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The Geography Course in the Chicago Normal School: Part I

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THE GEOGRAPHY COURSE IN THE CHICAGO NORMAL SCHOOL

PART I

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THE organization of all courses in the Chicago Normal School is adapted to the well-defined conditions peculiar to the school.

The fact that the Chicago Normal School stands at the head of the Chicago school system to prepare graduates of the Chicago schools to be teachers in the same system, gives the school the advantage of limitations which normal schools do not often enjoy. All entering students have had equal and practically the same chances for preparation in the Chicago schools. All graduates must be especially trained to meet the conditions peculiar to the Chicago schools. Hence the course in geography, here presented deals only with these known conditions of entrance and attempts to meet these known conditions of demand, but at the same time it aims to give such a preparation for general teaching that the students may be well prepared to teach in other environments than those prevailing in the Chicago Public Schools.

It is assumed that a student entering the Chicago Normal School has had all of the strictly academic study of geography that is necessary to allow of his treating the subject-matter as the acquired building material with which he works. The course in geography is entirely a professional study of the subject and it is found that the students do get a better review of the subject-matter of geography by approaching it from the standpoint of the teacher than those, with equal preparation, did under the previous course, by a simple academic study. The professional study is divided into two distinct divisions:

1. The study of the subject from the point of view of the subject-matter alone, with the conscious aim of discovering the organization

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inherent in the subject-matter. This procedure must include a close scrutiny of the different parts of the subject-matter to discover the relations existing between the parts as applied in the study of certain wholes. Such is the intent of the first year's work as outlined.

2. The study of the subject from the point of view of the child with the conscious aim of adapting the subject-matter to the growing consciousness of the child. This must include a psychological study of the child to determine his ability for mastering and his mental processes of comprehending certain parts of the subject-matter at certain ages. Incidentally it also includes the discovery of the disciplinary value of the subject. Such is the intent of the second year's work as outlined.

After this preparation, as outlined, each student is given a chance to practice teaching the subject in one of the grades for six weeks. This teaching work is done under the direct supervision of the regular grade critic teacher and the geography department.

FIRST YEAR OF GEOGRAPHY

(Fourteen weeks, five fifty-minute periods weekly.)

I. INTRODUCTION

- A. *A Consideration of What Geography Is; viz., "A study of the earth in its relation to life."*
 - 1. Earth factors determining life conditions.
 - a. Climate.
 - b. Structure.
 - c. Examples showing the influence of these factors.
- B. *Educational Value of such a Study of Relations.*
 - 1. Discipline.
 - 2. Culture.

II. THE EARTH AS A WHOLE

- A. *Shape.*
 - 1. Proofs.
 - a. A person moving north or south sees stars rise and set at an equally progressive rate.
 - b. The sun rises westward at the same rate.
 - c. Ships sailing with equal speed disappear in all directions at the same rate.
 - d. The shadow of the earth cast upon the moon during a lunar eclipse is always circular.
 - 2. Results.
 - a. The pull of gravity is nearly the same all over the earth, hence:

- (1) The moving of weights is easy.
 - (2) The atmosphere at sea level is of the same density.
Most men are adjusted to living under such a density.
 - (3) The earth has a comparatively level surface, hence:
 - (a) There is a wide distribution of organic species.
 - (b) Communication is easy.
 - b. We have the terms "up" and "down."
 - c. The curvature of the earth has to be taken into account in digging canals.
- B. Size in its Relation to Man's Life.*
1. Effect upon the intercourse of savage peoples.
 2. Effect of railroads, telegraph lines, etc., in overcoming size.
 - a. Free exchange of products and ideas between all parts of the world.
- C. Spheres of the Earth.*
1. Atmosphere.
 2. Hydrosphere.
 3. Lithosphere.
 4. Centrosphere.
 5. Relation of spheres in space and comparative mass of atmosphere, hydrosphere, and lithosphere.
 6. Interpenetration of atmosphere, hydrosphere, and lithosphere and its effect in furnishing conditions for life.
- D. The Lands.*
1. Arrangement about the North Pole.
 - a. Effect of massing of lands in the northern hemisphere upon the distribution of heat.
 2. North and south projecting arms.
 - a. Effect upon ocean currents and distribution of heat.
 3. Division into continents and islands.
 - a. Effect upon life in the development of species.
 - b. General triangular shape of continents.
 - c. Size of continents and effect upon the development of life.
 - d. Formation of the continents.
 - (1) Diastrophism.
Effect upon the surface.
 - (2) Vulcanism.
Formation of igneous rocks and surface forms.
 - (3) Gradation.
Formation of mantle rock, sedimentary rock, and surface forms.

E. The Oceans.

1. General arrangement and comparative size.
2. Relation to life.
 - a. Sources of food, moisture, and means of cheap communication.

F. Movements of the Earth.

1. Rotation.
 - a. Proof of rotation.
 - (1) Deflection of falling bodies.
 - (2) Foucault's pendulum.
 - (3) Flattening at the poles.
 - b. Results of rotation.
 - (1) Gives a unit of time—the day.
 - (2) Directions—points of compass.
 - (3) Latitude and longitude.
 - (4) Standard time.
 - (5) International Date Line.
2. Revolution.
 - a. Sun's apparent movement among the stars.
 - b. The year.

G. Distribution of Heat on the Earth's Surface.

1. Nature of heat.
2. Modes of transference.
3. Measuring of heat—thermometer.
4. Sources of heat.
 - a. Solar.
 - b. Terrestrial.
5. Distribution of heat due to slant of sun's rays.
 - a. Distribution as observed in Chicago.
 - (1) Daily distribution as shown by weather records kept by pupils.
 - (2) Cause of daily distribution.
 - (a) Comparison of angle of sun's rays received in the morning and at noon (by use of skiameter); at night.
 - (b) Comparison of amount of surface covered by noon and morning rays. (By use of ski meter.)
 - (c) Effect of rotation.
 - (3) Yearly distribution as shown by change of seasons.
 - (4) Cause of yearly distribution.
 - (a) North and south apparent movement of the sun and its distance from our zenith at different seasons. Effect upon angle of sun's rays.

- (b) Varying length of day. Place of sunrise and sunset and length of sun's path at the
 - Winter solstice.
 - Summer solstice.
 - Equinoxes.
 - b. Distribution on the earth as a whole.
 - (1) Region of vertical rays and greatest heat.
 - (2) Region of oblique rays.
 - (3) Cause of vertical and oblique rays.
 - (a) Comparative size of earth and sun and distance between them.
 - (b) Practical parallelism of all rays received from the sun.
 - (c) Effect of curved surface of the earth upon the angle which rays make with the surface.
 - (4) Shifting of vertical rays.
 - (a) Earth's orbit, shape, distance from the sun.
 - (b) Plane of the orbit.
 - (c) Attitude of the earth as regards this plane.
 - (d) Conditions of heat and light if axis were vertical to this plane.
 - (e) Amount of inclination of axis necessary to carry rays $23\frac{1}{2}^{\circ}$ north and south of the equator.
 - (f) Fixed direction of North Pole.
 - (g) Combined effect of revolution, and inclination and parallelism of axis.
 - (5) Location of vertical rays and twilight circle at
 - (1) Winter solstice.
 - (2) Summer solstice.
 - (3) Equinoxes.
 - (a) Consequent length of day and distribution of heat.
 - c. Location and definition of zones of insolation, tropics, polar circles.
 - d. Visualization of sun's position at noon at different places on the earth's surface at
 - (1) Summer solstice
 - (2) Winter solstice.
 - (3) Equinoxes.
6. Winds.
- a. Composition and pressure of the atmosphere.
 - b. Measuring pressure—barometer.
 - c. Changes in density and pressure.

- d* Movement as a result of difference of pressure.
- e*. Direction of movement from high to low pressure areas.
- f*. General circulation of the atmosphere.
 - (1) Region of greatest heat on earth's surface
 - (a) Effect upon density and pressure of air.
 - (2) Formation of
 - (a) Trades.
 - (b) Belt of equatorial calms—doldrums.
 - (c) Antitrades
 - (3) Effect of rotation of the earth.
 - (a) Deflection of air currents.
 - (b) Circumpolar whirl.
 - (c) Low pressure areas at the poles.
 - (d) High pressure at about 30° north and south latitudes.—Horse latitudes.
 - (e) Westerlies.
 - (4) Effect of migration of vertical rays.
 - (a) Shifting of wind belts.
 - (b) Deflection of trade winds as they cross the geographical equator. Terrestrial monsoons.
- g*. Effect of land and water surface on general circulation due to
 - (1) Unequal heating of land and water.
 - (a) Continental monsoons.
 - (2) Obstruction of land
- h*. Effect of winds upon the formation of ocean currents.
- i*. Effect of winds upon the distribution of heat
- j*. Summary as to the distribution of heat on earth's surface by a study of isothermal charts.

H. Rainfall.

- 1. Presence of moisture in the air.
 - a*. Relation to heat.
 - b*. Relation to bodies of water.
 - c*. Humidity.
 - (1) Measuring amount of,—hygrometer.
- 2. Conditions causing rainfall.
 - a*. Chilling of the air due to
 - (1) Ascending currents at region where the sun's rays are vertical—zenithal rains
 - (2) Storms.
 - (3) Mountain deflection
 - (4) Latitude.

3. Measuring amount of rainfall.
 - a. Rain gauge.
 - b. Average annual rainfall of Chicago.
 - c. Average annual rainfall necessary for agriculture.
 4. Distribution through the year.
 - a. Relation to vegetation.
 - b. Relation to agriculture.
 5. Rainfall of different wind belts.
 - a. Effect of highlands upon distribution.
 - b. Effect of cyclonic storms.
 6. Study of rainfall map and summary as to distribution of rainfall.
- I. *Vegetation Zones.*
1. Factors essential to plant growth.
 2. Distribution of plants in Chicago environment.
 - a. Typical areas.
 - (1) Sand dunes.
 - (2) Swamps.
 - (3) Prairies.
 - (4) River valleys
 3. Geographical distribution of plants; control by temperature.
 - a. Heat belts
 - (1) Polar cold caps bounded by isotherm of 50° for the hottest month which marks the northern limit of trees and most hardy cereals.
 - (2) Hot belt bounded by the annual isotherm of 68° which marks the limits of palms.
 - (3) Temperate belt.
 - b. Tundras and barren lands of polar cold caps. Characteristic plants — mosses, lichens, dwarf birches, stunted berry-bearing bushes, bright colored flowers, gentians, anemones, etc. Animal life and people studied in relation to the environment.
 - c. Distribution of vegetation in the temperate belt in relation to moistures.
 - (1) Temperate forests, coniferous and deciduous.
 - (2) Steppe lands.
 - (3) Deserts.

Influence of the different areas upon the animal life and upon man's mode of life.
 - d. Distribution of vegetation in the hot belt in relation to moisture.

- (1) Tropical forests.
- (2) Savannahs.
- (3) Deserts.

Influence of the different areas upon the animal life and upon man's mode of life.

III. NORTH AMERICA

A. *Position on the Globe.*

1. Position in the northern hemisphere.
2. Position in relation to oceans and other continents
3. Advantages of position between densely peopled regions of Europe and Asia.

B. *General Shape and Size.*

1. Advantage of wide extent in temperate belt.
2. Advantages of extent in latitude.

C. *Physical Features.*

1. Arrangement of highlands.
2. Comparison of highlands as to extent, height, and general appearance.
3. Drainage areas as formed by slopes of highlands.
 - a. Atlantic.
 - b. Great Lakes.
 - c. Gulf of Mexico.
 - d. Pacific.
 - e. Great Basin.
 - f. Hudson Bay.
 - g. Arctic.
4. Lowlands in part formed from debris washed down from highlands.

D. *Glaciation.*

1. Valley glaciers
 - a. Location.
 - b. Origin.
 - c. Movement.
 - d. Work.
2. Continental glaciers.
 - a. Present—Greenland Antarctic.
 - b. Ancient—North American ice sheet.
 - (1) Centers of ice accumulation.
 - (2) Extent.
 - (3) Work done in Canada and New England.

- (4) Work done in Northern Mississippi Basin region.
- (5) Origin of Chicago plain, topographic features, and its influence upon the growth of a great city.

E. Climate.

1. Winds.
 - a. Part of continent in each belt.
 - b. Effect of seasonal shifting of belts
2. Temperature.
 - a. Part of continent in different heat belts
 - b. Effect of winds and ocean currents on east and west coasts.
 - c. Comparison of interior with coasts.
3. Rainfall.
 - a. Distribution in relation to highlands.
 - b. Effect of cyclonic storms.
 - c. Influence of the Gulf of Mexico.

F. Life.

1. Part of continent in different vegetation zones.
2. Influence of the above distribution upon the industrial life of the continent.

IV. PHYSIOGRAPHIC REGIONS OF THE UNITED STATES

Lake and Prairie Plains.
New England Upland.
Atlantic Coastal Plain.
Piedmont Belt.
Appalachian Ranges.
Allegheny Plateaus.
Gulf Coastal Plain.
Alluvial Plain of the lower Mississippi.
Ozark Mountains.
Great Plains.
Rocky Mountains.
Columbia Plateau.
Colorado Plateau.
Basin Ranges.
Pacific Mountains and Valleys.

NOTE:—The lake and prairie plains are first studied because the students are within this environment. Next, the New England plateaus are studied as a contrasted glaciated area. Each region is studied according to the general plan outlined below for the lake and prairie plains.

A. Lake Plains and Prairie Plains; the Northern Glaciated Part.

1. Location and extent.
 - * Characteristic features.
 - a Level or undulating surface. Low hills of glacial origin.
 - b. Drained and terraced lake beds.
 - c. Young valleys, falls lakes.
 - d. Glacial soils.
3. Climate
 - a. Great range of temperature.
 - b. Length of growing season from four to six months.
 - c. Rainfall from twenty to forty inches.
4. Industrial regions.
 - Forest areas.
 - Wheat region.
 - Corn belt.
 - Iron region.
 - Coal regions.
 - a. Location and extent of each.
 - b. General characteristics of the industry.
 - c. Amount and value of the products.
 - d. Markets.
 - e. Allied industries.
 - f. Amount and value of industries as to states.
5. Important centers.
6. Trade routes.
 - Great Lakes.
 - Mississippi River.
 - Railroads.

V. POLITICAL DIVISIONS

Organization of the whole as seen through study of the political divisions.

NOTE:—Each pupil is required to make a sand model and a chalk modeled relief map of the whole continent and of the different physiographic regions

No one text-book is used, for students are referred to different texts found in the library and in the geography room.

During the study of the earth as a whole weather records are kept and regular observations of the sun's position made

(*To be concluded.*)