

TORONTO MECHANICS' INSTITUTE.

COURSE OF LECTURES

TO BE DELIVERED

IN THE ST. LAWRENCE HALL,

DURING THE WINTER OF 1856-7.

FOUR LECTURES ON "PRIMITIVE SOURCES OF HISTORICAL TRUTH," BY DR. DANIEL WILSON,

PROFESSOR OF HISTORY AND ENGLISH LITERATURE, UNIVERSITY COLLEGE, TORONTO.

1856.—Friday, Nov. 21. 1st Lecture, "Unwritten History."

The Science of Antiquities, or Archaeology.—Historical Memorials of the Past.—Traces of an Ancient British History prior to all Written Records.—Evidences of the Ancient Briton's knowledge of the Arts.—His Sepulchral Rites and Primitive Monuments prior to the Christian Era.—Traces of American History prior to its discovery by Columbus.—Connection between the Primitive Antiquities of the Old and New World.

Nov. 28.—2nd Lecture, "The Historical Races."

Definition and Uses of the Science of Ethnology.—Unity and Variety in the Human Family.—The Ancient Races of Mankind.—The Memorials of Unhistoric Races, and Evidences of their Extinction.—The Ancient Miners and Mound-builders of America.—The Entrance of the Celtic and Germanic Races into Europe.—The Intellectual Influences of each.—Results of the Admixture and Collision of Races.

Dec. 5.—3rd Lecture, "The Historical Nations."

The Dawn of Civilisation.—The Special Characteristics of Nations.—The Development of Intellectual Progress by a succession of Historical Nations.—The Origin of Colonisation and Commerce; of Agriculture, Arts, and Letters.—The World's Historic Past, Present, and Future.

Dec. 12.—4th Lecture, "Historical Lands."

Influence of Physical Geography on National Character and History.—Isolation, Individuality, and Unity among the Nations.—Contrasting Elements of Ancient and Modern History.—The Old and New Worlds.—The Historical and Political Influences of the Arts of Civilisation.—The Future of Canada.

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EIGHT LECTURES ON CHEMISTRY, &c.,

(WITH EXPERIMENTS), BY

PROFESSOR CROFT, UNIVERSITY COLLEGE, TORONTO,

AND

PROFESSOR HIND, TRINITY COLLEGE, TORONTO.

December 19.—First Lecture:

"Chemistry of the Elements, and of their most useful Combinations"..... PROF. CROFT.

1857. January 9.—Second Lecture:

"Chemistry of Poisons and Adulterations"..... Do.

January 16 and 23.—Third and Fourth Lectures:

"The Gases Employed or Generated during the Processes of our Manufacturing Industry" PROF. HIND.

January 30 and February 6.—Fifth and Sixth Lectures:

"Electricity and Galvanism; their Origin, History, and Applications"..... PROF. CROFT.

February 13 and 20. Seventh and Eight Lectures:

"The Artificial Preparation of the Ozone and Fluorine, Principles of Plastics, &c., PROF. HIND.

"The Mineral Wealth of Canada"

FOUR LECTURES ON

NATURAL PHILOSOPHY,

(WITH EXPERIMENTS),

BY REV. W. ORMISTON, M.A.

Feb. 27.—First Lecture, "Matter and Motion."

The nature and advantages of the study of Physical Science.—The Province of Natural Philosophy and divisions of the Subject.—Matter, its Properties and States of Aggregation.—Attraction.—Gravitation.—Centre of Gravity.—Motion, its Forms.—Laws.—Reflection.—Resolution and Composition.—Friction.—Momentum and Velocity.—Vibration.—Pendulum, &c.

March 6.—Second Lecture, "Heat, its proximate Causes and Effects."

Heat, different Theories and proximate Causes.—Expansion.—Incandescence.—Combustion.—Effluvia.—Evaporation.—Congelation.—Radiation.—Absorption.—Reflection.—Refraction and Transmission.—Thermometers, Graduation and different Scales.—Capacity for Heat, Specific and Latent.—Caloric of Fluidity—and Elasticity.

March 13.—Third Lecture, "Air and Atmospheric Phenomena."

Air, its Composition, Extent, Elasticity.—Mariotte's Law.—Pressure.—Temperature and Humidity.—Barometers, Construction and Use.—Pumps.—Air Guns.—Balloons and Diving Bells.—Winds, their Causes, Force, and Velocity.—Trade Winds.—Monsoons.—Simooms.—Whirlwinds.—Hurricanes and Calms.

March 20.—Fourth Lecture, "Water and Aqueous Phenomena."

Water, its Physical Condition, Amount, different degrees of Purity.—Its Pressure equal in every direction, and in proportion to its depth.—The "Paradox" and Hydraulic Press.—Water seeks its Level.—Aqueducts.—Canals.—Specific Gravity of Solids.—Liquids.—Gases.—Hydrometers.—Springs.—Artesian Wells.—Rain, distribution and Amount.—Rainy Seasons.—Rainy and Rainless Regions.—Fogs.—Clouds.—Dew.—Hoarfrost, and Snow.

Tickets for the Course—To Members of the Institute, 5s.; Non-members, 10s.; Ladies and Junior Members, 2s. 6d. For a Single Lecture—Members, 7½d.; Non-members, 1s. 3d.; Ladies and Junior Members, 7½d.

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