



THE  
CANADIAN SCHOOL  
G E O G R A P H Y,

BY

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AUTHOR OF PRINCIPLES OF ELOCUTION, RHETORICAL EXERCISES,  
THE ENGLISH LEARNER, A SYSTEM OF GEOGRAPHY  
AND ASTRONOMY, AND A NEW GENERAL  
ATLAS.

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**EWING'S  
CANADIAN SCHOOL  
GEOGRAPHY**



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## PREFACE.

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IN the course of different visits which the Author of the following little work has paid to Canada, he has been struck with the great diversity, and for the most part, the antiquated and inferior character of the Books used in the Schools throughout the Province. In no branch of study was this more observable than in that of Geography :—the greater portion of the Text Books appear to be imported from the United States ; and, as might be expected, while they contain much information respecting these Republics, they dismiss summarily what it is most necessary the British Colonial youth should be rendered most familiar with—their own Parent country and its dependencies. The author has endeavoured to supply the deficiency, by producing for the use of Elementary Schools the present work, which is upon the same principle as his “ System of Geography,” a book which has gone through about twenty editions in Britain, and has been extensively employed in all the principal Boarding Schools and Academies. That the Canadian School Geography may merit a like favourable reception, is the anxious wish and expectation of

THE AUTHOR.

Montreal, }  
February, 1843. }





# EWING'S G E O G R A P H Y .

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GEOGRAPHY IS A DESCRIPTION OF THE EARTH AND ITS  
INHABITANTS.

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## INTRODUCTION.

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### *I. On the Sun, Earth, and Moon.*

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1. The Sun, Earth, and Moon, are bodies resembling a sphere or globe.

2. The Diameter of the Sun is nearly 890,000 miles; that of the Earth 8,000; and that of the Moon 2,180.

3. The Sun is more than 1,300,000 times the magnitude of the Earth; and the Earth nearly 50 times the magnitude of the Moon.

4. The distance of the Earth from the Sun is about 95,000,000 miles; and, from the Moon 240,000.

5. The Sun has one motion, which it performs round its axis in about 25 days, 14 hours, 8 minutes.

6. The Earth has two motions; one round its axis, in 24 hours, called its diurnal motion, which causes the apparent motion of the heavenly bodies from East to West, and the alternation of day and night; another, round the Sun, in 365 days 6 hours, called its annual motion, which causes the difference in the length of the days and nights, and the various seasons.

7. The Moon has three motions; one, round the Earth, in about four weeks, which causes the Moon's apparent increase and decrease, and produces the eclipses of the Sun and Moon; another, round its own axis, in the same time; and a third, round the Sun, along with the Earth, in a year.

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## *II. On the Solar System.*

1. Besides the Earth and its attendant the Moon other bodies revolve, in a similar manner, about the Sun, and receive their light and heat from him. All these revolving bodies, together with the Sun, form what is called the *Planetary* or *Solar System*.

2. The Solar System consists of the Sun, the Primary Planets, the Secondary Planets, (called also Moons or Satellites,) and Comets.

3. There are 11 Primary Planets, Mercury, Venus, the Earth, Mars, (*Vesta*, *Juno*, *Ceres*, *Pallas*,) Jupiter, Saturn, and the Georgium Sidus, called also Uranus or Herschel.

4. There are 18 Secondary Planets; of which the Earth has one; Jupiter, four; Saturn, with his Ring, seven; and the Georgium Sidus, six.

5. Comets are luminous bodies, or a kind of planets, which move round the sun, in very eccentric orbits.

6. The solar system is but a small part of the universe. Those celestial bodies, called fixed stars, which are completely unconnected with the solar system, are, by astronomers, considered as so many suns, each communicating light and heat to revolving planets or worlds.

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### III. On Maps.

1. A MAP is a representation of the Earth, or a part of it, on a plane surface.

2. The *top* of a map is towards the north, the *bottom* towards the south, the *right-hand* side towards the east, and the *left-hand* side towards the west.

3. *Latitude* is the distance of a place north or south from the equator; *longitude* is its distance east or west from the first meridian.

4. The *latitude* upon maps is expressed by figures on their *sides*. If the figures increase *upwards*, the latitude is north; if they increase *downwards*, it is south.

5. The *longitude* is expressed upon maps by figures along the *top* and *bottom*. When the figures increase towards the *right*, the longitude is east; but, when they increase towards the *left*, it is west.

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### IV. Natural Divisions of the Earth's Surface.

1. The surface of the Earth consists of *land* and *water*.

2. A *continent* is a large tract of land. An *island* is land surrounded by water. A *promontory* or *cape* is a portion of land running into the sea. A *peninsula* is land almost surrounded by water. An *Isthmus* is a narrow neck of land joining two portions of land together.

3. An *Ocean* is a large portion of salt water. A *Sea* is a smaller portion. A *Lake* is water surrounded by land. A *Bay* is a portion of sea running into the land. A *Gulf* is water almost surrounded by land. A *Strait* is a narrow passage of water between two seas.

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## MAP OF THE WORLD. (a)

### CONTINENTS.—North America, South America,

(a) The circumference of the Earth is 21,600 Geographical miles, of 60 to a degree; or 25,020 British miles, reckoning  $69\frac{1}{2}$  to a degree. The surface of the Earth contains about 196 millions of English square miles, and nearly three-fourths of it are covered with water. The number of inhabitants on the face of the Globe is generally computed at about 800,000,000; of whom

Europe is supposed to contain.....	230	millions.
Africa do do .....	70	do
America do do .....	40	do
Asia, with Australasia and Polynesia....	460	do

Of the surface of the Globe, Seas and Lakes occupy about 145 millions of English square miles, or nearly three-fourths; and the dry land occupies 51 millions, or rather more than one-fourth. The extent of the great divisions of the world is respectively as follows:—

Europe, with its Isles.....	3,700,000	square miles.
Africa, with Madagascar.....	11,400,000	do
Continental Asia.....	16,100,000	do
Asiatic Islands, including Australasia } and Polynesia..... }	4,200,000	do
North America.....	8,100,000	do
South America.....	6,420,000	do
American Islands.....	160,000	do
Greenland, as far as known, .....	620,000	do
	<hr/>	
	50,700,000	do

Europe, Asia, Africa, (b)

OCEANS.—Atlantic, (c,) Pacific or South Sea, (d),  
Indian, Northern or Arctic, Southern or Antarctic.

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## NORTH AMERICA.

BOUNDARIES.—N. Northern Ocean ; E. Baffin's Bay and the Atlantic ; S. Isthmus of Darien ; W. Pacific.

DIVISIONS.—British Possessions, United States, Texas, Mexico, Guatemala, Russian Territory, W. Indian Islands.

ISLANDS.—Newfoundland, Bermudas, Bahamas, Fox Islands, King George III's Island, Prince of

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(b) There are in fact only *Two* Grand Continents, the *Eastern* Continent or the *Old World*, comprehending Europe, Asia, and Africa ; and the *Western* Continent or the *New World*, comprehending North and South America. Europe, Asia, Africa, and America, are called by Geographers the *Four Quarters* of the Globe. The Great Islands of *Australasia* are now reckoned a *Fifth* Division.

(c) The *Atlantic* Ocean takes its name from the Mountains of Atlas in Africa ; and from the fiction of Atlas carrying the World on his back, the name *Atlas*, applied to a collection of Maps, is derived.

(d) When *Magellan* entered this Ocean, in 1520, through the dangerous strait that bears his name, he sailed 3 months and 20 days, in a uniform direction towards the N. W. without discovering any land besides a few small islets. In the extreme distress which he suffered in this voyage, before he reached the Ladrone Islands, he had the consolation, however, of enjoying such an uninterrupted course of fair weather, with favourable winds, that he bestowed on this Ocean the name of *Pacific*, which it still retains. The Spaniards, having passed the Isthmus of Darien, from North to South, at the discovery of this Ocean, named it the South Sea.

Wales' Island, Queen Charlotte's Island, *Quadrà* or Vancouver's Island.

**MOUNTAINS.**—Appalachian or Alleghany, Andes, or Cordilleras, Rocky Mountains.

**LAKES.**—Superior, Michigan, Huron, Erie, Ontario; Champlain; Nicaragua, Slave Lake, Athabasca, Winnipeg, Great Bear Lake.

**BAYS, GULFS AND STRAITS.**—Baffin's Bay, Davis' Straits, Hudson's Bay, James' Bay, Straits of Belleisle, Gulf of St. Lawrence, Fundy Bay; Gulfs of Florida and Mexico; Bays of Campeachy and Honduras; Gulf of California; Nootka or King George's Sound, Behring's Straits.

**CAPIES.**—Farewell, Chidley, Charles, Florida, St. Lucas, Alaska, Prince of Wales.

**RIVERS**—Mississippi, Missouri, Ohio, St. Lawrence, Columbia, Mackenzie's, Copermine.

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## BRITISH POSSESSIONS IN NORTH AMERICA.

**BOUNDARIES.**—N. Northern Ocean; E. Baffin's Bay and the Atlantic; S. United States; W. Russian Territory and Pacific.

**DIVISIONS.**—1. Canada, (East or Lower, (*a*) and West or Upper, (*b*); 2. New Brunswick, (*c*); 3. Nova Scotia, (*d*); 4. New Britain, (including Hudson's Bay or New N. and S. Wales, F. Main, and Labrador); 5. Newfoundland; 6. Cape Breton; 7. Prince Edward Island; 8. Bermudas; 9. Anticosti, Pictou, St. Pierre or St. Peter's, Miquelon, &c, in the Gulf of St. Lawrence.

**TOWNS.**—1. Quebec (*e*), Montreal, Three Rivers, Berthier, William Henry *or* Sorel, Sherbrooke, New Carlisle, Douglastown, St. John's *or* Dorchester, St. Hyacinthe, St. Andrew's, L'Assomption ; **KINGSTON**, Toronto, Niagara, Queenston, Brockville, Prescott, Perth, Cornwall, Bytown, Belleville, Picton, Cobourg, Port Hope, Peterborough, Dundas, Ancaster, Simcoe, Hamilton, Makden, Amherstburg, Sandwich, Chatham, London, Goderich, Guelph, Woodstock, Barrie, St. Catherine's ; 2. Fredericton, St. John's, St. Andrews, Dalhousie, Bathurst, Woodstock, Miramichi, Richibucto ; 3. Halifax Shelburne, Annapolis, Liverpool *or* Port Rossignol ; 4. There are no Towns in these Territories ; but several Forts and Trading Ports belonging to the Hudson's Bay Company ; 5. St. John, Placentia, Bonavista ; 6. Sydney ; 7. Charlottetown ; 8. St. George.

**ISLANDS.**—Anticosti, Orleans, Montreal, Jesus ; Grand Manitoulin, Isle Royale.

**MOUNTAINS.**—S. Chain, along the source of the Rivers which fall into the S. *or* right bank of the St. Lawrence in Lower Canada ; the N. Chain, along the source of the Rivers which fall into N. *or* left bank of the St. Lawrence, extending from below Quebec to the River Ottawa in Lower Canada.

**LAKES.**—Temiscaming, Two Mountains, Abbitibi, St. John, Memphremagog, Megantic, Temiscouta, St. Francis, St. Louis, St. Peter ; Ontario,

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(*e*) Quebec was built by the French in 1605. The British reduced it and all Canada in 1626 ; but it was restored in 1632. In 1711, it was besieged by the English without success ; but was taken by them in 1759, after a battle memorable for the death of General Wolfe, on the plains of Abraham, at Quebec, in the moment of victory ; and was confirmed to them by the peace of 1763.



Erie, Huron, Superior, Nipissing, Simcoe, St. Clair. (f)

BAYS.—Fundy, Chaleurs, Miramichi, Gut of Canso, Straits of Belleisle.

CAPES.—Sable, Ray, Race, Charles, Chidley.

RIVERS.—St. Lawrence, Ottawa, St. Maurice, Cartier, Montmorency, Saguenay, Chambly or Sorel or Richlieu, St. Francis, Chaudiere; Trent, Grand, Thames; Madawaska, and the Rideau which enter the Ottawa.

(a) *The Province of Lower Canada, comprehending the three principal Districts of Quebec, Montreal and Three Rivers, and the two Inferior Districts, Gaspé and St. Francis, is subdivided into 36 Counties \* of—1. Vaudreuil, 2. Ottawa, 3. Lake of Two Mountains, 4. Montreal, 5. Terrebonne, 6. Leinster, 7. Berthier, 8. St. Maurice, 9. Champlain, 10. Port Neuf, 11. Quebec, 12. Montmorency, 13. Saguenay, 14. Gaspé, 15. Bonaventure, 16. Rimouski, 17. Kamouraska, 18. L'Islet, 19. Bellechasse, 20. Dorchester, 21. Megantic, 22. Lotbiniere, 23. Nicolet, 24. Yamaska, 25. Drummond, 26. Sherbrooke, 27. Stanstead, 28. Missiskoui, 29. Shefford, 30. St. Hyacinthe, 31. Rouville, 32. Richlieu, 33. Vercheres, 34. Chambly, 35. Huntingdon, 36. Beauharnois. Each County returns one Member, who added to two each from the cities of Quebec and Montreal, and one each from the Towns of Three Rivers and Sherbrooke, make the share of Lower or Eastern Canada in the representation of the Provincial Legislature to amount to 42*

(f) The length, breadth, depth, and circumference of the four great Lakes are—

Lakes.	Length.	Breadth.	Common Depth.	Circum.
Superior....	120 leagues	48 leagues	80 to 150 fathoms	500 leagues
Huron.....	84 do	80 do	60 to 100 do	380 do
Erie.....	82 do	21 do	13 to 17 do	180 do
Ontario....	70 do	20 do	60 to 90 do	160 do

\* The Counties are divided into Seigniories and Townships. The Parishes sometimes contain but one Seignior; sometimes, on the contrary, a Parish is formed of several Seigniories or Townships, either entire or divided.

(b) *The Province of Upper Canada is divided into the 19 Districts † of 1. Eastern, 2. Ottawa, 3. Dalhousie, 4. Bathurst, 5. Johnstown, 6. Midland, 7. Prince Edward, 8. Victoria, 9. Newcastle, 10. Colborne, 11. Home, 12. Niagara, 13. Gore, 14. Talbot, 15. Brock, 16. Wellington, 17. London, 18. Western, 19. Huron. As soon as a Court House and Gaol are completed in the Town of Barrie, and a Proclamation to that effect issued, a new District to be called the Simcoe District will be established. The Counties and Ridings return each one member to Parliament, which with two from the City of Toronto and one each from Kingston, Brockville, Cornwall, Hamilton, Niagara, Bytown, and London make the share of Upper or Western Canada in the representation of the Legislature to be 42.*

*In the above 19 Districts, the 27 Counties are,—1. Glengary, 2. Prescott, 3. Stormont, 4. Dundas, 5. Russell, 6. Carlton, 7. Lanark, 8. Grenville, 9. Leeds, 10. Frontenac, 11. Lenox and Addington, 12. Hastings, 13. Prince Edward, 14. Northumberland, North and South Ridings, 15. Durham, 16. Simcoe, 17. York, four Ridings, 18. Halton, East and West Riding's, 19. Wentworth, 20. Lincoln, North and South Ridings 21. Haldimand, 22. Oxford, 23. Norfolk, 24. Middlesex, 25. Kent, 26. Essex, 27. Huron.*

(c) *New Brunswick is divided into the 10 Counties of—1. St. John's, 2. Westmoreland, 3. King's, 4. Queen's, 5. Charlotte, 6. York, 7. Sunbury, 8. Northumberland, 9. Kent. 10. Gloucester.*

(d) *Nova Scotia ‡ is divided into the 10 Counties of—1. Halifax, 2. Sydney, 3. Cumberland, 4. Hants, 5. Kings, 6. Lunenburg, 7. Queen's, 8. Annapolis, 9. Shelburne, 10. Cape Breton.*

**NATURAL CURIOSITIES.**—The chief Natural curiosities in Canada are the Great Lakes, Rivers and Cataracts. Among the latter are the celebrated Falls of Niagara, between Lakes Erie and Ontario, where the fall of the River, on the Canadian side, is 2,100 feet wide, and 150 feet high. A small Island lies between the Falls; and that on the side of the United States is 1,140 feet broad, while the height is 164 feet. From the Great Fall a cloud of spray ascends,

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† The 19 Districts are divided into 27 Counties, and the Counties subdivided into Townships. There are no Seigniories.

‡ Nova Scotia comprehends 5 circuits. The 10 Counties are subdivided into Districts and Townships.

which may sometimes be seen at an incredible distance. The noise is often heard at the distance of 15 miles. The whole scene is truly tremendous.

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## UNITED STATES.

**BOUNDARIES.**—N. British Possessions ; E. Atlantic ; S. Gulf of Mexico, Texas, and the Mexican States ; W. Pacific.

**DIVISIONS.**—*Northern States* or *New England*, 1. Maine ; 2. New Hampshire ; 3. Vermont ; 4. Massachusetts ; 5. Connecticut ; 6. Rhode Island.

*Middle States*,—7. New York ; 8. Pennsylvania, (*District of Columbia*) ; 9. New Jersey ; 10. Delaware.

*Southern States*,—11. Maryland ; 12. Virginia ; 13. North Carolina ; 14. South Carolina, (*a*) ; 15. Georgia ; 16. Alabama.

*Western States*.—17. Ohio ; 18. Indiana ; 19. Illinois ; 20. Kentucky ; 21. Missouri ; 22. Tennessee ; 23. Mississippi ; 24. Louisiana ; 25. Arkansas ; 26. Michigan.

*Territories*.—27. Florida ; 28. Wisconsin ; 29. Iowa ; 30. Oregon.

**CAPITAL TOWNS.**—*Northern States*.—1. Augusta ; 2. Concord ; 3. Montpelier ; 4. Boston ; 5. Hartford and Newhaven ; 6. Providence.

*Middle States*.—7. Albany ; 8. Harrisburg, (**WASHINGTON**) ; 9. Trenton ; 10. Dover.

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(*a*) S. Carolina is divided into *Districts*, and Louisiana into *Parishes* ; the other States into *Counties*. The subdivisions bear the name of *Townships* in the Northern States, New York, New Jersey, Pennsylvania, and Ohio ; and that of *Villages* or *Townships* in the other States.

*Southern States.*—11. Annapolis ; 12. Richmond ; 13. Raleigh ; 14. Columbia ; 15. Milledgeville ; 16. Tuscaloosa.

*Western States.*—17. Columbus ; 18. Indianapolis ; 19. Vandalia ; 20. Frankfort ; 21. Jefferson City ; 22. Nashville ; 23. Jackson ; 24. New Orleans ; 25. Little Rock ; 26. Detroit.

*Territories.*—27. Tallahassee ; 28. Madison City ; 29. Burlington ; 30. Astoria.

**ISLANDS.**—Long Island, Staten, Martha's Vineyard, Nantucket ; Gouverneurs, Bedloe, and Ellis, in the Bay of New York.

**MOUNTAINS.**—Appalachian or Alleghany, Green, White, Blue, Cumberland, Ozark, Rocky.

**BAYS.**—The Bays of Passamaquoddy, Penobscot, Casco, Massachusetts, the Sound, New York, Delaware, Chesapeake ; Currituck, Albemarle, and Pamlico Sounds ; the Bay of Appalachia and Mobile ; Lake Michigan, (*b.*)

**RIVERS**—Mississippi, Ohio, St. Croix, Connecticut, Hudson, Delaware, Susquehanna, Potomac, Savannah ; Illinois, Missouri, Arkansas, Red River, Sabine ; Little Kenaway, Great Kenaway, Scioto, Little Miami, Great Miami, Kentucky, Green, Wabash, Cumberland, Tennessee ; Fluvien or St. James, Roanoke, Pamlico, Cape Fear, Pedee and Santee ; Sabine, between Louisiana and Texas.

**ADDITIONAL TOWNS.**—1. *Portland, Bath, Hallowell, Brunswick, Waterville* ; 2. *Portsmouth, Dover, Hanover, Exeter* ; 3. *Bennington, Burlington, Middlebury, Windsor* ; 4. *Salem, Plymouth* (*c.*), *Worcester, Springfield, Northampton* ; 5. *New*

(*b.*) Lake Michigan is 117 leagues long, 27 broad, and 333 in circumference ; and is sufficiently deep to receive the largest vessels.

(*c.*) The first English settlement in New England was made at Plymouth, 22nd December, 1620, by 101 Puritans, who fled from England, on account of religious persecution. The anniversary of the landing of the Puritans is still observed.

London, Norwich, Middletown, Litchfield, Withersfield ; 6. Newport, Bristol, Pawtucket ; 7. New York, Brooklyn, Troy, Hudson, Newburg, Schenectady, Utica, Syracuse, Geneva, Auburn, Canandaigua, Rochester, Buffalo, Lockport ; 8. Philadelphia, Pittsburg, Lancaster ; (Alexandria, Georgetown), 9. New Brunswick, Newark, Princeton, Burlington, Elizabethtown, Patterson ; 10. Wilmington ; 11. Frederick, Hagerstown ; 12. Norfolk, Yorktown, Mount Vernon ; 13. Newbern, Wilmington ; 14. Charleston ; 15. Savannah, Augusta ; 16. Mobile, Blakely ; 17. Cincinnati ; 18. Vincennes, New Albany ; 19. Chicago, Alton ; 20. Lexington, Louisville, Maysville ; 21. St. Louis ; 22. Knoxville ; 23. Natchez ; 24. Baton Rouge ; 25. Arkansas ; 26. Michilimackinack (d) ; 27. St. Augustine, Pensacola.

NATURAL CURIOSITIES.—In New Hampshire is the *Notch* or *Defile of the White Mountains* ; and a *Rock*, so poised on another, as to be moveable by the touch of the finger. In Vermont is a curious *Stalactic Cave*, in which, after a descent of 104 feet, there opens a *Spacious Room* about 20 feet in breadth, and 100 in length, with a *Circular Hall* at the farther end, at the bottom of which boils up a deep spring of clear water. In New York are the *Falls of Niagara* ; the *Fall of the Mohawk River*, near Albany ; the mineral waters of *Saratoga* and *Ballston*. In New York State, a *Rivulet* runs under a hill about 70 yards in diameter, forming a beautiful arch in the rock ; there is also a *Stalactic Cave*, in which was found the *petrified skeleton* of a large snake. In Virginia, the *Natural Bridge* over the River Cedar, in the County of Rockbridge ; this bridge is 90 feet long, and 60 broad, having a solid thickness of from 40 to 60 feet, it is raised 200 feet above the River over which it passes, its form is a regular arch, elegantly supported upon two pillars or butments, at the extremities ; there is another bridge of this description in the County of Scott. In Virginia are also some *Caverns*, 300, 400, and even 900 feet in depth, resplendent with spars. In the Territory, on the N. W. of the Ohio, the *Savannahs* or *Rich Plains*, extend 30 or 40 miles without any tree. In North Carolina is *Mount Ararat*, or the *Pilot Mountain*, in the County of Stoke ; it is a vast mutilated *pyramid*, several thousand feet in height ; above it is seen another which resembles a block, 300 feet high, the base of which is only 200 feet in diameter. In Kentucky, Tennessee, and Georgia, are subterraneous passages, several miles long, in which the aboriginal natives, as it would appear, deposited their dead, and from which is now taken a large quantity of *Nitre*, or *Salt Petre*.

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(d) Pronounced Mack'-e-naw.

## TEXAS.

BOUNDARIES.—N. and E. United States ; S. Gulf of Mexico ; W. Mexico.

CHIEF TOWNS.—AUSTIN, Houston, Galveston.

The *Sabine* River forms the boundary between Texas and Louisiana.

## MEXICO.\*

BOUNDARIES.—N. United States ; E. Texas, and Gulf of Mexico ; S. Guatemala ; W. Pacific Ocean.

CHIEF TOWNS.—MEXICO, Guanajuata, Puebla, Zacatecas, Vera Cruz, Acapulca. *Belize* is the chief town of the British settlement of Belize in the Bay of Honduras.

## GUATIMALA.

BOUNDARIES.—N. Mexico ; E. Caribbean Sea ; S. Isthmus of Darien ; W. Pacific Ocean.

CHIEF TOWNS.—St. SALVADOR, Cartago, Leon, Truxillo, Omoa.

The principal *Lake* is Nicaragua.

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\* NATURAL CURIOSITIES.—Besides Volcanoes there are many Natural Curiosities in Mexico, one of the most remarkable being the *Ponte de Dios*, or *Bridge of God*, resembling the natural bridge in the United States ; it is about 100 miles S. E. of Mexico, over a deep river, and is passed as a highway. The other chief curiosities are, a *Mountain* or *Hill of Loadstones*, and the famous *Ahahueta*, or *Cypress*, which is 73 feet in circumference.

## RUSSIAN TERRITORY.

**BOUNDARIES.**—N. Northern Ocean; E. British Possessions; S. Pacific Ocean; W. Behring's Straits.

**CHIEF TOWN.**—NEW ARCHANGEL, in the Island and on the Straits of Sitka, on the N. W. coast. The principal Islands are the Aleutian and Fox Islands.

## WEST INDIAN ISLANDS.

**THE GREATER ANTILLES.**—1. Cuba; 2. Hayti or St. Domingo; 3. Jamaica; 4. Porto Rico.

**TOWNS.**—1. Havannah; 2. Port Republican or Port Henry (*Port-au-Prince*); 3. Kingston, St. Jago or Spanish Town, Savanna-la-Mar; 4. St. Juan-of-Porto-Rico.

**THE LESSER ANTILLES.**—Trinidad, Santa Margueritta, Curaçoa.

**THE LEEWARD ISLANDS.\***—Anguilla, St. Martins, Saba, St. Eustatius, St. Bartholomew, St. Christopher's or St. Kitt's, Barbuda, Antigua, Mont Serrat, Nevis, Guadaloupe, La Desirade, Marie Galante, Dominica.

**THE WINDWARD ISLANDS.**—Martinico, St. Lucia, St. Vincent, Grenada, Barbadoes, Tobago.

**THE VIRGIN ISLANDS**—E. of Porto Rico, are St. Thomas, St. John, Santa Cruz, Tortola, Virgini Gorda, Anegada.

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\* The Leeward, Windward, and Virgin Islands, are called the Caribbean Islands.

## SOUTH AMERICA.

**BOUNDARIES.**—N. Isthmus of Darien and Caribbean Sea ; E. Atlantic ; S. Southern ; W. Pacific.

**DIVISIONS.**—1. Columbia† ; 2. Lower Peru ; 3. Bolivia *or* Upper Peru ; 4. Chili ; 5. Patagonia ; 6. Buenos Ayres *or* La Plata ; 7. Paraguay *or* Banda Oriental ; 8. Brazil ; 9. Guiana‡ ; 10. Paraguay.

**TOWNS.**—1. Bogota, Carthagena ; Caraccas, La Guayra ; Quito, Guayaquil ; 2. Lima, Callao, Cuzco, Truxillo ; 3. Chuquisaca *or* La Plata, La Paz, Potosi ; 4. Santiago, Valparaiso, Valdivia ; 5. Port St. Julian ; 6. Buenos Ayres, Mendoza, Tucuman, Cordova ; 7. Monte Video ; 8. St. Sebastian *or* Rio Janeiro, Bahia *or* St. Salvador, Pernambuco, Maranham, Para ; 9. Georgetown ; Paramaribo ; Cayenne ; 10. Assumption, Villa Rica.

**ISLANDS.**—Gallipago, Juan Fernandez, Chiloe, Madre de Dios, Terra del Fuego, Falkland, Georgia, Sandwich, S. Orkney, S. Shetland.

**MOUNTAINS.**—Mount Chimborazo, in the chain of the Andes *or* Cordilleras.

**CAPES.**—Roque, Mary, Antonio, Horn.

**RIVERS.**—Amazon *or* Maranon, La Plata, Orinoco.

## EUROPE.

**BOUNDARIES.**—N. Northern Ocean ; E. Asia, Black Sea, Sea of Marmora, Archipelago ; S. Mediterranean ; W. Atlantic.

† Columbia contains New Grenada, Venezuela, Ecuador.

‡ Guiana is owned by the English, Dutch, and French.



COUNTRIES.—1. England (*a*); 2. Scotland (*b*); 3. Ireland (*c*); 4. France (*d*); 5. Spain (*e*); 6. Portugal (*f*); 7. Switzerland (*g*); 8. Italy (*h*); 9. Germany (*i*); 10. Holland (*k*); 11. Belgium (*l*); 12. Denmark (*m*); 13. Norway (*n*); 14. Sweden (*o*); 15. Russia (*p*); 16. Austria (*q*); 17. Prussia (*r*); 18. Turkey (*s*); 19. Greece (*t*).

CAPITALS.—1. London; 2. Edinburgh; 3. Dublin; 4. Paris; 5. Madrid; 6. Lisbon; 7. Berne; 8. Rome; 9. Frankfort, on the Mayne; 10. Amsterdam; 11. Brussels; 12. Copenhagen; 13. Christiana; 14. Stockholm; 15. St. Petersburg; 16. Vienna; 17. Berlin; 18. Constantinople; 19. Athens.

ISLANDS.—Great Britain, Ireland, Iceland, Spitzbergen, Nova Zembla, Zealand, Funen, Candia, Sicily, Malta, Corsica, Sardinia, Majorca, Minorca, Ivica.

MOUNTAINS.—Alps, Apennines, Pyrenees, Haemus or Balkan, Carpathian, Kolen, Ural.

SEAS, GULFS, &c.—Mediterranean Sea; Gulfs of Lyons, Genoa, Venice; Archipelago, Levant; Black Sea; Seas of Marmora, Asoph; Bay of Biscay, English Channel, German Ocean or N. Sea or British Ocean, St. George's Channel, Irish Sea, N. Channel; Baltic Sea; Gulfs of Bothnia, Finland, Riga or Livonia; Skager Rack, Cattegat, White Sea.

STRAITS.—Gibraltar, Bonifacio, Messina, Dardanelles, Constantinople, Caffa, Dover; the Sound, Great Belt, and Little Belt, in Denmark.

RIVERS—Wolga, Danube, Rhine, Rhone, Elbe, Po, Loire, Ebro, Tagus.

## (a) ENGLAND.

**BOUNDARIES.**—N. Scotland ; E. German Ocean ; S. English Channel ; W. St. George's Channel, Irish Sea.

**PRINCIPAL TOWNS.**—LONDON, Liverpool, Newcastle, Durham, Hull, York, Canterbury, Bath, Bristol, Manchester, Sheffield, Leeds, Derby, Nottingham, Shrewsbury, Worcester, Warwick, Northampton, Huntingdon, Cambridge, Gloucester, Oxford, Windsor, Dover, Brighton, Portsmouth, Weymouth, Sidmouth, Exeter, Salisbury, Plymouth, Truro, Falmouth, Penzance.

**COUNTIES.**—1. *Northumberland* ; 2. *Durham* ; 3. *York* ; 4. *Lincoln* ; 5. *Norfolk* ; 6. *Suffolk* ; 7. *Essex* ; 8. *Cumberland* ; 9. *Westmoreland* ; 10. *Lancashire* ; 11. *Cheshire* ; 12. *Shropshire* ; 13. *Hereford* ; 14. *Monmouth* ; 15. *Derby* ; 16. *Nottingham* ; 17. *Stafford* ; 18. *Leicester* ; 19. *Rutland* ; 20. *Worcester* ; 21. *Warwick* ; 22. *Northampton* ; 23. *Huntingdon* ; 24. *Cambridge* ; 25. *Gloucester* ; 26. *Oxford* ; 27. *Buckingham* ; 28. *Middlesex* ; 29. *Hertford* ; 30. *Bedford* ; 31. *Somerset* ; 32. *Wiltshire* ; 33. *Berkshire* ; 34. *Surrey* ; 35. *Kent* ; 36. *Sussex* ; 37. *Hampshire* ; 38. *Dorset* ; 39. *Devon* ; 40. *Cornwall*.

**TOWNS.**—1. *Newcastle, Berwick, Morpeth, Alnwick* ; 2. *Durham, Sunderland, Stockton* ; 3. *York, Leeds, Sheffield, Hull, Scarborough, Whitby* ; 4. *Lincoln, Gainsborough, Boston, Stamford* ; 5. *Norwich, Yarmouth* ; 6. *Ipswich* ; 7. *Chelmsford, Colchester, Harwich* ; 8. *Carlisle, Penrith, Whitehaven, Workington* ; 9. *Appleby, Kendal* ; 10. *Lancaster, Liverpool, Manchester, Preston* ; 11. *Chester, Stockport* ; 12. *Shrewsbury, Bridgenorth* ; 13. *Hereford* ; 14. *Monmouth, Chepstow* ; 15. *Derby, Chesterfield* ; 16. *Nottingham, Newark* ; 17. *Stafford, Litchfield, Burton* ; 18. *Leicester, Harborough, Bosworth* ; 19. *Oakhham, Uppingham* ; 20. *Worcester, Evesham, Droitwich* ; 21. *Warwick, Coventry, Birmingham, Stratford-upon-Avon* ; 22. *Northampton, Peterborough, Daventry* ; 23. *Huntingdon, St. Neots, St. Ives* ; 24. *Cambridge, Ely, Newmarket* ; 25. *Gloucester, Tewkes-*

bury, part of Bristol ; 26. Oxford, Woodstock, Banbury ; 27. Buckingham, Elton ; 28. LONDON, Westminster, Brentford ; 29. Hartford, Ware ; 30. Bedford, Biggleswade ; 31. Bath, Wells, part of Bristol ; 32. Salisbury, Wilton ; 33. Reading, Windsor ; 34. Guildford, Kingston, Southwark ; 35. Maidstone, Canterbury, Rochester, Chatham, Dover, Sandwich ; 36. Chichester, Brighton, Seaford, Hastings ; 37. Winchester, Southampton, Portsmouth ; 38. Dorchester, Weymouth, 39. Exeter, Plymouth, Dartmouth, 40. Launceston, Truro, Falmouth, Penzance.

ISLANDS.—Isle of Man, in which are Castleton, Douglas, Ramsay, Peel ; Isle of Anglesea ; Lundy Isle ; Scilly Isles, principal St. Mary's ; Isle of Wight, in which are Newport, Cowes ; Sheppey, Thanet ; Holy Island or Lindisferne ; Coquet. On the Coast of France are Jersey, in which is St. Helier ; Guernsey, in which is St. Pierre ; Alderney ; Sark.

MOUNTAINS.—The Cheviot Hills, on the borders of Scotland ; in 3, Bowfell, Whernside, Ingleborough, Pennygent ; 8, Skiddaw, Crossfell ; 12, Wrekin ; 15, the Peak ; 20, Malvern ; 24, Gogmagog ; 25, Cotswold ; 31, Mendip.

LAKES.—8, Derwent-water or the Lake of Keswick ; between 8 and 9, Ulles-water ; between 9 and 10, Winander or Winder-mere ; in 23, Wittlesea-mere.

CAPIES.—Flamborough Head, Spurn Head, N. Foreland, S. Foreland, Dungeness, Beachy Head, the Needles, St. Alban's Head, Portland Point, Start Point, Eddystone Light house, Lizard Point, Land's End.

BAYS.—Robin Hood's Bay, Bridlington Bay, Humber Mouth, the Wash, Yarmouth Roads, the Downs, Goodwin Sands, Straits of Dover, Spithead, Torbay, Mounts Bay, Bristol Channel, Milford Haven, St. Bride's Bay, Cardigan Bay, Morecambe Bay, Solway Frith.

RIVERS.—Thames, Great Ouse, Severn, Trent, Mersey, Yorkshire Ouse, Tyne.

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## WALES.

COUNTIES.—1. Anglesea ; 2. Caernarvon ; 3. Denbigh ; 4. Flint ; 5. Merioneth ; 6. Montgomery ; 7. Cardigan ; 8. Pembroke ; 9. Caermarthen ; 10. Glamorgan ; 11. Brecknock ; 12. Radnor.

TOWNS.—1. *Beaumaris, Holyhead*; 2. *Caernarvon, Bangor, Conway*; 3. *Denbigh, Wrexham, Ruthin*; 4. *Flint, St. Asaph*; 5. *Harleigh, Bala*; 6. *Montgomery, Welchpool*; 7. *Cardigan, Aberystwith*; 8. *Pembroke, St. David's, Haverfordwest*; 9. *Caermarthen, Kidwelly*; 10. *Cardiff, Llandaff, Swansea*; 11. *Brecknock, Builth*; 12. *New Radnor, Presteign, Knighton*.

ISLANDS.—*Skerry or the Isle of Seals, Bardsey, Ramsey*.

MOUNTAINS.—In 2, *Snowdon*; 5. *Berwyn, Cader Idris*; 6. *Plinlimmon*; 11. *Van or Brecknock Beacon*.

CAPES.—*Great Ormes Head, Strumble Head, St. David's Head, Gowen's Point, Worm's Head*.

RIVERS.—*Dee, Clwyd, Severn, Wye*.

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### (b) SCOTLAND.

BOUNDARIES.—N. Northern Ocean; E. German Ocean; S. England and the Irish Sea; W. Atlantic.

PRINCIPAL TOWNS.—EDINBURGH, Glasgow, Inverness, Aberdeen, Forfar, Montrose, Cupar, Dunkeld, Perth, Dundee, Kinross, Kirkcaldy, Dunfermline, Alloa, Stirling, Falkirk, Inverary, Campbellton, Dumbarton, Greenock, Port Glasgow, Paisley, Ayr, Kilmarnock, Stranraer, Kirkcudbright, Dumfries, Annan, Moffat, Lanark, Hamilton, Peebles, Selkirk, Linlithgow, Leith, Porto Bello, Musselburgh, Dalkeith, Haddington, Dunbar, N. Berwick, Dunse, Coldstream, Lauder, Kelso, Jedburgh, Hawick.

COUNTIES.—1. *Caithness*; 2. *Sutherland*; 3. *Ross*; 4. *Inverness*; 5. *Argyle*; 6. *Cromarty*; 7. *Nairn*; 8. *Elgin or Moray*; 9. *Banff*; 10. *Aberdeen*; 11. *Mearns or Kincardine*; 12. *Forfar or Angus*; 13. *Fife*; 14. *Kinross*; 15. *Clackmanman*; 16. *Perth*; 17. *Dumbarton or Lennox*; 18. *Stirling*; 19. *Linlithgow or W. Lothian*; 20. *Edinburgh or Mid*

*Lothian* ; 21. *Haddington* or *E. Lothian* ; 22. *Berwick* or *Merse* ; 23. *Roxburgh* or *Teviotdale* ; 24. *Dumfries* ; 25. *Kirkcudbright* or *E. Galloway* ; 26. *Wigton* or *W. Galloway* ; 27. *Ayr* ; 28. *Renfrew* ; 29. *Lanark* or *Clydesdale* ; 30. *Peebles* or *Tweeddale* ; 31. *Selkirk* ; 32. *Bute and Arran* ; 33. *Orkney and Shetland*.

TOWNS.—1. *Wick, Thurso* ; 2. *Dornoch* ; 3. *Dingwall, Tain, Fortrose* ; 4. *Inverness, Fort George, Fort Augustus, Fort William* ; 5. *Inverary, Campbellton* ; 6. *Cromarty* ; 7. *Nairn* ; 8. *Elgin, Forres, Fochabers* ; 9. *Banff, Cullen* ; 10. *New Aberdeen, Old Aberdeen, Peterhead, Fraserburgh* ; 11. *Bervie, Stonehaven* ; 12. *Dundee, Forfar, Montrose* ; 13. *St. Andrews, Cupar, Dunfermline, Falkland, Kinghorn, Kirkcaldy* ; 14. *Kinross* ; 15. *Clackmannan, Alloa* ; 16. *Perth, Scone, Dunkeld, Crieff, Dumblane* ; 17. *Dumbarton* ; 18. *Stirling, Falkirk* ; 19. *Linlithgow, Borrowstonness or Bonness, S. Queen's Ferry* ; 20. *EDINBURGH, Leith, Porto Bello, Musselburgh, Dalkeith* ; 21. *Haddington, Dunbar, N. Berwick* ; 22. *Grenlaw, Dunse, Coldstream, Lauder* ; 23. *Jedburgh, Kelso, Hawick Melrose* ; 24. *Dumfries, Annan, Moffat, Sanquhar* ; 25. *Kirkcudbright, New Galloway, Castle Douglas* ; 26. *Wigton, Whitehorn, Stranraer, Port Patrick* ; 27. *Ayr, Irvine, Kilmarnock* ; 28. *Renfrew, Port Glasgow, Greenock, Paisley* ; 29. *Lanark, Hamilton, Glasgow* ; 30. *Peebles* ; 31. *Selkirk, Galashiels* ; 32. *Rothsay, Brodwick, Lamash* ; 33. *Kirkwall, Stromness ; Lerwick, Scalloway*.

ISLANDS.—*Orkney Islands* or the *Orcades*, principal *Mainland* or *Pomona, Hoy* ; *Shetland Islands*, principal *Mainland, Yell* ; *Western Islands* or the *Hebrides*, principal *Lewis, Harris, Skye, Mull, Jura, Isla, Iona* or *Icolmkill*.

MOUNTAINS.—In 3, *Ben Wyvis* ; 4. *Ben Nevis, Cairngorm, Corriarok* ; 5. *Ben Cruachan* ; 11. *Mount Battock* ; 16. *Grampian and Ochill hills, Shehallion, Ben Lawers, Ben More Ben Voirlach, Ben Ledi* ; 18. *Ben Lomond* ; 20. *Pentland Hills* ; 21. *N. Berwick Law* ; between 21. and 22. *Lammermuir Hills* ; in the S. of 23. *Cheviot Hills* ; in the N. of *Dumfries, Moffat and Lead Hills* ; in 29. *Tinto*.

LAKES.—In 2. *Shin* ; 3. *Maree, Broom* ; 4. *Ness, Lochy, Linnhe* ; 5. *Etive, Awe, Fyne, Long* ; 14. *Leven* ; 16. *Tay, Rannoch, Ericht, Ketterin, Erne* ; 17. *Lomond* ; 26. *Ryan*.

BAYS AND FRITHS.—*Friths of Forth, Tay, Murray, Cromarty, Dornoch, Pentland, Clyde, Solway* ; *Bays of Wigton and Glenluce* ; the *Sounds of Mull, Jura, Isla* ; the *Whirlpool of Corryvreckan, the Minch*.

**CAPES.**—*St. Abb's Head, Fifeness, Bullers of Buchan, Kinnaird's Head, Tarbetness, Duncansbay Head, Dunnet Head, Cape Wrath, Butt of Lewis, Point of Ardnamurchan, Mulls of Cantyre and Galloway, Burrow Head, Southernness.*

**RIVERS.**—*Forth, Tay, Tweed, Clyde, Teviot, Annan, Nith, Spey, Dee.*

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(c) IRELAND.

**BOUNDARIES.**—N. Atlantic; E Irish Sea, and St. George's Channel; S. and W. Atlantic.

**PRINCIPAL TOWNS.**—**DUBLIN**, Cork, Wicklow, Wexford, Kilkenny, Waterford, Kinsale, Limerick, Sligo, Donegal, Londonderry, Coleraine, Antrim, Belfast, Carrickfergus, Newry.

**PROVINCES.**—*Leinster, Ulster, Munster, Connaught.*

**COUNTIES IN LEINSTER.** 1. *Louth*; 2. *E. Meath*; 3. *Dublin*; 4. *Wicklow*; 5. *Wexford*; 6. *Longford*; 7. *W. Meath*; 8. *King's County*; 9. *Queen's County*; 10. *Kilkenny*; 11. *Kildare*; 12. *Carlow*.

**COUNTIES IN ULSTER.**—1. *Down*; 2. *Antrim*; 3. *Londonderry*; 4. *Donegal*; 5. *Fermanagh*; 6. *Cavan*; 7. *Monaghan*; 8. *Armagh*; 9. *Tyrone*.

**COUNTIES IN MUNSTER.**—1. *Clare*; 2. *Kerry*; 3. *Cork*; 4. *Waterford*; 5. *Tipperary*; 6. *Limerick*.

**COUNTIES IN CONNAUGHT.**—1. *Leitrim*; 2. *Sligo*; 3. *Mayo*; 4. *Galway*; 5. *Roscommon*.

**TOWNS IN LEINSTER.**—1. *Drogheda, Dundalk, Carlingford*; 2. *Trim, Navan*; 3. *Dublin, Swords, Newcastle*; 4. *Wicklow, Arklow*; 5. *Wexford, Enniscorthy, Ferns*; 6. *Longford, Lanesborough*; 7. *Mullingar, Athlone*; 8. *Philipstown*; 9. *Maryborough*; 10. *Kilkenny*; 11. *Kildare*; 12. *Carlow, Old Leighlin*.

**TOWNS IN ULSTER.**—1. *Downpatrick, Newry, Dromore*; 2. *Antrim, Belfast, Carrickfergus*; 3. *Londonderry, Coleraine*; 4. *Donegal, Ballyshannon*; 5. *Enniskillen*; 6. *Cavan, Kilmore*; 7. *Monaghan*; 8. *Armagh*; 9. *Dungannon*.

**TOWNS IN MUNSTER.**—1. *Clare, Ennis*; 2. *Tralee, Dingle*; 3. *Cork, Kinsale, Youghall*; 4. *Waterford*; 5. *Tipperary*; 6. *Limerick*.

TOWNS IN CONNAUGHT.—1. *Leitrim* ; 2. *Sligo* ; 3. *Castlebar* ; 4. *Galway, Tuam* ; 5. *Roscommon, Elphin*.

ISLANDS.—*Ratlilin, Copeland, Clare, S. Isles of Arran, Achill, N. Isles of Arran, Tory*.

LAKES.—*Neagh, Erne, Allen, Conn, Mask, Corrib, Ree, Killarney, the Devil's Punch Bowl*.

BAYS.—*Carrickfergus, Strangford, Carlingford, Dundalk, Dunmanus, Bantry, Kenmare River, Dingle, Galway, Clew, Sligo, Donegal, Loughs Swilly and Foyle*.

CAPES.—*Fair Head, Howth Head, Carnsore Point, Cape Clear, Mizzen Head, Loop Head, Slyne Head, Urris Head, Malin Head*.

RIVERS.—*Shannon, Barrow, Boyne, Liffey, Slaney, Blackwater, Lee, Bandon, Ban, Lagan Water*.

#### (d) FRANCE.

PRINCIPAL TOWNS.—*Paris, Versailles, St. Cloud, Fontainebleau, Rouen, Havre, Dieppe, Boulogne, Calais, Dunkirk, Lille, Amiens, Rheims, Caen, Brest, Nantes, Rochelle, Bordeaux, Bayonne, Toulouse, Montpellier, Marseilles, Grenoble, Lyons, Strasbourg, Metz, Orleans, Tours, Angers*.

ISLANDS.—*Ushant, Belleisle, Noirmoutier, Rhe, Oleron, Hieres, Corsica, in which are Bastia, Ajaccio, Calvi*.

MOUNTAINS.—*Pyrenees, Alps, Jura, Vosges, Cevennes, Puy de Dome, Cantal*.

RIVERS.—*Seine, Loire, Rhone, Garonne*.

#### (e) SPAIN.

PRINCIPAL TOWNS.—*Madrid, Toledo, Talavera, Badajos, Seville, Cadiz, Trafalgar, Gibraltar, Malaga, Granada, Murcia, Carthagen, Valencia*,

Alicant, Barcelona, Tortosa, Saragossa, Pampeluna, Bilbao, Vittoria, St. Sebastian, Fontarabia, Oviedo, Santillana, Santander, St. Jago de Compostella, Vigo, Corrunna, Ferrol, Leon, Astorga, Salamanca, Ciudad Rodrigo, Burgos, Valladolid.

**MOUNTAINS.**—Pyrenees, Sierra de las Asturias, Urbia *or* Guadarama, Toledo, Morena, Nevada, Blanca, Rock of Gibraltar, Montserrat.

**CAPES.**—Finisterre, Ortegal, Europa Point.

**RIVERS.**—Minho, Douro, Tagus, Guadiana, Guadalquiver, Ebro.

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(f) PORTUGAL.

**PRINCIPAL TOWNS.**—Lisbon, Oporto, Braganza, Coimbra, St. Ubes, Cintra, Vimiera, Torres Vedras.

**CAPES.**—Rock of Lisbon, D'Espichel, St. Vincent, St. Mary.

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(g) SWITZERLAND.

**PRINCIPAL TOWNS.**—Berne, Basle, Geneva, St. Gall.

**MOUNTAINS.**—Alps, (including the Rhaétian, in the S. E. ; and the Helvetian, in the S. W.)

**LAKES.**—Geneva, Constance *or* Boden Sea.

**RIVERS.**—Rhine, Rhone.



*(h)* ITALY.

PRINCIPAL TOWNS.—ROME, Naples, Florence, Genoa, Turin, Perugia, Loretto, Capua, Brindisi, Otranto, Tarento, Reggio, Maida ; Palermo, Messina, Catania, Augusta, Syracuse, in Sicily ;—Cagliari, Sassari, in Sardinia ;—Valetta, in Malta.

MOUNTAINS.—Alps, Apennines ; Mounts Vesuvius, Ætna.

GULFS AND STRAITS.—Venice, Naples, Genoa ; Straits of Messina, Bonifacio.

CAPES.—Spartivento, Passaro.

RIVERS.—Po, Tiber.

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*(i)* GERMANY.

PRINCIPAL TOWNS.—HANOVER, Brunswick, Bremen, Hamburgh, Dresden, Stuttgart, Munich, Weimar, Frankfort on the Mayne, Baden, Constance, Ratisbon, Landshut, Mentz *or* Mayence, Coburg.

RIVERS.—Rhine, Danube, Elbe, Weser.

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*(k)* HOLLAND.

PRINCIPAL TOWNS.—AMSTERDAM, Rotterdam, the Hague, Utrecht, Leewarden, Groningen.

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*(l)* BELGIUM.

PRINCIPAL TOWNS.—BRUSSELS, Antwerp, Ghent, Ostend, Mons, Liege, Waterloo.

RIVERS.—Scheldt *or* Escaut, Maese *or* Meuse.

## (m) DENMARK.

**PRINCIPAL TOWNS.**—COPENHAGEN, Elsinore, Aalborg, Viborg, Sleswick, Kiel, Altona, Gluckstadt.

**ISLANDS.**—Iceland, in which is Mount Hecla, Principal Town, Skalholt; Ferro Islands, Greenland.

**SOUNDS.**—The Skaw, the Sound, Great Belt, Little Belt.

## (n) NORWAY.

**PRINCIPAL TOWNS.**—CHRISTIANA, Fredericks-hall, Christiansand, Arendal, Kongsberg, Bergen, Drontheim, Wardhus, Waranger.

**ISLANDS.**—Mageroe, Loffoden, Waeroe, Hitteren, Bommel.

**MOUNTAINS.**—Langfiall, Dofrafiall, Kolen.

**BAYS AND CAPES.**—N. Cape, W. Fiord, Maelstrom, Naze *or* Lindenaés.

**RIVERS.**—Glomme, Dramme, Tana.

## (o) SWEDEN.

**PRINCIPAL TOWNS.**—Gottenburg, Christianstadt, Carlserona, Kalmar, Malmo, Norkoping, STOCKHOLM, Upsal, Geffle, Fahlun *or* Copperberg, Nykoping, Tornea, Umea, Pitea.

**ISLANDS.**—Gothland, Oland.

**LAKES.**—Wener, Wetter, Maeler.

**RIVERS.**—Gotha, Motala, Dahl, Tornea.

## (p) RUSSIA.

PRINCIPAL TOWNS.—ST. PETERSBURG, Cronstadt, Revel, Riga, Olonetz, Archangel, Onega, Kola, Wologda, Novogorod, Perm, Moscow, Smolensk, Orel, Kiew, Voronetz, Poltova, Ekaterinoslav, Cherson, Oczakow, Odessa, Perekop, Caffa *or* Theodosia, Simpheropol, Sevastopol, Azof;—Abo, Helsingfors, Ulea;—Mittau, Libau, Windau, Wilna, Warsaw, Praga, Pultusk, Lublin, Cracow;—Bender, Belgorod *or* Akerman, Ismail, Kishenau.

ISLANDS.—Åland, Dago, Oesel, Kolguef, Waygats, Nova Zembla, Spitzbergen.

MOUNTAINS.—Olonetz, Valdai, Taurida, Ural.

SEAS, GULFS, AND STRAITS.—Gulfs of Bothnia, Finland, Riga; White Sea, Sea of Azof; Straits of Caffa *or* Enikale; Waygats Straits.

RIVERS.—Volga, Don, Dneiper, Bog, Dneister, Vistula, Memel *or* Niemen, W. Dwina, Onega, N. Dwina, Pruth, Danube.

## (q) AUSTRIA.

PRINCIPAL TOWNS.—VIENNA, Laybach, Trieste, Inspruck, Trent, Presburg, Buda, Pest, Tokay, Temeswar, Peterwardein;—Prague; Olmutz; Leopold; Ragusa, Cataro;—Venice, Padua, Verona, Belluno; Milan, Lodi, Como, Mantua.

MOUNTAINS.—Carpathian, Rhaetian Alps *or* Brenner Mountains.

RIVERS.—Danube, Elbe.

## (r) PRUSSIA.

PRINCIPAL TOWNS.—Königsberg, Memel, Tilsit, Dantzig, Thorn, Stettin, Colberg, BERLIN, Frankfurt on the Oder, Breslau, Glogau, Magdeburg, Munster, Minden, Cologne, Coblenz, Aix la Chapelle.

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## (s) TURKEY IN EUROPE.

PRINCIPAL TOWNS.—Jassy, Belgrade, CONSTANTINOPLE, Adrianople, Nicopoli, Saloniki, Larissa, Volo, Durazzo, Arta.

ISLANDS.—Cerigo, Zante, Cephalonia, Teaki, Santa Maura, Paxo, Corfu, ceded to Britain, 5th November, 1815, under the denomination of the "United States of the Ionian Islands."

MOUNTAINS.—Haemus or Balkan; Athos, Olympus, Ossa, Pelion, Pindus, in the S.

RIVERS.—Danube, Marizza, Vardar.

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## (t) GREECE.

PRINCIPAL TOWNS.—ATHENS, Tripolizza, Coron, Argos, Corinth, Thebes.

MOUNTAINS.—Parnassus and Helicon, in the N.; Mainote or Taygetus, in the S.

CAPIES.—Modon, Matapan, Malio or St. Angelo.

ANTIQUITIES.—The *Seven Wonders of the World* were—1. The *Colossus at Rhodes*, a Statue of the *Sun*, 70 cubits high, placed across the mouth of the harbour. A man could not grasp its thumb with both his arms. Its legs were stretched out to such a distance, that a large ship under sail might easily enter the port between them. Its construction occupied 12 years, and cost 300.

talents. (A Rhodian talent is worth £322 18s. sterling.) It stood 50 years, and at last was thrown down by an earthquake. 2. The *Temple of Diana, at Ephesus*, was a work of the greatest magnificence; 220 years were spent in finishing it, though all Asia was employed. It was supported by 127 pillars, raised by as many Kings, and each 60 feet high. Of these columns 37 were engraven. The *Image of the Goddess* was made of *Ebony*. 3. The *Mausoleum or Sepulchre of Mausolus*, King of Caria, built by his Queen, *Artemisia*, of the purest marble; and yet the workmanship of it was much more valuable than the materials. It was, from N. to S. 63 feet long, almost 111 feet in compass, and 25 cubits (that is about 35 feet) high, surrounded by 36 columns, beautiful in the highest degree. 4. An *Ivory Statue of Jupiter*, in the Temple of the City *Olympia*, carved with the greatest art by Phidias, and of a prodigious size. 5. The *Walls of Babylon*. (the metropolis of *Chaldea*.) erected by *Queen Semiramis*. Their circumference was 60 miles, their height 200 feet, and their breadth 50 feet; so that six chariots abreast might conveniently pass upon them. 6. The *Pyramids of Egypt*, the first of which is constructed of great stones, the least of which is 30 feet in length; 360,000 men were employed in building it for the space of 20 years. 7. The *Royal Palace of Cyrus*, King of the Medes, made by *Menon*, with no less prodigality than art; for he cemented the stones with gold.

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## ASIA.

BOUNDARIES.—N. Northern Ocean; E. Pacific; S. Indian; W. Europe, Black-Sea, Archipelago, Levant, Isthmus of Suez, and Red Sea.

DIVISIONS.—Turkey in Asia, (*a*); 2. Arabia; 3. Persia; 4. Hindostan, (*b*); 5. Eastern Peninsula, (*c*); 6. China, (*d*); 7. Tibet; 8. Eastern or Chinese Tartary; 9. Russian Tartary or Siberia, (*e*); 10. Western or Independent Tartary, (*f*.)

CAPITALS.—1. Aleppo; 2. Mecca; 3. Teheran; 4. Calcutta; 5. Ava; 6. Pekin; 7. Lassa; 8. Sagalien Oula Hotun; 9. Tobolsk; 10. Bokhara.

ISLANDS.—Cyprus, Ceylon, Sumatra, Java, Borneo, Celebes, Philippine, Japan, New Guinea, Australia (*g*), Van Dieman's Land, New Zealand.

**MOUNTAINS.**—Uralian, Altaian, Caucasus, Ararat, Taurus, Lebanon, Himmaleh ;—Mounts Sinai, and Horeb.

**SEAS AND GULFS.**—Red Sea, Arabian Sea, Bay of Bengal ; Gulfs of Siam and Tonquin ; Bay of Nankin ; Whanghay *or* Yellow Sea, Gulf of Corea, Sea of Ochotsk, Sea of Kamschatka, Caspian Sea, Sea of Aral, Persian Gulf.

**STRAITS.**—Babelmandeb, Ormus, Malacca, Sunda, Behring.

**RIVERS.**—Ob *or* Oby, Yenisei, Hoang-ho, Kianku, Ganges, Indus, Euphrates, Tigris.

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(a) TURKEY IN ASIA.

**DIVISIONS.**—1. Asia Minor, (including Anatolia, Caramania, and Roum) ; 2. Syria, (including Canaan, Palestine *or* the Holy Land) ; 3. Diarbeck *or* Algezira ; 4. Irak-Arabi ; 5. Curdistan ; 6. Armenia *or* Turcomania.

**TOWNS.**—Smyrna, Aiosoluc *or* Ephesus, Angora, Tocat ; 2. Aleppo, Antioch, Damas *or* Damascus, Jerusalem, Alexandretta *or* Scandaroon, Tarabolus *or* Tripoli, Sayde *or* Sidon, Sur *or* Tyre, Ptolemais *or* Acre, Joppa *or* Jaffa, Heliopolis *or* Balbec, Tadmor *or* Palmyra (in ruins), Jericho ; 3. Diarbeck *or* Diarbekr, Ninéveh *or* Mosul, Anah ; 4. Bagdad, Bassora, Hillah *or* Babylon ; 5. Betlis *or* Bedlis, Van, Irbil *or* Arbela ; 6. Trebisonde, Erzeroum.

**MOUNTAINS.**—Taurus, Olympus, Ida, Lebanon, Ararat.

**LAKES.**—Ulubad, Sea of Galilee, Dead Sea, Van.

**RIVERS.**—Orontes, Jordan, Euphrates, Tigris.

## (b) HINDOSTAN.

**DIVISIONS.**—1. Gangetic ; 2. Sindetic ; 3. Central ; 4. Southern Hindostan.

**TOWNS.**—1. Calcutta, Moorshedabad, Patna, Allahabad, Lucknou, Agra, Delhi ; 2. Kuttore, Cashmere, Lahore, Moulton ; 3. Ahmedabad, Cambay, Surat, Visagapatam, Juggernaut, Hydrabad, Golconda, Masulipatam, Goa, Bombay ; 4. Seringapatam, Arcot, Madras, Pondicherry.

**ISLANDS.**—Ceylon, Maldives, Laccadives, Andaman Isles. In Ceylon are Candy, Columbo, Trincomalé.

**MOUNTAINS.**—Himmalaya, Eastern and Western Ghauts.

**GULFS.**—Gulfs of Cutch and Cambay ; Cape Comorin ; Gulf of Manara, Adam's Bridge, Palk's Passage, Bay of Bengal.

**RIVERS.**—Ganges, Indus, Burhampooter *or* Brahmapootra.

## (c) EASTERN PENINSULA.

**DIVISIONS.**—1. The Birman Empire ; 2. Malaya *or* Malacca, &c.

**PRINCIPAL TOWNS.**—1. Ava, Ummerapoor, Prome ; Pegu, Rangoon, Sirian, Martaban ; 2. Malacca, Queda, Ligor, Singapore.

**RIVERS.**—Irrawady, Thaluan, Meinam, Maykaung.

*(d)* CHINA.

PRINCIPAL TOWNS.—PEKIN, Nankin, Canton, Singan.

ISLANDS.—Hainan, Formoso, Loo Choo, Tchusan, Macao, S. of Canton.

RIVERS.—Hoang-ho *or* Yellow River, Kian-ku *or* Blue River, Choo-kiang *or* River of Canton.

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*(e)* RUSSIAN TARTARY *or* SIBERIA.

DIVISIONS.—1. Caucasus, (including Georgia, Circassia, &c.); 2. Astracan; 3. Orenberg; 4. Tobolsk; 5. Irkutsk.

PRINCIPAL TOWNS.—1. Teflis, Derbend, Baku, Erivan; 2. Astracan; 3. Oufa, Orenberg; 4. Tobolsk, Catharinburg, Tomsk, Kolivan; 5. Irkutsk, Kiachta, Nertchinsk, Omsk, Yakutsk, Okhotsk.

MOUNTAINS.—Caucasus, Uralian, Altaian.

RIVERS.—Ural, Ob *or* Oby, Yenisei, Lena.

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*(f)* WESTERN *or* INDEPENDENT TARTARY.

DIVISIONS.—1. Kharism; 2. Great Bucharia.

PRINCIPAL TOWNS.—1. Khiva, Urghenz; 2. Samarcand, BOKHARA, Balk, Khojund.

MOUNTAINS.—Gaur, Belur Tag.

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*(g)* AUSTRALASIA.

1. New S. Wales, and New Holland;—in New S. Wales are Botany Bay, Port Jackson, Sydney;



2. Van Diemen's Land, in which are Hobart Town, Port Dalrymple;—3. Lord Howe's and Norfolk's Islands;—4. Papua or New Guinea; 5. New Britain, New Ireland, Solomon Isles; 6. New Hebrides; 7. New Caledonia; 8. New Zealand.

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### POLYNESIA.

1. Pelew Islands; 2. Ladrone or Marian Isles; 3. Lot's Wife; 4. The Carolines; 5. The Sandwich Isles, principal Owhyhee; 6. The Marquesas; 7. The Society Isles, principal Otaheité, Ulitea; 8. Friendly Isles; 9. Feegee Isles; 10. Islands of Navigators.

**ANTIQUITIES.**—The Antiquities of Asiatic Turkey, once the chosen seat of the Arts, are numerous and important. The most splendid ruins are those of *Palmyra* or *Tadmor*, in the *Desert*. The most remarkable relic of *Balbec*, the ancient *Heliopolis*, is a *Temple*, supposed to have been dedicated to the *Sun*. Recent investigation has disclosed another scene of antiquity, in the site and celebrated plain of *Troy*, towards the mouth of the Hellespont. In *Anatolia* or *Asia Minor*, were the *Seven Churches of Asia*, mentioned in the *Book of Revelation*, viz:—*Pergamos*, *Laodicea*, *Philadelphia*, *Thyatira*, *Sardis*, *Ephesus*, and *Smyrna*; but these places, except *Smyrna*, are mostly in ruins. In *Syria* were *Palestine* or the *Holy Land*, *Canaan*, *Judea*, *Galilee*, *Phœnicia*, &c. *Irak Arabi* was formerly called *Chaldea* and *Pada-naram*.

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### AFRICA.

**BOUNDARIES.**—N. Mediterranean; E. Isthmus of Suez, Red Sea, Indian Ocean; S. Southern; W. Atlantic.

**DIVISIONS.**—1. Egypt, (*a*); 2. Nubia, (*b*); 3. Abyssinia, (*c*); 4. Barbary; (including Morocco and

Fez, (*d*), Algiers, (*e*), Tunis, (*f*), Tripoli, (*g*), Barca, (*h*); 5. Zaara or the Desert; 6. Negroland or Nigritia or Soudan; 7. Senegambia; 8. Upper Guinea; 9. Lower Guinea; 10. Cape Colony; 11. Mocaranga; 12. Mozambique; 13. Zanzibar; 14. Ajan.

PRINCIPAL TOWNS.—1. Cairo; 2. Senaar; 3. Gondar; 4. Morocco; 5. Algiers; Tunis; Tripoli; Derna; 6. Timbuctoo; 10. Cape Town; 12. Mozambique; 13. Mombaza; 14. Brava.

ISLANDS.—1. Azores or Western Islands; 2. Madeiras; 3. Canaries; 4. Cape Verde; 5. St. Thomas, St. Mathew, Ascension, St. Helena; 6. Madagascar, Bourbon, Isle of France or Mauritius.

MOUNTAINS.—Atlas, Sierra Leone or Mountains of the Lions, Mount Lupata, Donga Mountains, Jebel Kumrah or Mountains of the Moon, Abyssinian Mountains.

LAKES.—Dembea, Tchad, Maravi, Zawaja, Haik.

GULFS, BAYS AND STRAITS.—Gulf of Guinea; Saldanha, Table, False, Algoa Bays; Channel of Mozambique, Straits of Babelmandeb, Red Sea; Gulfs of Sidra and Cabes; Straits of Gibraltar.

CAPIES.—Bojador, Blanco, Verde, Roxo, Palmas, Three Points, Formosa, Negro, Good Hope, Corrientes, Guardafui.

RIVERS.—Nile, Niger or Joliba or Quorra, Senegal, Gambia, Zaire or Congo.

ADDITIONAL DIVISIONS.—I. S. of Barbary are the States of,—1. Darah; 2. Taflet; 3. Sejelmessa; 4. The Land of Dates; 5. The Kingdom of Fezzan.

II. Upper Guinea contains,—6. Sierra Leone; 7. Grain Coast; 8. Ivory Coast; 9. Gold Coast; 10. Slave Coast; 11. Ashantee; 12. Dahomey; 13. Benin; 14. Liberia.

III.—Lower Guinea contains,—15. *Loango* ; 16. *Congo* ; 17. *Angola* ; 18. *Benguela* ; 19. *Mataman* or *Cimbarras*.

IV.—Southern Africa contains the Countries of—20. *The Caffres* or *Unbelievers* ; 21. *Hottentots* ; 22. *Boshmans* or *Boshuans*.

V.—The Eastern Coast contains,—23. *Sabia* and *Sofala* ; 24. *The Kingdom of Adel*.

VI.—Central Africa contains,—25. *Bondou* ; 26. *Kasson* ; 27. *Ludamar* ; 28. *Karta* ; 29. *Kong* ; 30. *Bambarra* ; 31. *Beroo* ; 32. *Timbuctoo* ; 33. *Houssa* ; 34. *Bornu* ; 35. *Begharmi* ; 36. *Darfur* ; 37. *Kordofan* ; 38. *Funda* ; 39. *Yarriba* ; 40. *Borgoo* ; 41. *Nyffee* ; 42. *Zeg-zeg*.

ADDITIONAL TOWNS.—(a) *Alexandria*, *Rosetta*, *Damietta*, *Suez*, *Cosseir*, (*Syene*) *Edfou*, *Ruins of Thebes*, *Dendera*, (*Tentyra*), *Girgeh* ;—(b) *Dongola* ;—(c) *Axum*, *Dixan*, *Masuah* ;—(d) *Mogadore*, *Santa Cruz* ; *Fez*, *Mequinez*, *Tetuan*, *Ceuta*, *Tangier*, *Sallee*, *Mazagan* ;—(e) *Oran*, *Bona*, *Constantina* ;—(f) *Susa*, *Cabes*, *Porto Farina*, *Ruins of Carthage* ;—(g) *Mesurata*, *Lebida* ;—(h) *Ptolemeta*.

I.—1. *Tattah* ; 2. *Tafilet* ; 3. *Sejelmissa* ; 4. *Guergela* ; 5. *Mourzouk*, *Temissa*, *Zuela*.

II.—6. *Freetown* ; 7. *Sanguin*, *Sestre Grand* ; 8. *Druin* ; 9. *Cape Coast Castle*, *Acanni* ; 10. *Praya* ; 11. *Coomassie* ; 12. *Abomey*, *Whidah*, *Ardrak* ; 13. *Benin*, *Calabar* ; 14. *Monrovia*.

III.—15. *Loango* ; 16. *St. Salvador* ; 17. *St. Paul de Loanda* ; 18. *New Benguela*, *Old Benguela*.

IV.—22. *Lattakoo*, *Malapeetsee*, *Kureechance*, *Bakarri-karri*.

V.—23. *Sofala* ; 24. *Zeila*.

VI.—25. *Fatteconda* ; 26. *Kooniacary* ; 27. *Jarra*, *Benown* ; 28. *Kemmoo* ; 29. *Kong* ; 30. *Sego*, *Jenné*, *Silla*, *Sansanding* ; 31. *Walet* ; 32. *Timbuctoo* ; 33. *Sackatoo*, *Cassina*, *Kano* ; 34. *Bornou*, *Kouka*, *Angornou* ; 35. *Begharmi* ; 36. *Cobbé* ; 37. *Obeydah* ; 38. *Funda* ; 39. *Eyeo* or *Katunga* ; 40. *Boussa*, *Wawa*, *Kiama* ; 41. *Koolfa* ; 42. *Zaria*.

ADDITIONAL ISLANDS.—1. *St. Michael*, *Terceira*, *Pico* ; 2. *Porto Santo* ; 3. *Grand Canary*, *Ferro*, *Teneriffe* ; 4. *St. Antonio*, *St. Nicholas*, *St. Jago*, *Mayo*, *Fogo* ; 5. *Prince's Island*, *Fernando Po* ; 6. *Comoro Isles*, *Zanzibar*, *Pemba*, *Mahe*, *Almirante* ; 7. *Kerguelan's Land* or *Island of Desolation*, *Amsterdam*, *St. Paul*, *Tristan d'Acunha*, *S. E. and S. W. of Africa* ; (see Map of the World.)

ANTIQUITIES.—The *Egyptian Pyramids* are generally supposed to have been intended as *Mausoleums* for the Kings. They were begun, it was conjectured, about 1304 years before the birth of Christ, by *Cheops* and *Cephrens*. Four of these erections have attracted particular attention. The largest two are 500 feet high;—one of them covers 10 English acres of ground, being an exact square of 600 feet. There are 6 or 7 similar structures, in the Desert, of smaller dimensions. The *Sphinx*, a rock at no great distance from the largest pyramid, is shaped into the head, bust, and Negro-like features of a *Woman*. It was formerly 60 feet high, but is now more than half buried in the sand. The *Iste of Pharos*, which communicated with Alexandria by a bridge, was once famed for its magnificent *Tower* and *Lighthouse*, built by the architect *Sostrates*, in the reign of *Ptolemy Philadelphus*, at the sole expense of that enterprising monarch. Near the pyramids are the *Mummy-pits* of Egypt. A mummy is an embalmed body. Many of these, though buried more than 3,000 years since, are dug from the pits in a perfect state of preservation. The *Catacombs* are repositories for the *Dead*, consisting of large vaults, in the environs of the towns. Those in Alexandria were chiefly used as burial-places by the *Greeks*, and the coffins are placed in an upright position in niches, regularly ranged in the walls. The *Obelisks* were high quadrangular spires of granite, adorned with hieroglyphics or mysterious characters, representing the number of tributary nations which acknowledged the sway of the great *Sesostris*, his victories, and the extent of his Empire. The *Labyrinth*, (the ruins of which are near Lake Moeris,) contained 300 rooms and 12 halls said to have been built by 12 Kings, as *Mausoleums* for the *Royal Race*, and the *Sacred Crocodiles*. At Alexandria are *Pompey's Pillar* and *Cleopatra's Needle*. The former is one entire piece of *Granite Marble*, 70 feet high, and 25 in circumference. The latter is an *Obelisk*, on which mystical characters are inscribed. The *Temples*, particularly those of *Thebes*, *Edfu*, and *Tentyra*, are of vast antiquity, and the largest in the world. They are highly ornamented, in the peculiar style of Egyptian architecture, and covered with numerous hieroglyphics. The *Tombs of the Kings*, near *Thebes*, form vast ranges of subterraneous apartments, adorned with ancient paintings, the colours of which are still brilliant.

## I. EXTENT OF COUNTRIES, WITH THEIR POPULATION TO A SQUARE MILE.

	<i>Square Miles.</i>	<i>Inhabitants to one square mile.</i>
N. America, .....	9,000,000	3
S. America, .....	6,500,000	3
Europe, .....	3,750,000	34
Asia, .....	16,000,000	36
Africa, .....	11,000,000	10
Lower Canada, .....	200,000	3
Upper Canada, .....	140,000	2
United States, .....	1,000,000	13
England and Wales, .....	58,000	240
Scotland, .....	30,000	79
Ireland, .....	30,000	256

## II. MOUNTAINS IN THE ORDER OF THEIR HEIGHTS.

	<i>English Feet, above the level of the Sea.</i>
Dwahalagiri, highest of Himalayah, .....	28,500
Sorata, highest of the Andes, .....	25,600
Chimborazo, S. America, .....	21,800
Volcano of Cotopaxi, S. America, .....	19,500
Elbraz, highest of Caucasus, .....	18,200
Mount St. Elias, N. America, .....	18,100
Volcano of Popocatepec, Mexico, .....	18,020
Mount Ararat, Turkey in Asia, .....	17,500
Mountain of Potosi, S. America, .....	16,300
Mount Blanc, highest mountain in Europe, .....	15,680
Mountains of Geesh, Abyssinia, Africa, .....	15,050
Peak of Teneriffe, Canary Islands, Africa, .....	12,236
Atlas, highest peak of Africa, .....	11,980
James' Peak, highest of Rocky Mountains, .....	11,700
Mount Perdu, highest of the Pyrenees, .....	11,283
Ætna, Sicily, .....	10,963
Mount Lebanon, Turkey in Asia, .....	9,520
City of Quito, S. America, .....	9,256
St. Gothard, Switzerland, .....	9,075
Peak of Lomnitz, highest of the Carpathians, .....	8,640
Highest of the Dofrines, Norway, .....	8,500
Hospice of Great St. Bernard, Switzerland, .....	8,040
Highest peak of Blue Mountains, Jamaica, .....	7,500
Chain of Olympus, Turkey in Europe, .....	6,500
Mount Washington, highest of the Alleghanies, ..	6,500
Chain of Mount Ida, Turkey in Asia, .....	4,960
Hecla, Iceland, .....	4,900
Vesuvius, Italy, .....	3,900
Table Mountain, Cape of Good Hope, .....	3,582
Mount Athos, Turkey in Europe, .....	3,353
The Ghauts, Hindostan, .....	3,000

### III. MOUNTAINS IN GREAT BRITAIN AND IRELAND.

	<i>Feet.</i>
Ben Nevis, the highest mountain in Britain.....	4,380
Ben Lawers, Perthshire,.....	4,051
Cairngorm, Inverness shire,.....	4,050
Ben More, Perthshire.....	3,903
Snowdon, Caernarvonshire,.....	3,568
Schehallion, Perthshire.....	3,564
Cader Idris, Merionethshire,.....	3,550
Macgillicuddy's Reeks, Ireland,.....	3,404
Crossfell, Cumberland,.....	3,390
Ben Lomond, Stirlingshire,.....	3,262
Goat-field, Arran,.....	2,915
Logan House, Pentland Hills, Edinburgh,.....	1,700
Leadhills, Dumfries shire,.....	1,564
Arthur's Seat, Edinburgh,.....	810

### IV. RIVERS, IN THE ORDER OF THEIR LENGTH.

	<i>Miles.</i>
Amazon,.....	4,000
Missouri,.....	4,000
Mississippi,.....	3,000
St. Lawrence,.....	2,000
Nile,.....	2,000
Danube,.....	1,600
Ganges,.....	1,600
Euphrates,.....	1,500
Indus,.....	1,300
Ohio,.....	1,000
Tigris,.....	800
Rhine,.....	700
Potomac,.....	600
Ottawa,.....	500
Rhone,.....	500
Tagus,.....	450
Thames, England,.....	180
Shanon, Ireland,.....	170

## ON THE GLOBES.

## I.—ON THE TERRESTRIAL GLOBE.

1. The *Artificial Terrestrial Globe* represents the natural figure of the earth.

2. The *Axis* is the rod or wire on which the globe revolves, and represents the imaginary line or axis about which the earth itself turns.

3. The *Poles* of the earth or globe are the extreme points of the axis, in which it meets the surface; one of them the N. or arctic, the other the S. or antarctic.

4. The *Circles* on the globe are of two kinds, *great* and *small*. Every circle is divided into 360 degrees or equal parts.

5. There are four great circles, viz.: the *Equator* or *Equinoctial line*, the *Ecliptic*, the *Meridian*, and the *Horizon*; and four small ones, viz.: the *Arctic* and *Antarctic* circles, the tropics of *Cancer* and *Capricorn*.

6. The *Equator* is a circle every where equally distant from the poles, and divides the globe into the *Northern* and *Southern Hemispheres*.

7. The *Ecliptic* is a circle which cuts the *Equator* obliquely at two opposite points, and represents the sun's path in the heavens. It is divided into 12 equal parts called signs, and each sign into 30 degrees. The names of the signs are *Aries* or the Ram ♈; *Taurus*, the Bull ♉; *Gemini*, the Twins ♊; *Cancer*, the Crab ♋; *Leo*, the Lion ♌; *Virgo*, the Virgin ♍; *Libra*, the Balance ♎; *Scorpio*, the Scorpion ♏; *Sagittarius*, the Archer ♐; *Capricornus*, the Goat ♑; *Aquarius*, the Water-bearer ♒; *Pisces*, the Fishes ♓.

8. The *Meridian* of any place is a circle conceived to pass through that place, and through both the poles, dividing the globe into Eastern and Western Hemispheres; the brass ring which surrounds the globe is called the *brazen meridian*.

9. The *Horizon* is a great circle which separates the visible half of the heavens from the invisible; the earth being considered as a point in the centre of the sphere of the fixed stars. The horizon, when applied to the earth, is either sensible or rational. The *sensible* or visible horizon is the circle which bounds our view, where the sky appears to touch the earth or sea. The *rational* or true horizon is an imaginary plane, passing through the centre of the earth, parallel to the sensible horizon; it determines the rising and setting of the sun, stars, and planets.

10. The *two Tropics* are situated parallel to the equator; one on each side, at about  $23\frac{1}{2}$  degrees from it. The northern tropic is called the *Tropic of Cancer*; the southern, the *Tropic of Capricorn*; because they touch the ecliptic at the beginning of those signs.

11. The *Polar Circles* are situated at about  $23\frac{1}{2}$  degrees from the poles; that on the N. is called the *arctic circle*, that on the S. the *antarctic circle*.

12. The *Horary* or hour circle, is a brass ring surrounding the N. pole, having twice 12 hours marked upon it.

13. The *Quadrant of Altitude* is a narrow flexible plate of brass, equal to a fourth part of the equator, and divided into 90 degrees.

14. The most remarkable points in the heavens are, 1st the *Poles*; 2d. the *Zenith* and *Nadir*; the former being the point of the heavens which



is directly above us, and the latter that which is immediately under our feet; 3rd. the *Cardinal* points, viz. : N. S. E. and W.; 4th. the *Solstitial* points, the one in the first degree of Cancer, and the other in the first degree of Capricornus; 5th the *Equinoctial* points, in the first degrees of Aries and Libra.

15. The tropics and polar circles divide the Globe into five portions or belts, called *zones*; viz. : the *Torrid* zone, between the tropics; the northern and southern *Frigid* zones, within the polar circles; and the northern and southern *Temperate* zones, between the tropics and polar circles.

16. The globe is divided into Climates of *half-hours*, and climates of *months*. There are 24 half-hour climates from the equator to either polar circle; and 6 month climates within each polar circle; making 60 climates from pole to pole.

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#### PROBLEMS TO BE SOLVED BY THE TERRESTRIAL GLOBE.

PROBLEM I.—*To find the latitude of any place.*

RULE.—Bring the place to the graduated side of the brazen meridian, and the degree of the meridian that stands immediately over it shows its latitude or distance from the equator.

EXERCISES.—What is the latitude of Edinburgh, Rome, Montreal and the Cape of Good Hope?\*

PROB. II.—*To find the longitude of any place.*

RULE.—Bring the place to the edge of the meridian; and the degree of the equator cut by the

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\*The number of exercises on each problem may be increased as occasion requires; the insertion of answers to them is thought quite unnecessary.

meridian will be the longitude of the place, or its distance east or west of the first meridian, *viz.* that of Greenwich.

Ex.—What is the longitude of Paris, Quebec, Jerusalem, and New Orleans? (*m*)

PROB. III.—*The longitude and latitude of place being given, to find that place.*

RULE.—Bring the given longitude to the edge of the meridian; look for the given latitude on the meridian, and immediately under it is the place required.

Ex.—What places are nearly in the following longitude and latitude? Long.  $3^{\circ}$  W. lat.  $56^{\circ}$  N.—long.  $18\frac{1}{2}^{\circ}$  E. lat.  $34\frac{1}{2}^{\circ}$  S.—long.  $30^{\circ}$  E. lat.  $31^{\circ}$  N.—long.  $4^{\circ} 15'$  W. lat.  $40^{\circ} 25'$  N.

PROB. IV.—*To find the antæci, (n) of any place.*

RULE.—Find the latitude of the place given; reckon the same number of degrees on the meridian on the opposite side of the equator, and the inhabitants of the place found under that point of the meridian will be the antæci of the place.

Ex.—Who are the antæci of the people at Montreal, Isle of France, St. Helena, and St. Domingo?

(*m*) Longitude may be converted into time, by allowing  $15^{\circ}$  to an hour; consequently every degree will answer to 4 minutes of time, and  $15'$  of a degree will answer to one minute of time; and so for the rest. Thus, for instance, any place that is  $15^{\circ}$  E. of London will have noon, and every hour of the day, one hour *before* the inhabitants of London: if  $30^{\circ}$ , there will be two hours' difference, and so on; because, being more eastward, that place will meet the sun so much sooner. In the same manner, any place  $15^{\circ}$  W. of London will have noon, and every hour of the day, one hour *later*; at  $30^{\circ}$ , there will be two hours' difference, and so on; because, being so much more westward, that place will be so much later in meeting the sun.

(*n*) The *antæci* are those who live in the *same semicircle* of the meridian; but in *opposite parallels* of latitude: both of them have noon and midnight at the same instant of time; but the seasons of the year are different: it being summer to the one when it is winter to the other; and to the one it is the longest day when it is the shortest to the other.

PROB. V.—*To find the pericæci (o) of any place.*

RULE.—Bring the place given to the meridian, and 12 on the hour-circle to the meridian; then turn round the globe till the other 12 comes to the meridian, and the place which is under the same degree of the meridian as the place given will show the pericæci of that place.

EX.—Who are the pericæci of the people of Honduras, Jamaica, Borneo, and Lassa?

PROB. VI.—*To find the antipodes (p) of any place.*

RULE.—Bring the place and 12 on the hour-circle to the meridian then turn round the globe till the other 12 comes to the meridian, and under the same degree of the meridian as the latitude of the place given, but on the opposite side of the equator, will be found the antipodes (q).

EX.—Who are the antipodes of the people at Lima, Buenos Ayres, Owhyhee, and Canton?

PROB. VII.—*To find the difference of latitude and the difference of longitude between two given places.*

(o) The *pericæci* are those who live under the same parallel of latitude, but in opposite semicircles, or opposite meridians; they have their summer and winter at the same time; but their day and night at contrary times.

(p) The *antipodes* are those who live diametrically opposite to each other, or stand, as it were, feet to feet, on different sides of the equator; they have their days and nights directly contrary, as also their seasons of the year; when it is summer with the one, it is winter with the other; and when it is noon to the one, it is midnight to the other.

(q) The *antæci*, *pericæci*, and *antipodes* of any place, may be found thus: Place the two poles of the globe in the horizon; and bring the given place to the eastern part of the horizon; then, if the given place be in N. latitude, observe how many degrees it is to the northward of the east point of the horizon; the same number of degrees to the southward of the east point will show the *antæci*; an equal number of degrees, counted from the west point of the horizon towards the north, will show the *pericæci*; and the same number of degrees, counted towards the south of the west, will point out the *antipodes*. If the place be in south latitude, the same rule will serve, by reading S. for N. and the contrary.

**RULE.**—Find the latitudes of both places, and take the difference or sum of these according as they lie on the same side, or on different sides of the equator. The difference of longitude is found in the same way, by taking the difference or sum of the longitudes according as they lie on the same side, or on opposite sides of the first meridian.

**Ex.**—What is the difference of latitude between London and Edinburgh, and between London and Lima; also the difference of longitude between Rome and Constantinople, and between Rome and Montreal?

**PROB. VIII.**—*To find the distances between two places on the globe.*

**RULE.**—Lay the quadrant of altitude over the two places, and count the number of degrees between them.

**Ex.**—What is the distance between Pekin and Rome, Lisbon and Vienna, Jamaica and Naples, Montreal and Jerusalem?

**PROB. IX.**—*To rectify the globe for the latitude of any given place.*

**RULE.**—Elevate the N. or S. pole, according as the place is N. or S. of the equator, till its altitude or height above the horizon be equal to the latitude of the place.

**Ex.**—Rectify the globe for Cairo, Botany Bay, Madras, and the Isle of Bourbon.

**PROB. X.**—*The hour being given at one place, to find the hour at any other place at the same time.*

**RULE.**—Bring the given place and hour to the meridian, then turn the globe till the other place comes to the meridian, and the hour immediately under the meridian is the time required (*r*).

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(*r*) If the difference of longitude between any two places be divided by 15, the quotient will be the difference of time at the places; and, if the difference of time be multiplied by 15, the product will be the difference of longitude.

EX.--When it is noon at Amsterdam, what is the time at Canton and Montreal? When it is 8 in the morning at Edinburgh, what is the hour at Moscow and Delhi? When it is midnight at Lisbon, what o'clock is it at Florence and Washington?

PROB. XI.—*To find the sun's place in the ecliptic for any given time.*

RULE.—Find the given day on the wooden horizon; directly opposite to it in the adjoining circle is the sign and degree in which the sun then is; look for the same degree in the circle of the ecliptic drawn on the globe, bring it to the meridian, and that is the sun's place at noon for the given day.

EX.—What is the sun's place on the 14th of July, the 27th of February, the 12th August, and the 7th of January.

PROB. XII.—*To find on what point of the compass the sun rises or sets on a given day at any particular place; also the amplitude of the sun.*

RULE.—Rectify the globe for the latitude of the place, and find the sun's place on the ecliptic for the particular day; observe what point on the circle of *rhumbs* the sun's place in the ecliptic cuts, when brought to the eastern edge of the horizon and also when brought to the western. The number of degrees counted on the horizon, between the points of sun rising and setting and the E. or W. is his amplitude.

EX.—On what point of the compass does the sun rise and set at Edinburgh on the 5th of May, at Rome on the 10th of September, at Mexico on the 13th January, and at Alexandria on the 8th of October?

PROB. XIII.—*To find towards which point of the compass one place is situated in respect of another.*

RULE.—Bring the latter place to the zenith (s);

(s) That is, rectify the globe for the place.

fix the quadrant of altitude (*t*) above it to the meridian ; lay it along the former place, and it will cut the horizon in the point required.

Ex.—Towards which point of the compass is Jerusalem from Edinburgh, Jamaica from London, Cairo from Venice, and Madras from Montreal ?

PROB. XIV.—*To find at what hour the sun rises and sets on any day in the year, also the length of the day and night.*

RULE.—Rectify the globe for the latitude of the given place, bring the sun's place for the particular day, and 12 on the hour-circle to the meridian ; the hours cut by the meridian, when the sun's place is brought to the eastern and western edge of the horizon, will be respectively the times of rising and setting. The hour of sun-rising, doubled, gives the length of the night ; and the hour of sun-setting, doubled, gives the length of the day (*u*), exclusive of twilight (*v*).

Ex.—At what time does the sun rise and set at Dublin, Mecca, Canton, and St. Peterburg, on the 20th of May ; and what is then the length of the day and night at those places ?

(*t*) Instead of the quadrant of altitude a thread may be used.

(*u*) In all places upon the equator the sun rises and sets at six the whole year round. From thence to the polar circles the days increase as the latitude increases : so that at those circles themselves the longest day is 24 hours and the longest night the same. From the polar circles to the poles, the days continue to lengthen into weeks and months ; so that, at the poles, the sun shines for six months together in summer, and is absent from them six months in winter. Every part of the world, however, partakes of an equal share of light and darkness.

(*v*) Twilight is caused by the atmosphere refracting the sun's rays towards the earth, and always begins when the sun approaches within  $18^{\circ}$  of the eastern part of the horizon, and ends when it descends  $18^{\circ}$  below the western. There can be no continual twilight to any place having less than  $48^{\circ}$  or  $49^{\circ}$  of latitude.

PROB. XV.—*The day of the month being given, to find the sun's declination ( $w$ ), and all those places where the sun will be vertical ( $x$ ) on that day.*

RULE.—Find the sun's place in the ecliptic for the given day, and bring it to the meridian; the degree marked over it is its declination; turn round the globe, and all the places which pass under the particular degree of declination will have the sun vertical on that day.

EX.—What is the sun's declination, and to what places will he be vertical on the 15th of January, the 22d of June, the 1st of August, and the 25th of December?

PROB. XVI.—*A place being given in the torrid zone, to find on what two days the sun will be vertical there.*

RULE.—Find the latitude of the place, turn round the globe, and observe the two points of the ecliptic that pass under the particular degree of latitude; the days on the wooden horizon, opposite to these points, will be the days required.

EX.—On what days is the sun vertical at Lima, Madras, Cape Verde, and the isle of Bourbon?

PROB. XVII.—*At a given place and hour, to find where the sun is then vertical.*

RULE.—Find the sun's declination, or the parallel to which he is vertical that day, and bring the given place and hour to the meridian; then turn the globe till 12 at noon come to the meridian; the intersection of the meridian, with the parallel of latitude to which the sun is vertical, will be the place required.

( $w$ ) The declination of the sun in its distance from the equator N. or S.

( $s$ ) That is, to find over whose heads the sun will pass that day.

Ex.--Where is the sun vertical on the 5th of April, when it is 9 in the morning at Lisbon? Where is the sun vertical on the 26th of July, when it is 8 in the evening at Montreal? Where is the sun vertical on the 3d of November, when it is midnight at Palermo?

PROB. XVIII.—*The day, hour, and place, being given, to find all those places of the earth where the sun is then rising and setting, and where it is noon and midnight.*

RULE.—Find the place to which the sun is vertical at the given hour, bring it to the meridian, and rectify the globe for the latitude of that place. In this position of the globe, to all the places under the western edge of the horizon the sun is rising; to those under the eastern, setting; to those under the upper half of the meridian, it is noon; to those under the lower half, midnight.

Ex.--At what place is the sun rising and setting, and where is it noon and midnight, when at Vienna it is 8 in the evening on the 30th of March?

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## II.—ON THE CELESTIAL GLOBE.

1. The *Celestial Globe* is an artificial representation of the heavens, on which the stars are laid down in their apparent situations. The diurnal motion of this globe is from E. to W., and represents the apparent diurnal motion of the sun, moon, and stars. In using this globe the student is supposed to be situated in the centre of it, and viewing the stars in the concave surface.

2. A *Constellation* is an assemblage of stars on the surface of the celestial globe, circumscribed by the outlines of some assumed figure, as a *ram*, a *dragon*, a *bear*, &c. This division of the stars



into constellations is necessary, in order to direct a person to any part of the heavens where a particular star is situated.

3. The *Zodiac*, on the celestial globe, is a space which extends about 8 degrees on each side of the ecliptic, like a belt or girdle, within which the motions of all the planets are performed.\*

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## PROBLEMS TO BE SOLVED BY THE CELESTIAL GLOBE.

PROB. I.—*To find the latitude and longitude of any given star (a).*

RULE.—Put the centre or 90th degree of the quadrant of altitude on the pole of the ecliptic, and let its graduated edge fall upon the star; then the degree of the quadrant over the star is its latitude, and the degree of the ecliptic cut by the quadrant is its longitude.

Ex.—What are the latitudes and longitudes of *Castor* (in Gemini), and *Sirius* or the *Dog-Star* (in Canis Major) (b) ?

PROB. II.—*The longitude and latitude of a star being given, to find the star upon the globe.*

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\* Except the newly-discovered planets or asterids, *Ceres* and *Pallas*.

(a) The *latitude* of the heavenly bodies is measured from the ecliptic N. and S.; their *longitude* is reckoned on the ecliptic from the first point of Aries, eastward round the globe. The sun, being always in the ecliptic, has no latitude.

(b) The largest and brightest stars are of the first magnitude, and become visible when the sun has sunk  $12^{\circ}$  below the horizon; those of the 2d, 3d, and 4th magnitudes are seen when it is 13, 14, and  $15^{\circ}$ ; and those of the 5th and 6th when the sun has descended  $18^{\circ}$  below the horizon. All stars smaller than those of the 6th magnitude, cannot be seen by the naked eye, and are called telescopic stars.

**RULE.**—Place the centre of the quadrant of altitude on the pole of the ecliptic, and make its graduated edge intercept the ecliptic, in the longitude of the star; then the star will be found under the degree of the quadrant denoting its latitude.

**EX.**—What star is that whose longitude is  $297^{\circ}$ , and whose latitude is  $30^{\circ}$  N.? What star is that whose longitude is  $142^{\circ}$ , and whose latitude is  $22^{\circ} 39'$  S.?

**PROB. III.**—*To find the declination of the sun or stars (c).*

**RULE.**—Bring the sun's place, or the star, to the brazen meridian, and the degree over it is its declination.

**EX.**—What is the declination of the sun on the 12th of November, and of *Capella* (in *Auriga*)?

**PROB. IV.**—*To find the right ascension of the sun or stars (d).*

**RULE.**—Bring the sun's place, or the star, to the brazen meridian, and the degree of the equinoctial cut by the meridian is the right ascension.

**EX.**—What is the sun's right ascension on the 23d of August, and of *Rigel* (in *Orion's* foot)?

**PROB. V.**—*The right ascension and declination of a star being given, to find the star on the globe.*

**RULE.**—Bring the degree of the equinoctial denoting the right ascension to the meridian, and the degree of the meridian denoting the declination will be over the star.

(c) The *declination* of any heavenly body is measured upon the meridian from the equinoctial.

(d) The *right ascension* of any heavenly body is its distance from the first meridian (or that which passes through the first point of *Aries*.) counted on the equinoctial.

EX.--What star is that whose right ascension is  $114^{\circ}$ , and declination  $28^{\circ} 30' N.$ ? On what day is the sun's right ascension  $291^{\circ}$ , and declination  $22^{\circ} S.$ ?

PROB. VI.—*To dispose the celestial globe so as to exhibit the actual appearance of the heavens at any given time and place.*

RULE.—Rectify the globe for the latitude of the place, and set it due N. and S. ; then bring the sun's place in the ecliptic, and the 12th hour of the horary, to the brazen meridian. Turn the globe towards the E. or W. according as the time is before or after noon, till the given hour on the hour-circle comes to the meridian, and the globe will represent the actual appearance of the heavens at that time and place.

EX.—Represent the face of the heavens at Montreal for 10 o'clock in the evening of the 15th of April, at London for 4 o'clock in the morning of the 17th of January.

PROB. VII.—*To find when a given star rises, sets, or culminates, at any place on a given day.*

RULE.—Rectify the globe for the latitude of the place, and bring the sun's place in ecliptic, and the 12th hour of the horary, to the brazen meridian; then bring the star successively to the eastern side of the horizon, the meridian, and western side of the horizon, and the times of its rising, culminating, and setting on the hour-circle, will come to the meridian respectively.

EX.—Required the rising, culminating, and setting, of *Aldabaran*, (in Taurus) at Toronto on the 10th of February; and of *Alphecca* (in Corona Borealis) at Quebec on the 3d of November.

PROB. VIII.—*To find on what day any given star comes to the meridian, at any given hour.*

RULE.—Bring the given star and hour to the

meridian, then turn the globe till 12 at noon comes to the meridian, and the degree of the ecliptic cut by the meridian is the sun's place. The day on the horizon corresponding with that degree is the day required.

Ex.—On what days does *Antares* (in *Scorpio*) come to the meridian at 10 o'clock in the evening? On what day does *Regulus* (in *Leo*) come to the meridian at 2 o'clock in the morning?

PROB. IX.—*To find those stars that never rise, and those that never set, at a given place, not under the equator (e).*

RULE.—Rectify the globe for the latitude, and make it revolve. The stars that do not sink below the wooden horizon, are those that never set; and the stars that do not appear above it, are those that never rise in that latitude.

Ex.—What stars never rise and never set at Montreal, and the Cape of Good Hope?

PROB. X.—*To find what stars are rising, setting, or culminating, at any given time and place, and also the altitude and azimuth of any star, at the same time and place.*

RULE.—Rectify the globe for the latitude of the place, and bring the sun's place in the ecliptic, and the 12th hour of the horary, to the brazen meridian. Turn the globe towards the E. or W. according as the time is before or after noon, till the given hour on the hour-circle comes to the meridian; then the stars under the eastern side of the horizon are rising, those under the western side are setting, and those under the meridian are

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(e) If the place be under the equator, every star is 12 hours above and 12 hours below the horizon.

culminating.—If the quadrant of altitude be fixed on the zenith, and its graduated edge made to fall on a given star, the degree of the quadrant over the star will be its altitude; its azimuth is the number of degrees, counted on the horizon, from its intersection by the quadrant to the N. or S. point of the horizon.

EX.—What stars are rising, setting, and culminating, at Montreal on the 6th of March at 11 in the evening; and at Canton on the 18th of October at 4 in the morning?

PROB. XI.—*To find the amplitude of any star, and the length of its diurnal arc, at any given place.*

RULE.—Rectify the globe for the latitude of the place, and bring the given star to the eastern part of the horizon; the number of degrees between the eastern point of the horizon and the star is the amplitude required, either N. or S.—The number of hours passed over in moving the star from the eastern to the western part of the horizon is the star's diurnal arc, or its continuance above the horizon of the given place.

EX.—Required the amplitude and length of the diurnal arc of *Spica Virginis* (in Virgo) at Paris; and of *Procyon* (in Canis Minor) at Venice.

PROB. XII.—*To find the apparent angular distance between two stars; that is, the arc of the great circle intercepted between them.*

RULE.—Apply the quadrant of altitude to the globe, so that its graduated edge may fall on both the stars; the zero, or commencement of the graduation, being on one of them; then the degree of the quadrant over the other will be the angular distance required.

Ex.--Required the apparent angular distance between *Betelgeuse* (in Orion) and *Arietes* (in Aries); and between *Arcturus* (in Bootes) and *Pollux* (in Gemini).

PROB. XIII.—*The latitude of the place, the altitude of a star, and the day of the month, being given, to find the hour of the night.*

RULE.—Rectify the globe for the latitude, bring the sun's place and 12 on the horary to the meridian, and fix the quadrant in the zenith; then move the globe and quadrant till the star comes under the quadrant at the given altitude, and the meridian will cut the horary at the hour required.

Ex.-- At Edinburgh, on the 20th of January, when the altitude of *Capella* (in Auriga) is  $70^{\circ}$ , what is the hour of night? At London, on the 10th March, when the altitude of *Deneb* (in Leo) is  $50^{\circ}$ , what is the hour of the night?

FINIS.



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