, inspecting the various educational institutions in those cities.

PARLIAMENTARY NOTES.

Mr. Daniel, St. John, will inquire if it is the intention of the Government to inaugurate a pension, or superannuation system, in connection with the employes of the Intercolonial Railway.

Mr. Lancaster will put a number of questions with the object of ascertaining the facts in connection with contract or arrangement which the Government has made for supplying electric power for hauling vessels through the Cornwall Canal.

Mr. Crockett will inquire as to the number of survey parties now at work locating the Transcontinental Railway between Winnipeg and Moncton. He will also move for all correspondence between the Grand Trunk Pacific and the Transcontinental Railway commission in reference to the survey and location of the line between Quebec and Moncton.

Hon. W. S. Fielding, who sprained an ankle about a month ago, has sufficiently recovered to be able to go out driving. He hopes to be back in his place in the House before long.

CONSCIENCE MONEY.—The treasurer of the Grand Trunk Railway Co. has received two amounts of $15.00 and $2.00 respectively, as "Conscience money."

1906

THE MONTREAL DAILY STA

WORLD'S WASTE AS SOURCE OF WEALTH

Dr. Harrington Delivers Interesting Lecture Before the Woman's Club.

COAL SMOKE NUISANCE

Dr. Harrington Declares That Pall Hanging Over Cities Involves Direct Loss of Wealth.

One of the most interesting and instructive of the season's series of lectures was delivered before the Women's Club on Monday afternoon by Dr. Harrington in the Science Lecture Hall at McGill.

The subject of the lecture was "Waste and the utilization of waste materials."

The lecturer began by stating that the crime of waste was an ancient one dating back to a very early period in the world's history, and is still in existence in spite of all that is being done to put a stop to it, and that first, with all due apologies to the ladies he would speak of waste in the home. A certain American writer had boldly stated that a German family could live well on the waste of an American family. He then went on to mention the waste in the three different kingdoms:

Firts, in the mineral kingdom, a very good illustration of waste was the pall of black smoke which overhangs our own city and which, he stated, was a disgrace to modern civilization; that there was no necessity for it and that the coal should be burned under such conditions that there would be no smoke and then we should get the heat without all that waste.

Some years ago, the lecturer continued, Prof Chandler of London took up the question and estimated that, in the smoke that overhung London, there were something like 50 tons of solid carbon and 250 tons of carbon in the form of various gasses and that a smoke committee had investigated the mater, establishing the actual value of the waste at £2,250,000, which, with the expense and damage resulting from the nuisance, brought the total waste to some £4,000,000; and in a lesser degree we have the same thing to contend with here.

Dr. Harrington further mentioned the waste occurring in the anthracite regions of Pennsylvania, where, at present owing to engineering difficulties, not yet overcome, only 60 per cent. of the actual product is extracted from the coal seams, leaving a 40 per cent waste in each mine.

Secondly, the lecturer touched on waste in the animal kingdom, as for example, in connection with the salmon industry in British Columbia. from the offal alone, were extracted, first, the salmon oil, which, as a polisher and softener of leather and kid, is invaluable; and secondly, a fertilizing product, a good deal of which is shipped to the Sandwich Islands for use on the sugar plantations. Curiously enough, the lecturer said, the Japanese had been the first in British Columbia to extract the oil from fish, only in their case the herring was the fish employed.

Speaking of the enormous number of horses dying weekly in London, Dr. Harrington spoke of the use to which the various parts of the carcase were put—the hair going to the manufacture of hair cloth, mattresses, etc.: the flesh sold as dog's meat; then there were the fat, bones and hoofs to be reckoned with, the latter being utilized for gelatine and in the manufacture of buttons.

Lastly, in the vegetable kingdom, Dr. Harrington took for an illustration, the cotton products. First comes the cotton pod, from which the raw cotton is extracted. The latter is used for cotton batting, etc. Then we have the plain seed 20 per cent of which is oil. This oil when extracted is black and uninviting in color, but after undergoing a refining process it becomes gradually pale gold and then white. This oil is practically equal to olive oil. In fact, it is frequently shipped to France and returned to us labelled "Olive Oil"—though we do not always recognize it as such.

Next, we have the hulls, which are used as fertilizer, or, when mixed with the ground up meat of the nut, make a most excellent fodder for cattle. From the kernel, of course, the oil is extracted. It is from the cotton seed oils, too, that the various preparations known as cotylene, artificial butters and lards are made, showing the vast amount of nutrition existing in the cotton seed.

COOK—Wanted, competent; ... Woman as Cook; assist wash and iron; city ref. req.; mountains in summer. Apply, 9 to 11, 1935 Arch street.

COOK wanted; three in family; good wages. Apply 855 Franklin street.

COOK wanted, first-class, at 249 South Front street.

COOK—Good Restaurant and Order Cook; good reference. Call, 8 o'clock P. M., 112 S. 12th st.

COOK—German or American Girl. 948 Franklin street.

COOK for Oyster and Chop House and Restaurant; good order cook. 1106 South street.

CUTTERS, experienced, on Ladies' Waists and Skirts. 1050 North 2d street.

DISHWASHER (white), must be experienced, for Restaurant. 926 Girard avenue.

DRESSMAKING—All branches taught for 25c. a lesson, or $5 for complete course; scholars taught to cut and fit perfectly in three lessons; positions when competent. The Miller Dressmaking School, S. W. corner 12th and Arch streets.

ERRAND GIRL—One who knows the city. 1630 Mount Vernon street.

FANCY IRONER wanted. Congress Laundry, 435 Richmond street.

GIRL, German, wanted, Cooking and Down-stairs Work; good wages; pleasant home. 2004 Park avenue.

GIRL wanted for general Housework, to go to Atlantic City; reference. 2248 Franklin st.

GIRL wanted for Chambwk., also one for Waiting, to go to seashore. Call, 9 to 4, 309 N. 11th st.

GIRL, German, wanted, who can Cook, Wash and Iron. 2148 North 12th street.

GIRL wanted for Down-stairs Work; good Cook, with reference. Apply 1426 N. 15th street.

GIRL wanted to Assist in Restaurant; come ready for work. 103 North 4th street.

GIRL wanted for gen. Housework; must be good

McG.U.A.A.

1892

REFEREE

McG. U. A. A.

ANNUAL FIELD MEETING.

25TH OCTOBER,

1895.

JUDGE.

ACC1010

A

Pocket Song Book

FOR THE USE OF

The Students and Graduates

OF

McGill College.

COMPILED AND PUBLISHED

BY A STUDENT IN ARTS.

Montreal:
LOVELL PRINTING AND PUBLISHING COMPANY.
1879.

PRICE THIRTY-FIVE CENTS.

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PREFACE.

THE compiler, in offering this collection of College Songs to the students of McGill and to the public generally, believes that it will supply a want long felt by the class for which it is intended. It has been, of course, quite impossible to include all the songs which might have been expected, but the more popular and less hackneyed of the McGill *répertoire* have been published. Of some of the songs there existed many versions, and the compiler trusts that those selected for publication will meet with approval. To those who have assisted in the publication, by furnishing the words of hitherto unwritten songs, or by contributing the music of original McGill airs, his best thanks are due, and the compiler thinks he may reasonably expect liberal patronage from those in whose interests this little collection has been published.

MCGILL COLLEGE, *January*, 1879.

THE

McGILL STUDENTS'

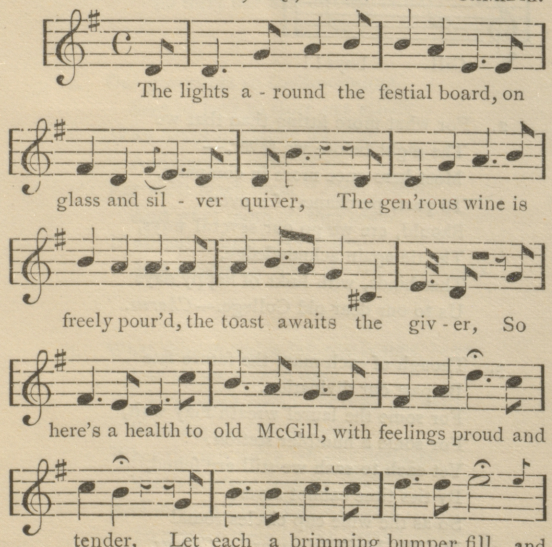
POCKET

SONG BOOK.

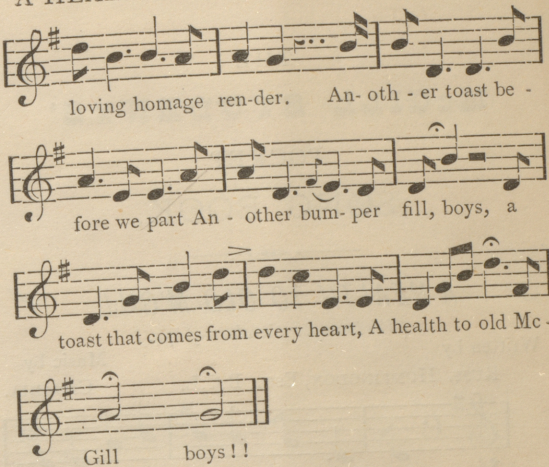
A HEALTH TO OLD M'GILL.

(Written for the class of '74.)

Written by RUSS. HUNTINGDON, ESQ., B.C.L. Music by CANADIA.



A HEALTH TO OLD M'GILL.—*Continued.*



2. For what more fitting than that we
The night before we sever,—
Meet here once more in company,
To part, perchance, for ever.
Should, ere we go our several ways,
The tie again acknowledge,
That binds, with links of happy days
Us to our dear old College.—*Chorus.*

3. Though of each man, the future fate
Be past our divination,
For some the laurel wreath may wait,
For some a humbler station.
Yet each to each we still are found,
By ties time cannot sever.
So as the wine cup circles round
McGill, McGill forever !—*Chorus.*

ALMA MATER.

1. *Nunc est bibendum, fratres,*
Since once again we've met,
As vigourous as young bay-trees,
A right good jovial set.
Nunc est bibendum, fratres,
As oft we've done before,
For well we know "*esprit de vie*"
Keeps up "*esprit de corps*."
Then—

Chorus.

Here's to Alma Mater—
A bumper let us pour;
Rejoice within our ancient halls,
To meet our friends once more.

2. Our governors so condescending,
Sent us here to store our minds
With heaps of classic learning,
And various other kinds.
But we'll teach them "*Ipsus factus*,"
And what more do they need,
If we but reduce to practice,
And remember what we read.—*Chorus.*

3. What though we've left our homes, boys,
And all we love so dear,
We ne'er shall spend where'er we roam
Such happy days as here.
What though we've left our darlings,
Won't absence lend its charms?
And months fly by like starlings
To restore them to our arms?—*Chorus.*

4. Ἄριστον μεν ὕδωρ, boys,
Cuspiendum, do you see?
But I'll bet in the days of yore, boys,
Ὕδωρ meant *eau-de-vie*,
For old *Ovidius Naso*—
For so the story goes—
Derived his name and fame, oh!
From his jolly big red nose.—*Chorus.*

OUR COLLEGE HOME.

AIR—"Ah! Me!"

1. McGILL, boys, is the home we prize;
We'll lift her glory to the skies;
Where'er we go, we'll speak her name,
Record it on the book of fame.

Chorus.

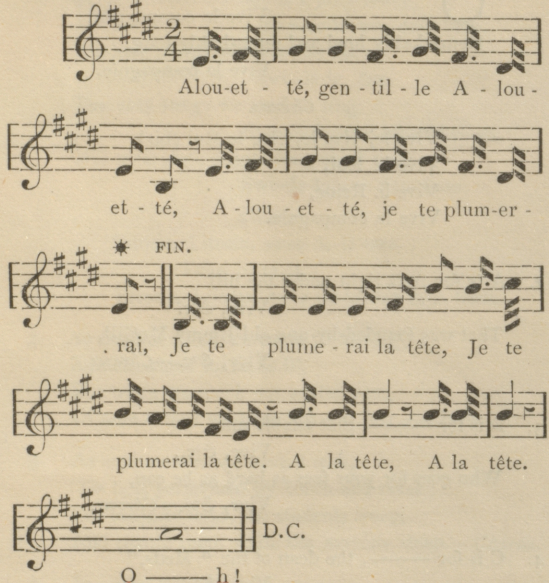
We'll ne'er forget these happy days,
Though soon, alas, their spell is o'er;
Where'er we meet in days to come,
We'll be, as now, good friends once more.

2. We love her walls, we love her halls,
Though oft we've met with funks and falls;
The road to learning, well we know,
Is hard, and must be travelled slow.—*Chorus.*

3. We love our grave and generous proffs.,
For them no bitter taunts or scoffs;
But patience being a virtue rare,
We sometimes give it chance to air.—*Chorus.*

4. Long may our *Alma Mater* stand;
Her worth be known in every land;
And may her sons remember still,
To love and honor old McGill.—*Chorus.*

ALOUETTE.



(*After the Oh —— ! the first part is repeated down to where it is marked with a star.*)

2 Alouette, gentille alouetté, alouetté je te plumerai,
Je te plumerai le bec je te plumerai le bec,
A le bec, A le bec.

3 le nez.
4 le dos.
5 les pattes.
6 le cou, &c., &c., &c.

VIVE LA COMPAGNIE.

1. OH! now we will sing a remarkable song,
Vive la compagnie;
Remarkably loud and remarkably long,
Vive la compagnie.

Chorus.

Vive le, vive le, vive le Roi (bis)
Vive le Roi,
Vive la Reine,
Vive la compagnie.

2. A is for Arts right under the hill
Vive, &c.
That was founded by one old Jimmy McGill,
Vive, &c.—*Chorus.*

3. B is for ———, that affable man,
Vive, &c.,
Who goes for your fees as hard as he can,
Vive, &c.—*Chorus.*

4. C is for ———, the dean of the "Meds,"
Vive, &c.,
Who gives them all nightmare when tucked in their beds.—*Chorus.*

5. E's for exams, which we all hold in fear,
Vive, &c.,
And we hope and we pray that they'll pass us this year,
Vive, &c.—*Chorus.*

6. And now p'rhaps you think that we'll sing you some more—*Chorus.*
But we won't.

LITORIA.

1. McGILL College is a jolly home,
Swe-de-le-wee dum bum.
We love it still where'er we roam,
Swe-de-le, &c.
The very songs we used to sing,
Swe-de-le-wee tchu hi-ra-sa,
Mid memory's echoes long shall ring,
Swe-de-le-wee dum bum.

Chorus.

Litoria, Litoria, swee-de-le-wee
Tchu hi-ra-sa,
Litoria, Litoria, swee-de-le-wee dum bum.

2. As freshmen first we come to McGill,
Examinations make us ill,
But when we reach our senior year,
Of such things we have lost our fear.—*Chorus.*

3. As sophomores we have a task,
'Tis best performed by torch and mask;
For subjects dead, the students weep,
And snatch them while the sextons sleep.—*Chorus.*

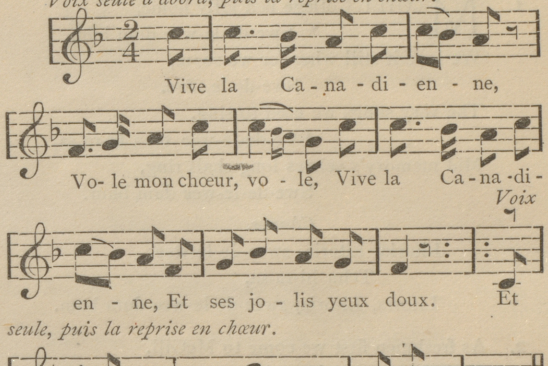
4. In junior year we take our ease,
We smoke our pipes and sing our glees;
When college life begins to swoon,
It drinks new life from the wooden spoon.—*Chorus.*

5. In senior year we act our parts,
In making love, and winning hearts;
The saddest tale we have to tell,
Is when we bid our friends farewell.—*Chorus.*

6. And when into the world we come,
We've made good friends, and studied some;
And while the seasons' moons shall fill
We'll love and reverence old M'Gill.—*Chorus.*

VIVE LA CANADIENNE.

Voix seule d'abord, puis la reprise en chœur.



2. Nous la menons aux noces.
Vole, mon cœur, vole,
Nous la menons aux noces
Dans tous ses beaux atours. (*Ter.**)

3. On danse avec nos blondes,
Vole, mon cœur, vole,
On danse avec nos blondes ;
Nous changeons tour à tour. (*Ter**)

4. On passe la carafe,
Vole, mon cœur, vole,
On passe la carafe ;
Nous buvons tous un coup. (*Ter.**)

5. Mais le bonheur augmente,
Vole, mon cœur, vole,
Mais le bonheur augmente,
Quand nous sommes soûls. (*Ter.**)

---

* In the second line repeated add the words *doux doux* as in first verse.

INTEGER VITÆ.

1. INTEGER vitæ scelerisque purus
Non eget, Mauris jaculis nec arcu,
Nec venenatis gravida sagittis,
Fusce pharetra.

2. Sive per Syrtes iter æstuosas,
Sive facturus per inhospitalem
Caucasum, vel quæ loca fabulosus
Lambit Hydaspes.

3. Namque me silva lupus in Sabina,
Dum meam canto Lalagen, et ultra
Terminum curis vagor expeditus,
Fugit inermem.

4. Quale portentum neque militaris
Daunias latis alit æsculetis,
Nec Jubæ tellus generat, leonum
Arida nutrix.

5. Pone me, pigris ubi nulla campis
Arbor aestiva recreatur aura,
Quod latus mundi nebulæ malusque
Jupiter urget.

6. Pone sub curru nimium propinqui
Solis, in terra domibus negata;
Dulce ridentem Lalagen amabo
Dulce loquentem.

THE BOAR'S HEAD.

(Banquet Song).

1. A boar's head in hand bear I,
Bedecked with bays and rosemary,
And I pray you, my masters, be merry,
Quotestes in convivio.

Chorus.

Caput abri deferro-vedens laudes domino.

2. A boar's head, as I understand,
Is the bravest dish in all the land,
When thus bedecked with a gay garland,
Let us servire cantico.—*Chorus.*

3. Our steward hath provided this
In honor of the King of Bliss,
Who on this to be servèd is
In regimensi atrio.—*Chorus.*

NOAH'S ARK.

1. OLD Noah he did build an ark,
With one wide river to cross;
He built it out of hick'ry bark,
With one wide river to cross.

Chorus.

Oh there's one wide river,
And that wide river is Jordan;
There's one wide river,
There's one wide river to cross.

2. Into this ark the animals went,
In just the order they were sent.—*Cho.*

3. The animals went in one by one,
Among them the hornet, full of fun.—*Cho.*

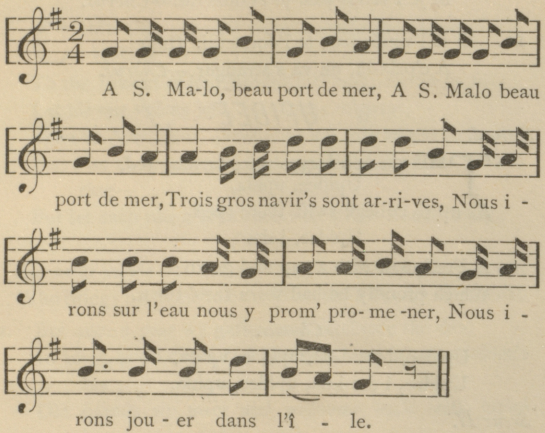
4. The animals went in two by two,
The blue-tailed-fly and the caribou.—*Cho.*

5. The animals went in three by three,
The ricky-tick-tick and the Jersey flea.—*Cho.*

6. And as they talked of this and that,
The ark it bumped on Ararat.—*Chorus.*

7. Now listen to our parting text,
[To be continued in our next.]

A SAINT MALO BEAU PORT DE MER.



2. Trois gros navirs sont arrivés. (bis)
Chargés d'avoin', chargés de bled. (bis)—*Chorus.*

3. Chargés d'avoin', chargés de bled, (bis)
Trois dam's s'en vont les marchander.—*Chorus.*

4. Trois dam's s'en vont les marchander, (bis)
Marchand, marchand, combien ton bled?—*Chorus*

5. Marchand, marchand, combien ton bled? (bis)
Trois francs l'avoin', six francs le bled.—*Chorus.*

6. Trois francs l'avoin', six francs le bled,
C'est ben trop cher d'un' bonn' moitié.—*Chorus.*

7. C'est ben trop cher d'un bonn' moitié (bis)
Montez, Mesdam's, vous le verrez.—*Chorus.*

8. Montez, Mesdames, vous le verrez. (bis)
Marchand, tu n' vendras pas ton bled.—*Chorus.*

9. Marchand, tu n' vendras pas ton bled (bis)
Si je l'vends pas, je l'donnerai.—*Chorus.*

10. Si je l'vends pas, te l'donnerai. (bis)
A c'prix-là, on va s'arranger.—*Chorus.*

UPIDEE.

Scene I.

THE autumn leaves were turning red,
Upidee, upida,
As up to college swift there sped
Upidee, i-da.
A Freshman with a cap and gown
Which proudly he had worn thro' town.

Chorus.

Upidee, i-d-e-i-da, upidee, upida,
Upidee, i-d-e-i-da, upidee, upida.

Scene II.

The winter snow was falling fast,
As thro' the college gates there passed
A soph with low dejected mien,
He feared the worst 'twas plainly seen.—*Chorus.*

Scene III.

Winter's storms are past and gone,
Spring with gentle breeze has come,
A senior (for now such is he)
Works day and night to get A.B.—*Chorus.*

Scene IV.

Of graduate class a member now
Importance stamps his youthful brow,
In pride he views th' approaching spring,
When end shall this "confounded thing."—*Chorus.*

Scene V.

Inside a car, in rapid flight
From college cheer and banquet bright,
With ghastly visage, pale as death,
The "Plucked" all curses 'neath his breath.—*Chorus.*

FOUNDER'S FESTIVAL.

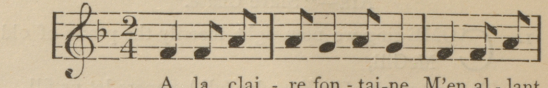
AIR—"Slave Chase."

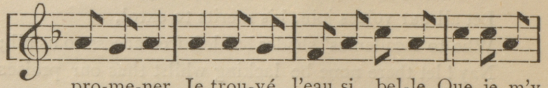
1. COME sing we now right merrily the praise of old McGill,
To the honour of its Founder full bumpers let us fill.
Let all our voices join, his merits to extol,
Who to Academus' shades has left free access to us all;
Nay! let there none be lacking whilst thus our praises ring—
But let each one a loyal heart to *Alma Mater* bring;
Chorus.
For ne'er inside our honoured walls has he a place to fill,
Who brings not fame and credit to the Founder of McGill.

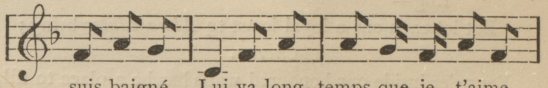
2. But once a year we gather and celebrate the day,
In song, good cheer and gladness, and hearty student's lay;
Old friends we meet and welcome back with jovial hearts once more,
For they bring to fond remembrance the happy days of yore.
So the day we e'er shall cherish which unites us to the past;
And in the hearts and minds of all long may its memories last.—*Chorus.*

3. Then in three hearty ringing cheers our voices we'll upraise,
And sound the honour of McGill and our old Founder's praise;
Wide may all our Collegians fame abound thro' out the land;
And may our friends both far and near extend a bounteous hand,
That the students of some future years may richer blessings reap,
And worthier of our Founder his festal day may keep.
Chorus.

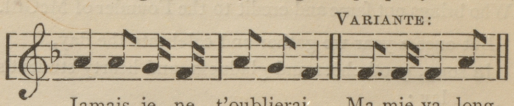
A LA CLAIRE FONTAINE.







VARIANTE:



2. J'ai trouvé l'eau si belle
Que je m'y suis baigné ;
Sous les feuilles d'un chêne
Je me suis fait sécher.

3. Sous les feuilles d'un chêne
Je me suis fait sécher ;
Sur la plus haute branche
Le rossignol chantait.—*Chorus.*

4. Sur la plus haute branche
Le rossognol chantait.
Chante, rossignol, chante,
Toi qui as le cœur gai.—*Chorus.*

5. Chante, rossignol, chante,
Toi qui as le cœur gai ;
Tu as le cœur à rire,
Moi je l'ai-t-à pleurer.—*Chorus.*

6. Tu as le cœur à rire,
Moi je l'ai-t-à pleurer :
J'ai perdu ma maîtresse
Sans l'avoir mérité.—*Chorus.*

7. J'ai perdu ma maîtresse
Sans l'avoir mérité,
Pour un bouquet de roses
Que je lui refusai.—*Chorus.*

8. Pour un bouquet de roses
Que je lui refusai
Je voudrais que la rose
Fut encore au rosier.—*Chorus.*

9. Je voudrais que la rose
Fut encore au rosier,
Et moi et ma maîtresse
Dans les mêmes amitiés.

VARIANTE.

Et que le rosier même
Fut à la mer jeté,
Lui y a longtemps que je t'aime
Jamais je ne t'oublirai.

GAUDEAMUS.

1. GAUDEAMUS igitur
Juvenes dum sumus
Post jucundam juventutem
Post molestam senectutem
Nos habebit humus.

2. Ubi sunt, qui ante nos
In mundo fuere ?
Transeas ad superos
Abeas ad inferos
Quos si vis videre.

3. Vita nostra brevis est,
Brevis finietur,
Venit mors velociter,
Rapit nos atrociter,
Nemini parcetur.

4. Vivat academia,
Vivant professores.
Vivat membrum quodlibet,
Vivant membra quaelibet,
Semper sint in flore.

5. Vivant omnes virgines,
Faciles, formosæ,
Vivant et mulieres,
Tenerae amabiles
Bonae laboriosae.

6. Vivat et respublica,
Et qui illam regit
Vivat nostra civitas,
Maecenatam caritas,
Quae nos hic protegit.

7. Alma Mater floreat,
Quae nos educavit.
Caros et commilitones,
Dissitas in regiones,
Sparsos congregavit.

FLOWING BOWL.

1. LANDLORD, fill the flowing bowl,
Until it doth run o'er;
Landlord, fill the flowing bowl,
Until it doth run o'er.

Chorus.

"For to-night we'll merry, merry be," (*Ter.*)
To-morrow we'll be sober.

2. The man that drinks good whiskey punch,
And goes to-bed right mellow,
The man that drinks good whiskey punch,
And goes to bed right mellow.

Chorus.

"Lives as he ought to live," (*Ter.*)
And dies a jolly good fellow.

3. The man who drinks good water pure,
And goes to bed right sober,
The man who drinks good water pure,
And goes to bed right sober.

Chorus.

Falls as the leaves do fall, (*Ter.*)
Early in October.

CROW SONG.

1. THERE were three crows sat on a tree,
O Billy Magee, Magar!
There were three crows sat on a tree,
O Billy Magee, Magar!
There were three crows sat on a tree,
And they were black as black could be.

Chorus.

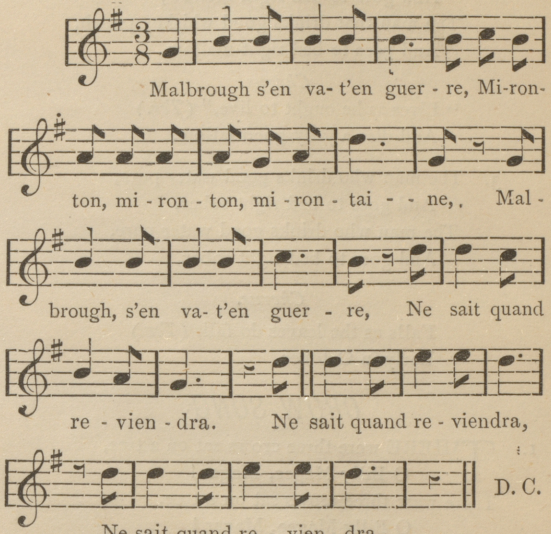
And they all flapped their wings and cried,
Caw, caw, caw, caw, Billy Magee, Magar!
And they all flapped their wings and cried, Billy Magee, Magar!

2. Said one old crow unto his mate,
"What shall we do for grub to eat?"—*Chorus.*

3. "There lies a horse on yonder plain,
Who's by some cruel butcher slain."—*Chorus.*

4. "We'll perch ourselves on his backbone,
And pick his eyes out one by one."—*Chorus.*

MALBROUGH.



Il reviendra-z-à Pâques,
Mironton, etc.
Il reviendra-z-à Pâques
Ou à la Trinité. (ter.)

La Trinité se passe,
Mironton, etc.
La Trinité se passe,
Malbrough ne revient pas. (ter.)

Madame à sa tour monte,
Mironton, etc.
Madame à sa tour monte,
Si haut qu'ell' peut monter. (ter.)

Elle aperçoit son page,
Mironton, etc.
Elle aperçoit son page
Tout de noir habillé. (ter.)

—Beau page, ah ! mon beau page,
Mironton, etc.
Beau page, ah ! mon beau page,
Quell' nouvelle apportez ? (ter.)

Aux nouvell's que j'apporte,
Mironton, etc.
Aux nouvell's que j'apporte
Vos beaux yeux vont pleurer. (ter.)

Quittez vos habits roses,
Mironton, etc.
Quittez vos habits roses
Et vos satins brochés. (ter.)

Monsieur Malbrough est more,
Mironton, etc.
Monsieur Malbrough est more,
Est mort et enterré. (ter.)

J'l'ai vu porter en terre,
Mironton, etc.
J'l'ai vu porter en terre
Par quatre-z officiers. (ter.)

L'un portait sa cuirasse,
Mironton, etc.
L'un portait sa cuirasse,
L'autre son bouclier. (ter.)

L'un portait son grand sabre,
Mironton, etc.
L'un portait son grand sabre,
L'autre ne portait rien. (ter.)

RULE BRITANNIA.

1. OH, 'twas on the broad Atlantic, in an equinoctial gale,
That a fine young man fell overboard among the shark and whale,
And he went right down so very quickly, and so quickly down went he,
That he went out of sight, like a streak of light, to the bottom of the deep blue sea.

Chorus.

Singing, Rule Britannia, Britannia rules the wave,
And Britons never, never, never
Shall be married to a mermied,
At the bottom of the deep blue sea.

2. Then we got the boats out quickly, and we thought to find his corse,
When he came to the top with a bag in his hand, a hoarse, sepulchral voice:
"Oh, my comrades and my messmates all, oh don't you weep for me,
For I'm married to a mermied in the bottom of the deep blue sea."—*Chorus.*

3. "In my chest you'll find my twelve-months' pay, wrapped round with a lock of hair,
You may take it and carry it to my dear wife with care;
You may take to my mother my *carte de visite*, saying, don't you weep for me,
For I'm married to a mermied at the bottom of the deep blue sea."—*Chorus.*

4. The anchor was weighed and the sails unfurled, and
the ship was running free,
When we went up to our capitaine, and this we told to
he ;
Then the captain he came to the old ship's side, and out
loud bellowed he,
" Be as happy as you can, with your wife, my man, at
the bottom of the deep blue sea."—*Chorus.*

PARTING SONG.

AIR—" Auld lang syne."

1. FOUR years of life have passed away,
Since first from " Fresh " we strayed,
Where mirth and learning hold their sway,
Beneath this classic shade.

Chorus.

For auld lang syne, my friends,
For auld lang syne,
We'll aye have kindly hearts and hands,
For auld lang syne.

2. And now the word that sadly falls,—
We meet to say farewell,
And loud through old McGill's dear halls,
Our parting song to swell.—*Chorus.*

3. " All hail to old McGill," we sing,
" Our mother, staunch and true,
May added years fresh honour bring,
And still her age renew."—*Chorus.*

4. Then once again in friendly grasp,
Classmates, our hands we'll join,
And sing, while hand in hand we clasp,—
These days of " Auld lang syne."—*Chorus.*

SNOW SHOE TRAMP.

1. UP! up! the morn is beaming,
Through the forest breaks the sun;
Rouse, ye sleepers, time for dreaming
When our daily journey's done.
Bind the Snow Shoe fast with thong too,
See that all is tight and sure,
All is a bliss to—naughts amiss to—
A brave young North-west voyageur.

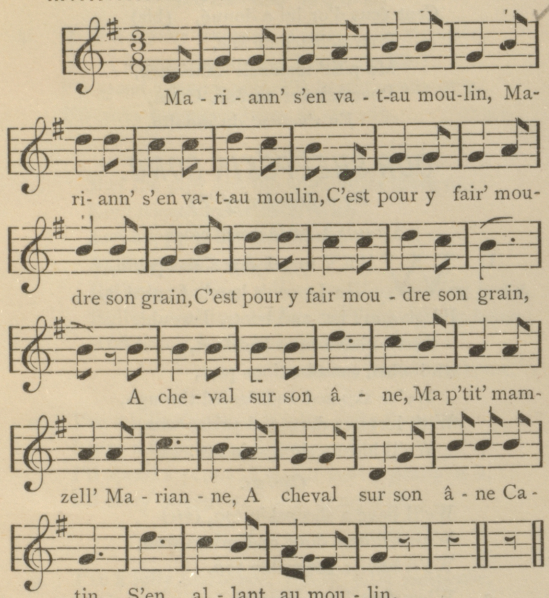
Chorus.

Tramp, Tramp, on Snow Shoes tramping,
All the day we marching go,
Till at night, by fires encamping,
We find couches on the snow.

2. On! On! let men find pleasure
In the city dull and drear,
Life is freedom, life's a treasure,
As we all enjoy it here.
Ha, ha ha ha, Ha, ha ha ha,
See the novice down once more,
Hear him shout, then pull him out, then
Many a fall he's had before.—*Chorus.*

3. Men may talk of steam and railroads,
But full well our comrades know
We can beat the fastest engine
In a night tramp o'er the snow.
It may puff, sir, it may blow, sir,
It may whistle, it may scream,
But lightly tripping, gently dipping,
Snow Shoes leave behind the steam.—*Chorus.*

MARIANN' S'EN VA-T-AU MOULIN.



Le meunier, qui la voit venir, (bis)
S'empresse aussitôt de lui dire :
—Attachez donc votre âne,
Ma p'tit' mamzell' Marianne,
Attachez-donc votre âne, Catin,
Par derrièr le moulin.

Pendant que le moulin marchait, (bis)
Le loup tout à l'entour rôdait. (bis)
Le loup a mangé l'âne,
Ma p'tit' mamzell' Marianne,
Le loup a mangé l'âne Catin,
Par derrièr' le moulin.

Mariann' se mit à pleurer. (bis)
Cent écus d'or lui a donné, (bis)
Pour acheter un âne,
Ma p'tit' mamzell' Marianne,
Pour acheter un âne, Catin,
En r'venant du moulin.

OUR SHEEPSKIN SONG.

By a Member of '82.

Air—"A little more cider."

1. WHEN first I saw a sheepskin,
In J—son's hands I spied it,
I'd give my hat and boots, I would,
Just to have been beside it,
Oh! when examinations past,
We've skinned and fizzled through,
With lectures done and prizes won,
We'll have a sheepskin too.

Chorus.

We'll have a sheepskin too, (*bis*)
With lectures done and prizes won,
We'll have a sheepskin too.

2. When first I saw alumni,
'Twas D—son who did make them,
I longed to jump into their boots
And from their gowns to shake them.
Oh! when examination's past, etc.

Chorus.

We'll be alumni too, etc.

3. When first I saw the ladies,
On Convocation Day,
Sit smiling all in Molson Hall,
It took my breath away.
Oh! when examination's past, etc.

Chorus.

We'll have a lady, too, etc.

ROLLING HOME.

1. I'VE a jolly sixpence, a jolly, jolly sixpence,
I love a sixpence as I love my life;
I'll spend a penny of it, I'll lend a penny of it,
I'll carry fourpence home to my wife.

Chorus.

May the pipe and the bowl never leave us,
Kind friends never deceive us,
And happy is the one that shall meet us,
As we go rolling home,
Rolling, reelling, rolling, reelling, rolling home,
Rolling, reelling, rolling, reelling, rolling home;
And happy is the one that shall meet us,
As we go rolling home,

2. I've a jolly fippence, a jolly, jolly fippence,
I love a fippence as I love my life;
I'll spend a penny of it, I'll lend a penny of it,
I'll carry threepence home to my wife.
Chorus.

3. I've a jolly fourpence, a jolly, jolly fourpence,
I love a fourpence as I love my life;
I'll spend a penny of it, I'll lend a penny of it,
I'll carry twopence home to my wife.
Chorus.

BINGO.

1. HERE'S to M'Gill College, drink it down,
Here's to M'Gill College, drink it down;
Here's to M'Gill College,
'Tis the home of fun and knowledge,
Drink it down, drink it down, drink it down, down, down.

2. Here's to '79, drink her down,
Here's to '79, may she ever live and shine,
Drink her down, etc.

3. Here's to class of '80, drink her down,
Here's to class of '80, full of wisdom and of gay'ty,
Drink her down, etc.

4. Here's to '81, drink her down,
Here's to '81, she's the class for having fun,
Drink her down, etc.

5. Here's to '82, drink her down,
Here's to '82, to M'Gill she'll be true,
Drink her down, etc.

BULL DOG.

1. OH! the bull-dog on the bank,
And the bull-frog in the pool;
Oh! the bull-dog on the bank,
And the bull-frog in the pool;
Oh! the bull-dog on the bank,
And the bull-frog in the pool;
The bull-dog called the bull-frog
A green old water fool.

Chorus.

Singing tra la, la, la, la, la, la,
Singing tra la, la, la, la, la;
Singing tra la, la, singing tra la, la,
Tra la, la, tra la, la, tra la, la, la, la.

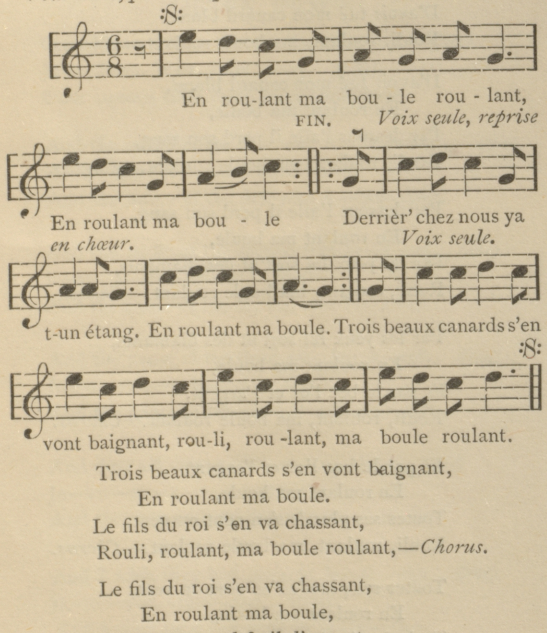
2. Oh! the bull-dog stooped to catch him,
And the snapper caught his paw; (*Ter*)
The pollywog died a laughing
To see him wag his jaw.—*Chorus.*

3. Says the monkey to the owl,
"Oh! what'll you have to drink?" (*Ter*)
"Since you are so very kind,
I'll take a bottle of ink."—*Chorus.*

4. Pharaoh's daughter on the bank,
Little Moses in the pool, (*Ter*)
She fished him out with a telegraph pole,
And sent him off to school.—*Chorus.*

EN ROULANT.

Voix seule, puis la reprise en chœur.



Trois beaux canards s'en vont baignant,
En roulant ma boule.
Le fils du roi s'en va chassant,
Rouli, roulant, ma boule roulant,—*Chorus.*

Le fils du roi s'en va chassant,
En roulant ma boule,
Avec son grand fusil d'argent,
Rouli, roulant, ma boule roulant,—*Chorus.*

Avec son grand fusil d'argent,
En roulant ma boule,
Visa le noir, tua le blanc,
Rouli, roulant, ma boule roulant,—*Chorus.*

Visa le noir, tua le blanc,
En roulant ma boule.
O fils du roi, tu es méchant !
Rouli, roulant, ma boule roulant,—*Chorus.*

O fils du roi, tu est méchant !
En roulant ma boule,
D'avoir tué mon canard blanc,
Rouli, roulant, ma boule roulant,—*Chorus.*

D'avoir tué mon canard blanc,
En roulant ma boule,
Par dessous l'aile il perd son sang,
Rouli, roulant, ma boule roulant,—*Chorus.*

Par dessous l'aile il perd son sang,
En roulant ma boule,
Par les yeux lui sort'nt des diamants,
Rouli, roulant, ma boule roulant.—*Chorus.*

Par les yeux lui sort'nt des diamants,
En roulant ma boule,
Et par le bec l'or et l'argent,
Rouli, roulant, ma boule roulant.—*Chorus.*

Et par le bec l'or et l'argent,
En roulant ma boule,
Toutes ses plum's s'en vont au vent,
Rouli, roulant, ma boule roulant.—*Chorus.*

Toutes ses plum's s'en vont au vent,
En roulant ma boule,
Trois dam's s'en vont les ramassant,
Rouli, roulant, ma boule roulant.—*Chorus.*

Trois dam's s'en vont les ramassant,
En roulant ma boule,
C'est pour en faire un lit de camp,
Rouli, roulant, ma boule roulant.—*Chorus.*

C'est pour en faire un lit de camp,
En roulant ma boule,
Pour y coucher tous les passants.
Rouli, roulant, ma boule roulant.—*Chorus.*

THREE JEWS.

Once upon a time there were three Jews (bis)
Jews, Jews, Jews, Jews, Jews, (bis)
Once upon a time there were three Jews.

And the name of the first was A—bra—ham, (bis)
A—a—bra—a—ham—ham—ham. (bis)
And the name of the first was A—bra—ham.

And the name of the second was Is—a—ac, (bis)
I—sa—a—ac—ac—ac, (bis)
And the name of the second was Is—a—ac.

And the name of the third was Ja—a—cob, (bis)
Ja—a—cob—cob—cob, (bis)
And the name of the third was Ja—a—cob.

And they all went to Je—ru—sa—lem, (bis)
Je—ru—sa—a — (bis)
And they all went to Je—ru—sa—lem.

And I wish they had gone to Je—ri—cho, (bis)
Je—ri—cho—cho—cho, (bis)
And I wish they had gone to Je—ri—cho.

GOOD NIGHT.

(As sung at Yale.)

1. GOOD night, ladies! Good night, ladies;
Good night, ladies! we're going to leave you now.

Chorus.

Merrily we roll along, roll along, roll along,
Merrily we roll along, o'er the dark blue sea.

2. Farewell, ladies; farewell, ladies;
Farewell, ladies; we're going to leave you now.

Chorus.

3. Sweet dreams, ladies; sweet dreams, ladies;
Sweet dreams, ladies; we're going to leave you now.

Chorus.

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