

**FOUND
AS
SCANNED**



ANGLE TAB VISIBLE-NAME FOLDERS

CAT. No. 50939

Kemp, Nov. 30

Tanks still made of heavy gauge steel. Civilian defense in Boston is bull - army taking no precautions. - just bull to keep morale up. War will be over by Dec., 1943. - they have a better plan in Wash, dumb as they are. Aliquians making fasts of Americans, selling things at terrific prices. Segon beets grown, like celery etc., on bottom land, recently drained.

Greek limestone soil - limestone the best soil - Lancaster Pa, Blue Grass, e.g. But limestone is porous, needs lots of rain. Sandy soil has same trouble.

Ground water

Lab.

For class, get topographic maps to show relation of labor to land - & why city lands so valuable - strategic location. "Umland" is the trading area of an inland town. Jackson has now pirated Vicksburg's, with r.r.s.

Kemp ~~the~~ Dec. 2 28.5

A phenomenal low today ~~28.1~~ at center, amazing low, which passed just at 10 o'clock, when wind shifted from south to west.

Irrigation. Greece with unusually porous soil is worst off of Medit. countries. If there were much rain, porous soil is fine. Difficulties of irrigation - leaching, cost. Why was Tigri's civilization so wicked? Life was too easy ($\frac{1}{4}$ work) Roosevelt a wild spend thrift at college. His father left him a trust fund, doled out by trustees ever since, even as president. Went into as president.

Dry farming in western Kansas, etc. Oregon lava field near Blue Mts. the best dry farming region. Basalt will be hard, but porous lava breaks down fast, wonderful soil. 15 bu. per acre the normal U.S. output 40 bu per acre in Oregon. Nicest desert in world, Snake R. Valley. Sun will evaporate water from porous soil right away. Dry farmers here to

harren soil very fine after rain, so there is a mulch of dust and rain, capillary action cannot work. After 2 years, enough water is accumulated to grow crop - 1 every 2 years.

Domestic water - on plains, dig many wells out in country somewhere, pump it up to a tank on a mesa. Surface water more common. Anheuser-Busch used Miss. R. water to make beer, then they chlorinated it, & ruined beer. So they had to go out in country & dig wells. Savoy Hotel in London dug 1000 ft. to get good water.

Chicago water always taken from Lake where sewage was dumped. When Thompson was mayor, canal dug to Des Plaines R., & St. Louis polluted.

New York has to go to Adirondacks, news for water. Boston has lots of little lakes around, & many artificial. - but still has to go all the way to Conn. valley, beyond Worcester, because Worcester got their 1st. Had to buy 2 valleys, dam them up - so Hartford & New Haven sued Boston, for affecting water table. Chicago's turnaround lowered water table, ruined crops for a year, had to watch it. Roosevelt's proposed Lakes to Sea canal will lower lakes, cause great expenditures.

Drying has to be done in small, out of way place where water is not yet polluted. Pollution kills all clams & fish. Ipswich Clams once best in N.E., now ruined by pollution of Merrimac. Present Ipswich Clams are now killed by chlorination.

Spas. Town in Belgium named Spa, with "curing" waters.

→

For class - to show that city land values are more or as important as farm, get topographic map, show reasons for cities growth...

Kemp - Dec. 4

Prog. schools designed to cram facts into stupid kids, guarantee to make them pass board exams - they can memorize facts, but not think. Society to blame for Grove fire, so they are going to fix blame on some poor scapegoat, whitewash the rest.

North Dakota artesian wells. Chicago artesian wells rob Milwaukee - (this problem appears often - oil wells, too)

Slack's mill - a tide, narrow inlet, dam it up, open gate to let tide in, get power going out. St. Johns, N.B. Tillbury Docks at London, tide is pent up to raise in going boats up to wharfs, Antwerp, too. Wave power sometimes used by floats. In Sahara, sun rays focused on water tank, steam generated. Built in popular articles - "Power of the Future," etc. Constant supply of water necessary - intermittent streams won't do.

Portland - little manufacturing. Kaiser exceptional. No market. Two new dams - Bonneville & Grand Coulee. Power from them.

Gov. now trying to get flood control dams built. They say you will have power, too. A lie - ~~otherwise~~ flood control dams have to be kept dry, so floods will be stopped filling them up.

Waterwheel, much waste of water. Penstocks now, direct water, get all power. Wealth of New Eng. is all due to early development of water power. The early mills were here. Boston the entrepot for little hill mills. Then the Irish poured into Boston, & now control it. Cunard Line brought them. Wool & leather - Boston still makes iron, started by backcountry cattle. Boston a center of wealth early, they invested, so Boston now a center of idle rent collectors.

Lowell & other Merrimac cities are new towns, made by dams across the Merrimac.

Then hydro electric development. Old power sites abandoned. Factories moved to coast.

What locates factories? 1. Power. Mass. harnessed a

volcano. Texas & Okl. ship oil out. Why do not they manufacture there? a) Oil is not permanent supply b) It is so easily shipped. (Amazing how many think it is because capital is not there) Natural gas. Wind - Lake Champlain, biggest windmill in world today.

Dec. 7

Principle of early start - (inertia) - has kept N.E. going. Slade's spices, e.g. Skilled Knowledge. (N.E.'s accessibility by sea an important advantage) Birmingham Ala., with 3 essential raw materials. Lumber & fish, N.E.'s raw materials. Boat making. ("Relationship to market" is the small scale way of looking at it, but on large scale, market is where raw materials are) Fish to Cath. Med. where fish are poor, due to salinity. Rope, sails, hardware, rum, shoes. Wool business, from N.E. sheep. (Also remember, many industries are not economically located, in account of patents, etc.) Paper man. still there, the wood comes from out of district. Marble, granite, (mica, feldspar, gypsum). C. Principle - raw materials go to power. Basis of localization of manufacturing. Japanese coal. - but giving out, Chinese coal one of their objects. Belgium - coal, intensely industrial country. Cincinnati - radios, precision instruments - things requiring little bit of steel, which it can get down Ohio from Pittsburgh. Bag iron makes shovels (True Temper) in Vt. Concord Mass. once a steel center, with bag iron. Cans & revolvers, Conn. valley. Watches. Seth Thomas made 1st metal clocks, of Conn. brass. Bridgeport, Conn. - Yale locks, corsets. - originally whalebone, then steel. Irish came to replace original servant class which went into factories. Then French-Canadians came, after Irish worked up a bit. Brockton - Lithuanians, shoes. Rich people & "capital" - he talks of agglomeration about existing, no mention of means - wonder if he knows. Akron rubber - inventor of vulcanizing. Cambridge man, could not get

a-

EXAMINATION BOOK

Name Mason Gaffney

Date Nov. 18

Subject Geog. I

Section -

18

**Do not tear out leaves
from this book.**

II.

✓ a) Valladolid is in the West Margin of ^{semi- and midlatitude} ~~continent, the lower mid-latitude~~ type of climate zone. The rain there will come mostly, in the winter, like the surrounding Medit. climate zone, only, it will be less, if the factor of prevailing winds due to world wide causes is dominant. - in the summer, it will be, in the doldrums, or the lee of the trade winds, but in the insolation winter westlies will hit the shore, & some moisture get up to Valladolid.

The temperature is only moderately cold in the winter, which speaks for a great influence from the moderating sea at that time, which indicates winter rains, too.

Precipitation will be usually rain, & sometimes slushy snow or sleet. *just snow*

The notable jump in temp. from Jan. to Feb. is probably due to the westlies just getting south enough to strike Sp. in that month.

The influence of insolation will of course, be less in the winter, & the land mass will be

very ~~much~~ colder than the sea, ~~causing~~ tending to make the air more offshore, & i. moderating the onshore wind tendency already proved.

b) Cold air settles to the bottom of a valley, so, ~~that~~ were it not for the moderating influence of the sea, the lowland would be the worst place for frosts. ~~Should the offshore wind be~~ On the east coast of Sp., offshore winds are likely, the two factors of continental cold & westerly prevailing (or at least no easterly prevailing) winds being dominant, ^{in winter} so the sea influence will be lessened. Cold from the high continent will crawl down to the lowlands &, sparing the slopes, frost the valley bottoms & coastal plain. The cause of

its being generally colder is a very large high, which would bring cold air of north south, to Valencia if properly placed.

III a)

1. Aridity of interior uplands.
2. Small area of suitable lowlands.
3. Poorness of rocky upland soil. *ruined*
- 4 ~~7~~ Mines not capable of supporting big pop.
- 5 Mountains cover some territory.
- 6 Not situated for large trade. *? why not*
- 4 ~~7~~ Shaped so that interior is *far* from coast, & ~~is~~ not suitable for coastal industries.

b) 1 Humidity, more than Sp., so crops can be grown in larger area.

2 Larger area of lowlands.

4 Maximum coastline for area, so sea industries can be cultivated.

5 Mines - tho more than Sp. *? ~~less~~*

3) Well situated for trade - From to Levant, (tho not so important today) ~~the~~

Mason Gaffney

1942-43

HARVARD UNIVERSITY

Geography 1

1. The following figures give average temperatures for December, January, February and March, at four Mediterranean stations; Milan, Italy; Barcelona, Spain; Nice, France; and Tunis. The order in which figures are given has no relation to the order of the station names.

2

	Dec.	Jan.	Feb.	Mar.
Barcelona <u>Nice</u>	51°	48°	51°	53°
Milan	47	46	48	51
<u>Milan</u>	35	32	38	46
<u>Tunis</u>	53	51	52	56

(a) On this same sheet, attach the right place name to each set of winter temperatures (an exercise in deduction from known facts, not of memory).

2 (b) The highest July temperature for any of the three stations north of the Mediterranean is 74.8° F. Which station is it? (Write answer here.) Milan

II. The following temperature figures for Dec., Jan., Feb., and March are monthly averages for Valladolid, Spain.

Dec.	Jan.	Feb.	Mar.
38	36	43	45

(a) Considering carefully the location of this city, describe winter climate there in all of its various aspects, and as fully as possible.

(b) The average January temperature at Valencia, Spain is 50° F. but farmers all along the coastal lowland there, growing typical Mediterranean crops such as oranges, lemons and vegetables, during the winter months, can never feel wholly safe from a freeze one or two nights a year.

What is the reason for these occasional frosts - comparable in their periodicity to those in Florida?

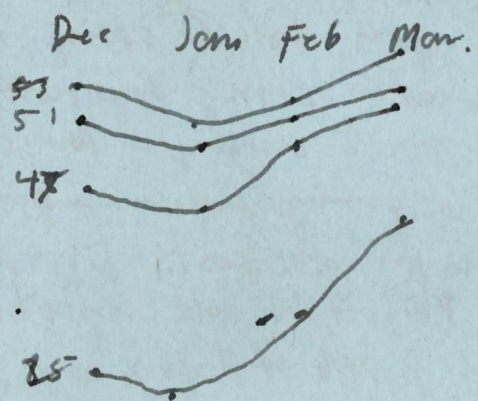
III. Population map, Atlas, page 109.

(a) Spain offers a larger area of scant population than any other part of Western or Central Europe. List all environmental factors that you think are involved. Make your list read from the most to the least important element involved.

(b) What factors locate, in contrast, dense populations in that other "Mediterranean peninsula, Italy? (List, only.)

Hour Examination, November 18, 1942.

Note: Mr. Kemp intends to be back on Friday.



Kemp, Nov. 20

(Tell class - facts are unreliable - we must work at principles, i.e.)

Winter rains, ~~for~~ summer drought, typical of Los Angeles, etc. Palermo not typical of Medit. type - too much rain. c. 18" more normal. Cynchaica gets fall & spring, not winter, rains. - contrast of sea & land greater than. Vegetation is shallow - spread roots, not tap roots, Savannah country - few trees, much grass. Rain does not come in growing season - or part of it. Oranges on the slopes - air drainage prevents frost. Irrigation must be on lower slopes, difficult. Priests in cold countries tell people hell is cold. Citrus can be grown north of Naples, now, while before it could not, as wheat has been extended north, by improvements biological. Occasional winter frosts in Cal., smudge pots against them. Gar gives out info - (not a necessary function of gov.) Grapes, cork, oranges (Valencia) (Seville), not so good, used for marmalade, dates, (grown by tenants or absentee land/land estates), anchovies, Sp. onions, Sp. peanuts (by irrigation) (Sp. onions, raised by Bermuda & Brownsville Onions), beer & wine (sherry) Sp. rice, at Valencia in a delta (also at Po, Tago, Guadalquivir deltas) walnuts in S. France, Rhone valley. Wool.

Read Paper
on Southern
tenants.

Nov. 23

War in Europe will be over in $1\frac{1}{2}$ years. (So do not anticipate draft.) Soo is most important strategic spot in U.S. Germans had to take Norway to safeguard iron. Keep grades up, & be able to get into whatever you want.

Cal. ahead of Spain, the climate is identical, because it can trade with U.S., & $\therefore$ specialize. Good transportation. Tourist business. Movies, retired business men.

* People are inbred in Sp. but more progressive in Cal.

Cal. faces the orient, & $\therefore$ monopolizes oriental trade.

Sp. too high & dry. Meseta. Sierra Nevada, S. E., higher than Pyrenees. Rain & $\therefore$ trees & paper mills

in Pyrenees facing Bay of Biscay. Monks, wine & contraceptives. Sao Paulo, coffee, supports all Brazil by taxes, separatist movement. Barcelona, manufacturing district, gets taxed to pay for Madrid's expenditures, so disunity. Arid meseta. Rivers, in great gorges, so irrigation impracticable. They've cut all trees off, so floods, arroyos. Water power lacking. They use wind. Alfonso developed water power, but raised taxes, so they strangled him out. Mussolini did the same thing.

Nov. 26

Greece a very poor place. People starved as soon as it was conquered. Like Norway today, it became a great marine nation. Tariffs, usury, insurance, all Greek ideas. Traded with Black sea because it was a different type of climate, different products. Also sold "firewater to the Indians" - wine for wheat. Greek wine terrible - has resin in it, to preserve it, so for south. Still are traders - whole eastern Medit. trade lined up. Got condemned Eng. boats, gamble that they won't go down. Towns & many, banks & shipping, brought culture.

Italy better off than any other Medit. country. Calif. is no better, but free trade. Same with S. France free trade makes it. Algeria - made it a dept. of Fr., it, too, became well off. Port & Sherry from Sp - particular soil does it. Moselle & Rhine wines, on South facing slopes. Port lake or river below it, you get reflected heat. Tobacco in France, currants in Peloponnesus. 2 parts are different, cold & hot.

Italy. Po valley, humid, the part of Italy. Figs on hill.

Why is it dry in summer? In winter it gets in high & low zone, westwinds too.

Rhine

Grapes

Grapes

Kemp, Oct. 16

15 mile dam, on Conn. R. Dams fill up with silt - boulder dam will, in 90 years, information withheld from voters. Mussolini, good man once, let personal ambition run off with him.

Climate means long term weather.

Elements of climate

Temperature

Humidity

Precipitation

Wind

Oct. 19

Temperatures - their differences. (Blizzards in N. Dakota already.) Related chiefly to difference in latitude. Angle of rays, as they are affected by atmosphere, make the difference. Axis is not at rt. to Sun, but $23\frac{1}{2}^{\circ}$ off it.

Geography, Oct. 21

Temperatures affect what man does. Closer to sun in winter than in summer - that does not affect seasons. Axis is not perp. to plane of orbit, but $23\frac{1}{2}^{\circ}$ off, permanently. Axis - inclination & parallelism. (This guy is dumb as hell & looks like a faerie) June 21, whole Arctic circle has 24 hrs. of daylight. Each ^(solstice) pole has 6 months of darkness. (?) Equator has 12 hrs. of light & 12 of darkness year round(?) Go north in summertime, & days get longer. Length of days in Arctic circle makes growing potatoes & strawberries there possible. Sun shines directly overhead only $23\frac{1}{2}^{\circ}$ from equator. N. Pole, on June 21, gets most insolation, but not direct rays. 93° is record temp. in Arctic circle.

Continental climate vs. marine climate.

1) Water & land absorb & radiate heat at different rates.

Wind the result of varying temperatures.

2) Water currents.

3) Water reflects more heat rays than land.

- 4) Cools by evaporation, water does.
- 5) Light & heat waves go down many feet, unlike land.

So water heats slower than land.

Lab., Oct. 21

50° air temp. in a month means growing season is open.

Kemp, Oct. 23

Newspapers, even in these special articles with maps, are all off. Steppe is Russian prairie, with under 10" rain per year. Stalingrad gets most prec. in fall, when it gets cold & squeezes out humidity. We know we had south wind last nite, because it is so warm - also humid. Coldness will always condense moisture, many examples. In tropics, porous jars of unbaked clay are hung in wind, water evaporates, cools water. It is said 'The sun's drawing water' is sun-hit-dust effect.

5 reasons for rain:

1. Warm air holds more moisture than cold. (Tall chimney makes draft

2. Warm air rises - when it does, it is cooled, & precipitates (why is it cooler up there?)

3. Have sea next to mt. range, Winds come in, are forced up by the mt.

4. Low pressure areas Cold wind ~~blows~~ comes in, condenses moisture

5. Warm moist air goes north. (Cold air will come in underneath)

6. Air cooling at night

If there's rain it's for one of these 5 reasons.

Kemp - Oct. 26

Winds - ~~cool wind blows from high pressure area~~

Wind blowing around high now coming in off sea. Wind is only horizontal movement. In S.W., winds are dependable, electricity for each house by windmill. Same in Holland. Windmills on Cape Cod, to grind corn meal & pump water to keep land dry & get salt. Use 'em in Holland to cut

Why does midwest get rain?

Kemp. Oct. 29

Wind Rose, shows prevailing winds. Tropics have more rain than any other part of world, because of great insolation, so there is always rising air. (why is it cold up higher)

Where sun is always right overhead (near equator, there is raining low lat. Where it is right over head $\frac{1}{2}$ the year, it is raining wet & dry, low lat. But continental mts. change this, on Africa & S. Am. Low lat. semi-arid, low lat. desert.

Sahara, & Mojave, in lee of trade winds, Kalahari, too, Eritrea, no good at all, (arid + semi-arid land) Descending wind, like Chinook, is very dry. Projections of upland into Medit. off Libya, catch rain, & bring civilization. Rome is in latitude of Boston. South side of Europe, mt. barrier, keeps cold wind out. ^{of Medit.} But sometimes cold wind breaks thru, down

Rhone Valley, the mistral, another break in Czechoslovakia & somewhere at Hellespont. In rainy low lat., villages are built, because best drainage is there. Weeds grow so well in tropics, you cannot well grow things there. Fast moving animals like giraffes, gazelles, zebras, grow on savannahs, with few trees, much grass. Big shouldered, tough animals, & small little monkeys, & slithering snakes, can live in tropics, & big lumbering birds, eating nuts - macaws. Roads impossible, it is only if you spread out, which kills needs. Mahogany valuable because it grows steadily, no rings. Varnes similar, date glacial period. Region of stone getting. People cannot get ahead, they are helpless.

Nov. 2

(Observe weather for few days before exam.)

Cold weather, with no moisture in air, stars are magnificent.

People in rainy low latitude climate. Exams will be problems, not facts. Glass. Egyptians the 1st, then Crete, Greece, Venetians, Bavarians. (glass

Flowers Bavarian) Cape Cod the 1st American glass - at Sandwich. Then New Jersey Barrens. Sand, scrub pine, scrub oak. Succeeded Cape Cod because of superior location. Then, 1920s, went to Ohio - Pittsburgh, Toledo - whole industry moved, altho sand was harder to get + here, they had to grind up sandstone. Was it Pyrex, at Corning? Shoes recently moved from ~~MA~~ Boston to Milwaukee. Why Milw. instead of stockyards Chicago? Because of tradition among people. Milwaukee in humlock district, from which tanning agent once came. New St. Louis enters. But why does Boston still make shoes? It makes high class shoes, not makes rough farmer's shoes. The principle of the early start - it still keeps Eng. ahead in wool. Natural gas moved glass industry. Unusually well adapted to glass making. Towns found free gas, etc., for development. United Shoe Co. holds patents, leases machines, like Pullman co. makes all Pullman cars & leases them to r.r.s. Terrible waste of natural gas, once. Law later passed forbidding this. Minute Tapioca made in Orange, Mass., with nationwide patent. 1) Water power. 2) Very clear water. 3) Water transportation 4) R.R. happened to be there already. - a ridiculous little r.r., on marginal land, to New London from Canada. Other factors accidental - patent important. Vanner in Indianapolis - inventor liked to stay there, so vanning has to be done there. Lumber manufact. co.s in N.H., because lumber near, rents lower, dirty politics lacking, taxes lower. Best carved furniture in Am. made in Cambridge. - because money was here 1st. Not intellect, but money. Italian sculptors came in - & now we have reputation for it. Clear water (exam question - geography of home town - read up on it when you get home) Brittany a great granite mass, barren. Factory 4 miles up stream, rather than at mouth - clear water. Making Lucky Strike cigarette paper.

Kemp, Nov. 3 (cont.)

cotton rag paper stinks. But linen rag paper does not. Europeans have linen rags, which are too expensive to bring over. Also, lime water found most places, is bad, but granite water very pure, did job. Now, recently, they discovered how to use flax (which grows in Alberta) directly for it.

Nov. 4

North, not just west, winds caused cold today. High's center far north, winds from Canada. S. Calif. Indians primitive roving tribes, no priests nor government - but on deserts, life difficult, so they got together, had priests, made domes to irrigate Indian Corn. Raining low latitudes, like S. Cal., life is too easy. Nothing to stimulate you. People who go down there to exploit people get lazy & as bad as natives. Wise argues that that's ok, they're happy. Kemp says, they don't get ahead - no initiative. The plants don't have vitamins in them, which may account for sluggishness. Insects all the year round - disease & misance. Impotence at 24, usually. 2 babies a family unusual. They die young - 40, about. Considerable emigration. They could support larger population - but it would lower standard of living - BULL BULL BULL. - in Norway. Weather breaks down morals of women. No organization, no co-operation. Civilization began in dry valleys - Tigris & Euphrates. (But look how degraded they are now - maybe bad social conditions explain everything) Then land was monopolized, & someone else started the church racket. Lack of "rhythm" in raining low latitudes - winter & summer, rainy & dry - you have to learn to prepare for bad season - stimulus for getting ahead.

Low lat. wet & dry - if you have water, as they do in India, you have year round growing season. (Why, then, are Indians, Egyptians, & Iraqians, as degraded as

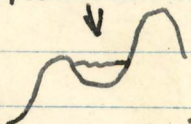
Hawaiians?)

Lab., Nov. 4 - Kemp

Utah-Idaho boundary is memorial to bad surveyor - not quite along 42nd Ill. Tell what soil, climate, trees, houses, prosperity, everything is like - just in mountains. Dams - mines - roads. cottonwoods - ranch (sheep) - lumbering - trappers. Mines 1st - lumber waits for rr. Trappers before miners - animals easier to locate, no one suspected ores at first. Otters, beavers, bears - things named for them. 1st miners looking for gold - only thing practicable on small scale. Even the 1st N.E. product. Taunton ^{Mass.} still an iron town - no one left, but factories still there. Worcester still a steel town. Lodes located by placer mining - following streams up to source of gold. These mines not so much - no town, no factory - just a couple of shacks. Pretty dry & high - 5000 - 10,000. Must be wooded - it's a national forest. Most precip. will be in winter. - because?

West facing slopes get less snow than east. Springs go dry in summer time. Steep gradient & soaking in figure in it. Soft rock, because it is cut so deeply into. Forest all cut away once, then taken over by T. R., to let forest return. Alps, or Mt. pastures. Why sheep instead of cattle - they can get along on less, get up poorer grass. In Alps, they keep cows in mts, make cheese, bring it down ths. Sheep able to get around much better than cows. Also it is best to save better land for cows. Also, cold weather makes wool grow better. Both wool & mutton premium.

This is a lacustrine plain - like black bottoms where celery is grown.



Towns on streams. were lumber

towns at 1st. Irrigation ditches Mts. are limestone, because land is rich. A good place for sugar, as it is so far from coasts. But more than one

crop - there has to be more than one. Potatoes - exceptionally good, because they are irrigated & get just the right amount of moisture, which is important to potatoes. Cold

GEOGRAPHY 1a

Assignment #7: October 19-26, 1942

1. Davis, D. H., "The Earth and Man."

~~Chapter 10: "Climatic Elements: Winds," pp. 132-157.~~
Appendix: "Weather Forecasting," pp. 636-642.

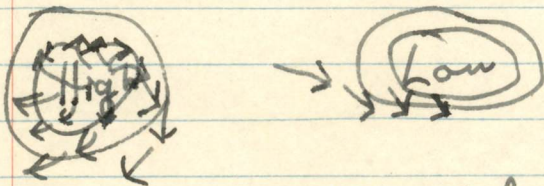
Read this assignment carefully. Study each map and diagrammatic representation. Be able to describe the general circulation of the air, naming the winds and the belts of high and low pressures, and stating the latitude of occurrence of each. Be sure you understand cyclones and anticyclones, and their effect on weather forecasting. In lab. next week, you will be expected to forecast weather from weather maps.

In lab. this week you will need the following materials:

Goode's Atlas
Colored pencils--red, blue, green.
Writing paper.

Kemp, Oct 26 (cont.)

wood. In 30s & 40s, there is the cyclonic system. Given rising air & cyclone, they keep moving in our latitudes. Equator is permanently low. Lows related to rising air. Hottest highs are at poles, where air falls. It slides away from poles. Occasionally it gets into air latitudes, & is a high pressure area. Sometimes they go $2\frac{1}{2}$ times around world before breaking up. High pressure area is cool & fair (not right - cold air should bring rain). Wind goes out from centers in all directions. Velocity of wind determined by difference in pressure & distance from center. Leaves swirling up, is a low, as is tornado, & water spout. Why do they whirl? Free bodies in N. hemisphere move to ^{the} right (expl. of westerlies?) due to earth's shape & movement. Winds moving out of center, always turn to right. When high gets east of us, we get easterly wind.



Wind shift line. Often breaks up weather forecast. Sailors call it a line squall.

Kemp, Oct 27

Dry & wet seasons, important in connection with mon. S. Calif. rains come suddenly in fall. Winds are off sea in summer - why no rain. (???) It ~~is~~ ^{is} hot, & air expands, holds all moisture. Wet & dry climates do not forecast weather - it is inevitable. This is zone of variability, where weather needs forecasting.

Terrestrial system of winds. Air rising draws in air, or heavy air on poles spreads, where comes it - it gets there from the top, ~~from~~ due to centrifugal force. Heat, or max. insolation, belt, moves, but never gets off equator. This is a

How much of what I hear & read is true? Really is me. I don't know but what Germans are democrats, & have been told we are totalitarianism attacking them. Are atrocity stories true? How unreliable it all is - I must get out & see.

Executive abilities will get plenty of exercise when you go to work - study for now.

low pressure zone. Winds blow into it - they are diverted to right in N., & to left in S. hemisphere. This explains everything - gippee. Rising air goes to poles, & other places. Trade winds are indistinguishable when you hit continents, - essentially trade winds. Columbus came west in trades, east in westerlies. High pressure horse latitudes. - Yanku clippers got stuck in them, & in doldrums, too. Westerlies, due to right turn given to free moving body. Some times - Yanku Capt took roaring 40s east, instead of west around world, to get to Orient. Where Trades always hit continent, there is jungle along coast - elsewhere jungle is only inland. Spain is unlike rest of Europe, so high & dry - "Africa begins at the Pyrenes." Whole interior of continent has great convection current, wet air rushes in. Florida - hurricanes in Sept. - trades get whirling at doldrums, move north some times. Tidal wave once destroyed Galveston. Not air pressure, but upward whirl of wind sends up waterspout.

100th meridian marks semi-ard - because Chicago's rain comes in off Gulf of Mexico, in summer, & winter, too. In summer, air rises & rains. In Winter, cold of continent makes it rain.

Other winds - on prairies, air is pushed up valleys. In night, air cools, air rushes down valleys. Day breeze & night breeze here. Sea breeze stops at 6, cooling continent stops pulling in air. Asia has the great monsoons, because of its size.

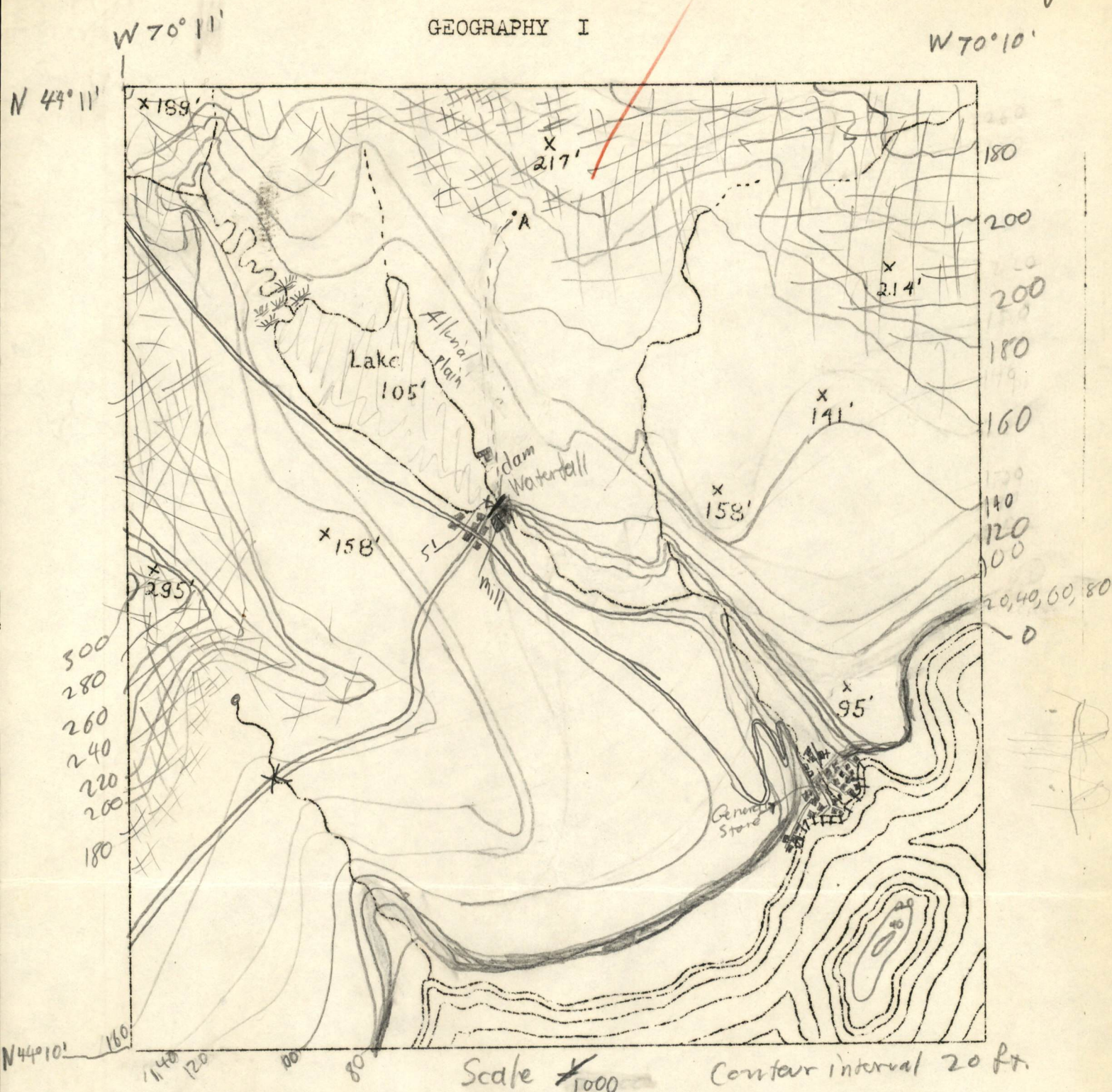
Lab., Oct. 27

Changing readings on chart side not a good idea. Follow directions closely - geography is a science. 3-500 miles a day, long travel. When center of low passes, you get line squall, or windshift line. Shape of cold front determines high's direction.

M. Mason Gaffney

1. Near ~~the~~ allied bases
2. Accessable by sea.
3. Far from enemy land beach
4. Shallow water near shore, so men can jump from boats before landing
4. Navigable rivers which can be entered to invade, increasing length of invasion coast.
5. No mountains ~~near~~ between coast & objective.
6. No unpredictable ~~weather~~ weather
7. Flat, ^{open} country inland.
8. A dark night.
9. No natural harbors (which could be utilized by the enemy)
10. Friendly population.

Mason Gaffney



1. Make this a completed contour map representing the country as you conceive it. Give the latitude and longitude, the scale, and the contour interval. The contour interval should not be more than 20 feet.

2. Locate the following:

- ~~an alluvial plain~~, a water-facing cliff, and a natural waterfall;
- a dam and the pond behind it, a grist mill, and the miller's house;
- the roads; one, the main valley road; one a branch road leaving the map;
- a small swamp, a spring, and all the bridges needed by the roads; (use the proper symbols)
- a settlement including the general store (and post office), the church, and central school of the area;
- the area most likely to be wooded; (indicate with cross-hatching)
- a lane to the house "A".
- Mark the deepest point in the lake with an "X", and indicate the depth.

Q. What are the activities in the region as you have portrayed it? The type of climate?

Answer: Fishing, milling, trade (~~the~~ a neighboring region grows grain, but lacking waterpower, has it milled here. The flat places here are too rocky for agriculture.)

TYPE CLIMATIC STATIONS

Latitude and Longitude

1. 24°07'N 32°58'E	6. 50°38'N 3°0'E	11. 39°32'N 119°48'W
2. 34°35'S 58°22'W	7. 41°17'N 95°57'W	12. 77°42'S 165°35'E
3. 22°30'N 88°30'E	8. 38°7'N 13°23'E	13. 49°47'N 97°15'W
4. 62°0'N 129°50'E	9. 71°15'N 156°12'W	14. 40°5'N 102°15'W
5. 19°42'N 155°3'W	10. 43°40'N 70°15'W	15. 12°12'N 15°3'E

Average Monthly Temperatures Fahrenheit

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1.	61	66	72	81	88	91	91	91	90	84	73	64
2.	74	73	70	62	56	51	50	52	56	61	67	71
3.	65	70	79	85	85	84	83	82	82	80	72	65
4.	-45	-35	-10	16	41	59	66	60	42	18	-21	-41
5.	70	69	70	71	72	73	74	75	74	74	73	71
6.	36	38	41	48	54	60	63	63	58	50	42	37
7.	21	24	36	51	63	72	77	74	66	54	38	27
8.	51	52	55	59	64	71	76	77	73	67	59	53
9.	-18	-19	-12	-1	21	33	38	38	28	4	-6	-15
10.	22	24	32	43	54	63	68	66	60	49	38	27
11.	32	36	40	47	54	62	70	69	60	51	42	33
12.	24	17	5	-9	-11	-13	-17	-17	-13	-4	14	25
13.	-4	-1	16	39	52	63	66	63	54	42	22	7
14.	30	30	39	50	59	69	74	73	65	51	39	31
15.	75	78	86	92	89	86	81	79	82	84	82	79

Precipitation in inches

	Jan	Feb.	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ann.
1.	--	--	--	--	No precipitation	--	--	--	--	--	--	--	0.0
2.	3.0	2.5	4.7	3.0	2.8	2.7	2.2	2.4	3.0	3.6	2.8	3.9	36.6
3.	0.4	1.0	1.3	2.3	5.6	11.8	13.0	13.9	10.0	5.4	0.6	0.3	65.6
4.	0.9	0.2	0.4	0.6	1.1	2.1	1.7	2.6	1.2	1.4	0.6	0.9	13.7
5.	9.0	11.5	15.1	13.4	10.1	8.1	10.8	12.3	10.8	11.1	14.6	11.7	139.4
6.	2.1	1.8	2.2	1.7	2.2	2.3	2.8	2.5	2.5	3.0	2.8	2.5	28.5
7.	0.6	0.8	1.4	3.0	4.4	5.2	4.4	3.5	3.0	2.5	1.0	0.9	30.5
8.	4.1	3.2	3.1	2.6	1.3	0.6	0.3	0.6	1.5	4.0	4.0	4.5	29.5
9.	0.1	0.4	0.2	0.3	0.3	0.5	1.3	1.0	0.6	0.8	0.4	0.3	5.5
10.	3.8	3.5	3.9	3.2	3.6	3.3	3.5	3.6	3.3	3.7	3.7	3.8	42.6
11.	1.7	1.4	1.0	0.5	0.9	0.3	0.2	0.3	0.3	0.4	0.8	1.1	8.7
12.	--	--	--	--	--	no data	--	--	--	--	--	--	--
13.	0.8	0.8	1.2	1.5	2.2	3.0	3.3	2.2	2.1	1.4	1.0	0.9	20.2
14.	0.4	0.7	1.0	2.6	2.6	2.9	2.7	2.1	1.1	0.9	0.4	0.3	17.6
15.	0	0	0	0.1	1.4	4.8	5.1	7.2	1.7	1.5	0	0	21.7

P-ting in - jumps, go below chart line, or change readings
on scale

Kemp, Oct. 5

Geography is the relationship between man & his environment - not Facts & Figures.

Problem - why is Sandusky, with a better port than Cleveland, so insignificant?

Classify knowledge on tests.

Invasion coast

1. Weather Climate

- a) ~~Rainfall~~ Precipitation
- b) Winds, Storms, Air pressure
- c) Fog, humidity
- d) Temperature }
- e) ~~Snow~~ Frost }
- e) Length of days, specific time.
- f) Moon

2. Water (one of 10 elements of environment)

- a) Depth
- b) Rockiness
- c) Tides
- d) Temp. of water, ice floes
- e) Salinity

Oct. 7

f) Currents, undertows, changeable bars etc.
~~g)~~ Many harbors (Pisa) ruined by bars closing harbor.

3. Land

a) Beach

- 1) Coral bed
- 2) Rock beaches -
- 3) Sand "
- 4) Width

b) Rivers

- 1) Barrier to lateral movement

- 2) Fresh water
- 3) Water level routes
- 4) Bridges
- width & depth, current, banks. eigen
- Spain arrays.
- 5) Intermittence.
- 6) Nature (yeshib, etc)
- e) Topography
- d) Flora - big trees
- c) -
- Swamps
- Irrigation ditches
- Dikes to cut

Kemp, Oct. 9.

Wind is from South today, meaning rain (Wood's note)
Now it's from West, no moisture, no rain.

Cognac Wine so terrible it was distilled, alcohol
had distinctive flavor, Hennessy went there from Ireland.
East side of Eng. has thatched roofs, cause it rains less
often there & 1) Roofs are endurable 2) straw grows.

Kemp, Oct. 14

- 8) Location
- 9) Volcanism, topography - all drains into it, makes it the hub. - r.r.s come in
valleys, people live on hilltops. But N.Y. even better located.

Blue bloods always grow up thru devious methods.

"Temperate" Zone is not temperate, but violently changing.
Our deserts are hotter than "torrid zone".

Diurnal range - desert folk wear heavy clothes, to
protect from cold nites - they carry scrape during day,
wear it at nite.

How weather affects war. Spring thaws, temperatures,
humidity, ice, snow,

Geography 1 Oct. 3

Seat no

Lab next week

Place geography does not matter - what happens there does.

Ec. " - 500,000,000 bu. per year - what does it mean? is what matters. Not figures, but the reason why.

Social geography - drink beer in Eng, ale in Eng, wine in France, Italy, Sp. But Sp. drinks beer

Political geography - Brittany wants to trade with Eng, are prevented by tariffs. Maritime provinces of Canada & U.S., too. separatist movements.

Have climatic maps colored by T_{max}, be conventional

Kemp

Geography I, Sept. 30 . 1st meeting

Materials

1. Davis, D. H. The Earth & Man

Macmillan, '42

2. Goode's School Atlas

Rand McNally, latest

3. Set of colored pencils. right away

He requests that we get out. 2 hour lab.

We focus on "place" geography. Senate is corrupt & ignorant - Amun. The cause is ignorance among the voters - viva! Intelligentsia are boobs, too - hnah! Geographic thinking gives grades, e.g., fake country exam. Use vision, imagination, consider possibilities for great change. in writing exam. i.e., only fixed factor is the earth, man may vary infinitely.

Kemp. Lab. Nov. 4.

nights are good for potatoes. That is why you grow them in north & in cold places of even rain, rather than in Illinois. French marks all over, to guide irrigation ditches. A diersel, like Edgerton's is a mill race. - artificial waterfall.

Nov. 6

Ask him about
Hawaii

inconsistent

If you are on coast, you have modified rainy low lat. climate, not as hot. Borneo wild man (a B. & B. found - more nepo from Tennessee) Java was civilized before whites came - why so different from Borneo. 1) B. surrounded by lagoons, cannot be approached. Like Africa - interior is upland, so Congo A. is unnavigable. B. has malarial swamps. Mountains in B. In tropics you can go up 3,000 ft. without getting cooking so they don't catch rain. Java is civilized because its mountains are well drained, are used. Now winter comes in Burma, it's very dry, time to invade - wind now off shore, rather than off sea. India's wet & dry climate due to hot interior land mass, & its great pop. Rhythm in climate. Same true of Medit. climate - rhythm in rain. Great 10-15 ft. grasses in wet & dry climates. So they have domestic animals, & cultivation came. Irrigation everywhere. (Plants become dormant below 50°) Year round crops. - can grow everything. Specialization of crops, & consequent trade. Variety in life, etc. thru trade. This begins towns, & town civilization, Architecture. Organization of state, taxes, etc, where there is surplus. Rubber exported. Started in Amazon Para rubber. But Eng. cornered rubber market, by going to E. Indies, the advantage there being only transportation, drainage, rain(?) along Malay coast. (Kemp falls for cheap labor gag) Plantation rubber growing organized, native rubber just sort of hunting it. Cacao - Eng. took it from Ecuador to Guinea coast in Africa. Proch home

better choc., French better choc. candy, more artistry. Henry Ford tries to do it in Amazon jungle, failed in peace time. People more civilized in Malay peninsula, which is not continental landmass, & so labor was better there. Countries with rhythm (how about N. Car.?) have civilization. Eng. have found great coal near Calcutta. Eng. have developed many resources the Indians could not have - but it's good. Draft animals - ~~Semi-arid~~ mean manure & fertilizer. Leaching - mineral salts, soluble, happens where there is too much water.

Semi-arid. Rains go away when grass is tall. Eng. has little snow, no need to store grain, graze all year round. Grass has to be brought in dry. (Why did civ. develop in Eng.) Nomads, going for new supply of grass, keep moving. They make rugs from their wool, sell them. Make everything of skins. Eat milk as cheese. No trees, towns.

Desert - towns only in trade centers, oases, streams, salt mining,

Idaho county is more prosperous than N.B. because of tariff - their potatoes cannot come into U.S. ∴ they want to join the U.S.

Kemp, Nov. 9

Find little German stores in all countries - maybe sub-sidized by gov. Sardinia reports meteorological & geographical, so Gms are best map makers in world. Roosevelt made a blunder in those Sat. nite speeches. This the inevitable time & place for attack - Kemp predicted it. A's blunder - saying we were afraid of threat from Dakar - a lie. Crimson's writeup of Kemp just not true - attacking Sicily is absurd, it's too maintainable. Italy has best underground in Eur. Italians hate to go to war - army cried, going to Albania. Italy as Axis partner - ec., military & political functions. Unimportant militarily. Italian manpower in Gen. factories. It., north, industries. Foods - in winter, too. Grain - no surplus, so It. were rationed. Vegetables, cheese, meat, fruit, oil olive, alcohol from wine for machine purposes, sulphur, mercury, wool, silk. Military - soldiers have failed many times - their hearts aren't in it - poorly equipped & trained - not temperamentally suited to organized planned warfare. Strategically located in Medit - air fields, & carried Axis to N. Africa. Admirable. Politically - not so important. Kept Turkey ^{protected by mine field - back door to Eng.} from joining allies. Encouraged Sp. in pro-Axis policy. Threat to French, Vichy.

We should go up thru Italy.

Why N. Africa? Military reasons. Air fields & naval bases. 2 airfields in Sicily, we should wreck them. Do not land troops in It. to subjugate Italians. They are softened - may crack. Why isn't our job to soften Italy? We are less hated there. British sanctions, when Ethiopia, caused hate. They all have relatives in USA, get money from here. Not calling them Aliens a good move. France, too, likes us better than they like Eng. It. will look on us as rescuers from Germans. - they hate them.

Hope there will be no fighting in Italy - we can just go right up Adriatic. Why do Fr. ships fight harder than land forces - they have German officers.

Organize knowledge.

Why is Algeria the place? Strategic location. Will be booming in Alg. - Foods, I guess. Industrial alcohol. Olives. Leather. Wool. Year round fresh vegetables. Meat.

Why take Morocco - Casablanca a Gm. sub base, probly, & would menace our supply lines. Also, rr. from there to Algiers. Need we take Dakar - a sub base. Now we need only stop Vichy oil boats, that will end it.

The time - crops just harvested, ready to be sieved (wheat already lost, tho. Weather right for our boys. Planes was running out of oil.

"Emergency Work Service"

"Nat. Park Service, emergency activities
Recreation Study, New England"

Mason Cathey

GEOGRAPHY 1a

Laboratory Exercise #1.

Consult the topographic map of the Bright Angel quadrangle.

1. Estimate the latitude and longitude of the El Tovar Hotel.

Lat. $36^{\circ}31'N$, Long. $112^{\circ}81'$

2. In what direction is the Colorado River flowing?

West

3. Estimate the air-line distance from the top to the bottom of Bright Angel trail.

~~6866 - 2436 = 4430 ft.~~
3 1/2 miles

4. What do the heavy brown lines represent?

Very steep escarpments

5. Why do the heavy brown lines break down in the neighborhood of Mt. Tiyo Point and elsewhere?

The escarpment ends (gradual slope)

6. Why is the northern rim of the canyon farther back from the river than the southern rim?

More water falls there, speeding erosion. It is much dissected.

7. How far below the El Tovar Hotel is the (Grand Canyon) Colorado River?

4430 ft.

8. List all the activities--human--carried on in this region.

water run faster, speeding erosion.

1) Tourist trade

a) Running hotel, lodge

b) Hiking on trails, keeping them up

c) ~~Rail~~ Railroad

d) automobilizing

e) Keeping up road

f) " " Ranger station.

g) Digging wells

~~h) Ranching~~

h) Dude ranch

Mason Gaffney
C+

Study carefully the Winterville, N.C., topographic quadrangle, and answer the following as pointedly and briefly as you can.

1. Do you conclude that this is a prosperous, rather poor, or distinctly poor farm region? Support your answer.

Lumber may figure in Winterville economy. "Gum Swamp", & "Juniper Branch" show some notice of wood resources. The sandy wet soil may be fit for the modern yellow pine crops.

2. Of the two areas, one north and the other south of the Tar River, which is more prosperous today? How do you know?

3. Why didn't Greenville grow up around Green's Mill, which, since the Run was named for the Mill, was probably the first non-residential building in the whole district? Did you "spot" the former location of the mill?

4. Tell all you know about Greenville -- its settlement, activities, expansion, relation to railroad, etc.

5. What do you know about the village, Winterville?

(H)(cont) created by it. Banks, doctors, ~~teachers~~, lawyers, r.r. hands, steamboat hands, shopkeepers, & parasites of one sort or another live in Greenville. It can still expand on the upland west.

5) Winterville, with no extra good location, is probably the creation of the r.r., which has a couple of sidings there. Roads do not center on it, as ~~Winterville~~, so it must be just a town of r.r. hands - perhaps a cotton storage depot.

1. Indications of poverty

- a) Poor roads
 - b) "Poor Farm"
 - c) Need for considerable drainage, but lack of it.
 - d) Few bridges over Tar R. in relation to number of horses
 - (c) (cont.) I do not mean the low lands swamps. But evidently the uplands need draining, as indicated by the fact that some are drained.
 - e) Many churches, few schools. - an ignorant, superstitious people.
 - f) R.R. is only a branch line.
 - g) Abandoned mills
 - h) Lack of speculation around Greenfield - it is not growing.
 - i) Lack of farm buildings - just single shacks, in many places
- Indications of prosperity and/or activity

a) Size of Greenville

b) " " " r.r. yards.

Conclusion. A very poor region.

- ## 2. The South - it is higher, it is less swampy. It is more fertile. Cotton is today manufactured there, & the South has the water power potential.
- ### 3. The mill (at the dam near the head of Green Mill Run) is a very small time affair, on a slow, small stream, with no big drop. Probably a grist mill, in very early days of virtual subsistence farming. Greenville's location was determined by being on a navigable stream & a high bluff, best place to live in a swampy region. It probably was a center for cotton storage & shipment, and other urban services that agriculture needs. It is the only place where a well drained upland of any size is touched by the river without intervening swamp. It probably preceded the r.r., rather than being
- ## 4. place to live in a swampy region. It probably was a center for cotton storage & shipment, and other urban services that agriculture needs. It is the only place where a well drained upland of any size is touched by the river without intervening swamp. It probably preceded the r.r., rather than being

Mason Gaffney

GEOGRAPHY 1

Assignment # 7

The following questions refer to three topographic maps, the Donaldsonville, La., Cucamonga, Cal., and Three Rivers, Michigan-Indiana sheets. They are posted for study in Room 41 and in the Lecture Room.

1. What type of land form does each of these maps portray?
tr is glaciated limestone lowlands; d is alluvial plain; c is alluvial fan & mts.
2. In which area would you find the following items?
(A few occur in more than one area.)

For convenience answer this question on this sheet, and refer to the three maps by letter -- i.e. 'D' for Donaldsonville; 'C' for Cucamonga; and 'TR' for Three Rivers.

- | | | |
|------------------------|--|---|
| c oranges | tr snowplows | c cactus plants |
| d cotton | tr mules | c rattlesnakes |
| c walnuts | tr big barns | d water moccasins |
| d negroes | tr potatoes | tr d ^{live oaks} oak trees (woods) |
| d cypress woods | tr county fair | c retired professional and business men) |
| c water tanks | tr c general domestic use of electricity | d illiteracy |
| TR d drainage ditches | tr disappearing streams | c lemons |
| tr gravel beds | tr windmills and watering troughs | tr silos |
| c irrigation | d c fur trapping (not bear) | d, c Jan. and Feb. frosts (when they occur) occasion great financial loss |
| d, c 1925 autos | tr apple orchards | c, d bungalows |
| tr this year's models | tr small scale manufacturing | c dry, hot winds |
| TR c, d tenant farmers | tr Germans (as to ancestry) | TR d windows weather-stripped |
| tr alfalfa | d Latins (as to ancestry) | D c flimsy shacks |
| c celery | tr stock-breeding | tr, d river navigation |
| c sagebrush | c trailer camps | tr, c developed water-power |
| c sandy soils | c, tr many gasoline-engine pumps | tr # "summer cottages" |
| tr dairying | d Roman Catholic Church dominant | c chaparral |
| d malaria | | |
| d, c disastrous floods | | |
| tr, c thunderstorms | | |
| tr pigs | | |

3. Three Rivers map:

- a) Is more or less land cultivated now than when the map was made?
- b) Towns in this area, as a rule, are oriented North-South and East-West. Why is Constantine an exception?
- c) List your reasons for thinking that Constantine is
1) growing healthily; or 2) has reached its peak.

4. Donaldsonville map:

- a) The body of water partly shown at Long. 91° W. Lat. $30^{\circ} 9' 30''$ N.:-- is it lake or river? How do you know?
- b) Has the Mississippi ever broken its banks in the area?
- c) Why do the small streams run away from the major river?
- d) What good reasons are there for a ferry instead of a bridge at Donaldsonville?
- e) Was this region widely settled before or after the Louisiana Purchase?

Kern

people to use it, then took it 1st, business has been there since. (patents?) Milwaukee & St. Louis shoes, replacing N.E. now. Cotton - South could have monopolized it then, but plantation owners not progressive (half secret of N.E. success) Now textile man. going south & it was N.E. people who did it. Hydro electric power helped develop coastal man. Present trend toward decentralization.

Lab, Dec. 7

Note Mexican r.r. article. Failure of labor union bureaucrats to run r.r.s

Dec. 9

Franco, now that we are doing poorly, will probably join up with Axis - as will Darlan, with his 300,000.

Centralization & water power. But now hydro electric or carbide electric power can move 300 miles, so industries move. Population of cities, enormous market. More people in metropolitan N.Y. than all New England. England not electrified - factories are right over coal. France electrified - very fast trains. Italy electrified. Germany rather uses coal. N.E.^{N.Y.} uses Virginia - West. coal, carried by water. Fall River an unusual setup - power right at sea.

Reasons for decentralization: 1) Taxes & graft in cities, more in America than in other countries. 2) Cheaply transportable power makes plants go to raw materials. 3) Conditions are nicer in country. Printing always done away from town, because printers are pretty smart folks, who poor, do not like slums. 4) Labor is more docile.

5) Prints are lower (but they'll go up) 6) Prices lower.

Industries are leaving New England. St. Louis - the great chemical & patent medicine towns. Chicago the mail order town. Because of doctor scarcity, & doctoring voodooism.

Harbors - Some magnificent ones never used.
Brest, e.g. (used only as naval base) - nothing behind it.
Must have depth - but not too much, as anchor has to reach bottom. Narrow entrance. Not facing storms. Ice free.

Dec. //

→

Harbors (consider immense value of the one spot which can save hinterland's harbor needs) Domburg Conn., hats - because it is swampy lowland, with beaver & muskrats for felt. Now early start keeps it going. Philly hats, too - & finer leather than elsewhere, just because someone invented it there & imitating, too. Leghorn, Italy, straw hats, because of superior local straw. Denver & Munich - at foot of pass, trading towns.

River mouths - boats naturally arrive. Berlin is a harbor, on canal. Paris a harbor. Chicago, Milwaukee. But at mouth of Conn. only a dinky town, Saybrook. New Orleans located by (city is at point as far up river as ocean boats can go.) being the nearest ^{site} to the ocean where town can be built. Because river drops silt at Saybrook, no harbor there. Hartford is port, head of navigation. Then they put canal around head of navigation at Windsor Locks to Springfield. Montreal is just below rapids, head of navigation. Quebec at head of ~~river~~ big passenger boat navigation, a small town compared with commercial Montreal. London is head of navigation, for big boats - also the lowest possible bridge across Thames. Antwerp like New Orleans - swamps below it. Rome a bridgehead town. Confluence towns - St. Louis, or nearly - 12 miles from Mo. R., 1st good site.

Cairo small because of swamps. Chic. located by an obstruction. First a station for immigrants to change from lake to wagons. R.R.s had to swing south to get around lake, hit Chi. At London the greatest city of south - at end of mts. where trains swing around them.

Kemp

Dec. 14

Location & site - big & small aspects of where towns are.
Boston not so good early - not near fishing banks, & long
run with no wind inside the port. Then Merrimac - to - Boston
canal, & railroad, gave inland trade to Boston, checked
northern ports. Canadian gov. put r.r. to Portland
because it's ice free, at time when wheat comes. Asbestos
in Canada, near border, but Johns-Mannville Factory in
U.S.A., because we put tariff on finished, rather than
raw, product. Recently some ind. centers are growing up
in Ukraine, with electric power from Dnieper dam. And
discarded Donets coal basin. Both new things. Russia now
non-Communist, less than we are. Savannah & Charleston.
Why haven't they got ahead? Jacksonville, Fla - naval
stores, - tar, resin, pitch, from lumber. Gunpowder plants -
in wastelands, far from people - some in Delaware, Wilmington,
& Plymouth. Fertilizer, ^(dark brown, Kraft) paper, in Sav. & Charleston.
A Savannah chemist discovered how to turn southern
pine into paper, recently. New Eng. textile leaders
moved south, now cotton goes north on r.r., so they
decline as ports. - also Eng. now gets cotton from other
places. Singapore a great entrepot for Indies, not a
manufacturer. Ford with all his capital failed to
succeed in Amazon with rubber, Malay more suited to it,
not so steamy. Ford, bridgehead or ferry locates
town. So do portages - Louisville Ky, e.g.

(The influence of a productive man on land values
will be rewarded by respect of his fellow men. - just as
man who bothers his fellows sons being criminal,
will be rewarded by dislike)

Dec. 16

Field officers are ok, but Washington a mess. Failure to see

Attendance, letter, map.

things, do things. They write him twice for some information. Sees logging, shipping all over the place. - plus very hard workers who have to buck the parasites. Hebron, Ohio, at pt. where Nat. pike hit Erie to Ohio R. canal. But it's nothing, now, ~~as~~ as B & O. r.r. came in, & Newark was where it hit canal. Columbus where r.r. hit Nat. Pike - an interior city. Big bend locates city - Cincinnati. all connected with Land Values.
Lab.

Ptd. has doubled in size since 1940.

1. Site 2. Position 3. Function (4) Structure.
Portland - confluence of rivers, better site - narrows of Willamette, & dry land. Seattle bigger. Fur at 1st. c. 1900, when it jumped from 70,000 to 200,000 - now 500,000. Not as rainy as it might be, because of mts. to west. Fertile. - Farmers early, 1840, The Oregon Trail. The Gold Rush, '49, gave it a push - Oregon sold agr. products to Californians. 1900, lumber came. & this made ships come their, they sent it to east. Alluvial soil, rivers carry lots of soil - due to lack of rain fall in Columbia R. Basin. Columbia not very navigable up to Ptd., which is 80 miles from mouth. So they dredged it in various places, & gov. put 2 jetties at mouth, to keep sand bars from forming their - now ships can come to Ptd. Also Bonneville dam sediment basins takes some out. Apples - Wenatchee, Yakima, Hood. Wheat - esp. in Snake R. valley. \$235.00 an acre for land watered by Grand Coulee - & it will have to be given away. Col. R. was forced northwest by lava flows, so it separates granite from lava. Grand Coulee a shp'd project - land not suitable for irrigation economically. - but power has been a wind fall.

Oregon City at Willamette Falls.

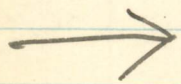
Ptd. harbors not good. Kaiser: Steel all imported.
In ans: 3,171,000 total
1,300,000 petroleum

Kemp.

Lab., Dec. 16 (cont.)

The petrole is for heat. When S. Cal. fields are exhausted, something will have to be done. It has power, & potential power more than anyone else. Bannville dam.

dubious →?



Kaiser is in Ptd. because he is a Ptd. man. Ford is a Detroit man - otherwise he would have made Toledo, a better port, the auto center of world. (Speculation in land may explain this)

→ Commerce - imports - petrol, iron, steel, cement for construction. Portland cement named for what? - look it up.

Exports: lumber, furniture, salmon, agr. products. Ladder on Bannville for salmon. Now fished out, fishing are further north. Paper. Mills, like Kaiser, out on flats away from town.

Rich live on Ptd. Heights.

Seattle & Ptd. rivalry. Seattle has better harbor - a good Wash. U. the best college site in U.S. Ptd. has hinterland. Seattle has Alaska; & it's nearer great circle route to orient, being northerly. Silk came to Seattle, not Ptd. Seattle still bigger, both over 500,000.

W. valley. pears, cherries, etc.

Dec. 18

Winterville - /.

Where you get great inland seas, like Medit. or Baltic, it carries coastal climate inland with it.

France - limestone soil.

Anything you have in your environment that you can make money out of is a resource. Someone is making lots of \$ out of the Lake Louise view.

Oats the only grain Scotch can grow - so not.

Organized labor & other features of inertia helped Eng.

lost art to Guy c. 1900.

Russian landlords exported wheat while peasants starved.

Factors of environment

1. Climate (Winds, sunshine, temperature, moisture conditions)
2. Land forms (Highlands, lowlands). Relief
3. Water (Inland water & navigation; power & irrigation; drinking; ocean travel)
Natural drainage & ground water
4. Biosphere
5. Soil
6. Mineral wealth
7. Space relationships - size, shape, location (including sea connections)
8. Man

Geography 1a

Assignment #6: November 30-December 7, 1942

Davis, D. H., The Earth and Man

1. Chapter 20, "Life Forms: Plant and Animal," pages 721-745.

The natural vegetation of an area reflects climatic, topographic, soil, and drainage conditions. In view of this fact, plant life affords, therefore, an indication of the general characteristics of the environment as a whole. After reading the pages assigned, consider the major types of vegetation and establish the basis for their geographic distribution in terms of environmental factors. How do plants and animals deny or offer opportunity to man?

Assignment #7: December 7-14, 1942

Davis, D. H., The Earth and Man.

1. Chapter 21, "Space Relationships," pages 747-761.

Relative location, size, and shape are three factors of the natural environment closely related to the human occupation of an area. Studies in political geography are especially concerned with space relations. What areas are mentioned in newspaper headlines today because of their location, size, or shape?

Assignment #8: December 14-21, 1942

Davis, D. H., The Earth and Man.

1. Chapter 72, "Cities and Urbanization," pages 561-587.

In reading this assignment, relate each city illustrated to its natural environment.

Reading assignments this semester have considered eight of the nine factors of the natural environment. The ninth, minerals, will be considered next semester.

Davis

a little, too. Soil "exhaustion" is usually erosion. On good land not eroded, yields will increase - p. 160. $\frac{1}{2}$ the U.S. affected badly, 5% ruined. Texture - clay ^{8% or matter} gets in colloidal susp., or else plants cannot use it. Sand, silt, clay. Loam a mixture of 3. Text. & comp. usually related. Hot & cold, ~~heavy~~ light & heavy, mean ~~the~~ sand & clay. Structure - single grain structure, ^{and} aggregate. Determines water & gas content. Composition - 10 essentials, + trace elements. Soil miner. - crop rotation the answer. Sacrifice of the future for a greater immediate return - brings erosion - (stopped by making farmer responsible for future.) ("Standard of living" just another name for wages) In China & Japan soil is used for centuries with no impairment. Some soils derived from (degradational plain) residual material, & are $\therefore$ like underlying rock. These usually lacking in some essentials, as only one rock contributes to them. Some soils from transported material - running water, ice, waves & currents, wind. (Loess - very fertile, stands straight) Soils from organic matter - 20-70% muck; 70-100% peat. In tropics, decay is too fast, &

Super quote, p. 171

in north, growth is too slow, for peat - so only around Chi. Shallow, wet depressions needed. Everglades, & land o' lakes, full of peat. High lat. - sphagnum moss. Low lat. - grasses, & other herbaceous (or non-woody) plants. Used for fuel & Agriculture, poor for both. Eur. use it for fuel, we disdain. We also ~~the~~ disdain the hand labor in truck gardening, unlike Eur.s.

Soil classification. Once just surficial geol., but now science unto itself. Top, sub s., & rock. 1) Pedalfers, or non lime-accumulators. 2) Pedocals, lime acc. (1) humid, (2) arid. Appendix Ch. 37 for extended treatment. Grassland soils better than Forest.

Davis, P. H., "The Earth & Man", reading notes.

Pt. 3 - Limiting effects of environmental factors

Ch. 8 - Climatic elements: Sunshine & temperature.

Sunlight 1) Affects yields of crops 2) determines what kind of crops. Oats & hay need little sun, are cheap. N. E. & Pac. N. W. the cloudiest, S. W. the clearest. Water holds heat. Frost kills plants. 40°F . stops growth. Areas of erratic frosting undesirable. "Temperature efficiency" the % of time over 40°F . Low temps. affect man, animals; make ~~soil~~^{rocks} disintegrate, prevent leaching, & erosion in general, by stopping water. Soil so watered & heated it produces all year round is generally leached & non-fertile. To prevent frost, break on slope or ~~the~~ near water, or prevent radiation by covering or heat. Winter wheat needs mild winter. Tropic shelters are enervated.

Ch. 9 - Climatic elements - moisture conditions.

The dew point (P. H. = 100%). Evap. rate determined by temp, wind, P. H. Hygrometers measure rel. H., which accentuates discomfort of both hot & cold. Heated home in winter the driest place on earth. P. Humidity, not sun, determines amount of leaf surface to be exposed, & how much groundwater is needed. - making n. great plains more available than southern. (difference in r., not abs., h.) R. H. also affects dust storms. ~~Water~~ in clouds forms around dust particles, so smog is terrific. Fog may lift or fall. Fogs in cold weather. Best for crops to get precipitation in frost-free season, like N. P., unlike Sacramento. 20-60" annual the best.

Reading notes, Geo.

Davis.

Ch. 1 - Growth of geographic knowledge

Ch. 2 - Man & his distribution

Irregular, but ubiquitous. Northern hemisphere more densely pop. ~~concentrated~~ in relation to natural desirability. Continually shifting pop.s. Pop. density & type of work related.

Ch. 3 - Factors affecting distribution of man & his activities.

Environment a passive factor. Humans migrate - recently, n. to s. Manchukuo, e.g. Must hold land by force. Government may interfere. Limited or unwise choice means poverty. Man limits environment more than "natural" factors, now. Material progress changes ^{real} value of environment to man. also " estimated value, e.g., Alaska.

Transportation improvements, one of most significant factors of material progress.

Ch. 4 - The environment - its factors & functions.

1) Space relationships

Size, shape, position

2) Climatic conditions - most important.

3) Soil

4) Natural drainage & ground water

5) Topography - Relief

6) Flora & Fauna - consider importance of horses, e.g. Natural

7) Mineral wealth.

8) Connection with sea

9) Man

The other 3

People may be isolated & stagnate, as e. Kentucky mts.

Or be in unfavorable environment, like Australia, & find it impossible to advance.

Ch. 21 - Space relationships

Location, accessibility. Land & water hemispheres, poles in London & N. Zealand. Islands. Countries. Cities, not geometric, but convenience center. Value of locations change with

Big 7

Size

Shape

Location

time, due to 1) Change in hinterland, 2) Change in means of transportation. Strategic location. Form of political divisions, & size.

Davis, P. H. - The Earth & Man

Ch. 10 - Climatic Elements, Winds.

(Heat liberated when water condenses acts in convection.)
Sun + rotation ^(centrifugal force) determine air currents. Winds affect evap. rate, & thereby sensible temperatures. Carry heat & moisture.

At equator, low pressure belt of ascending winds - the doldrum belt. - heavy rains. At 35° N. L. & 30° S. L. are sub-tropical high pressure belts - the horse latitudes, where air is descending.

60° N. & S. L., the sub-polar lows, or cold front. Polar highs.

The Southeast & N.E. Trade Winds. Trade wind areas over coasts and/or inland areas are arid. Coasts hit are humid.

Westerlies. Roaring 40s. Westerlies get weaker the farther from the equator. (Why do they go west?)

Polar easterlies. Land masses intercept winds.

Highs & lows do originate. Shift of insolation shifts winds, & changes climate. (e.g., Calif., rain only in winter, is in belt of trade winds during summer)

Periodic local winds, from i) air drainage. ii) Lake breezes, from different heating of air. Valley breezes, from different heating of plain & mt. Compression of cold air in narrow valley will cause heating. Monsoons - winds ~~from~~ ^{water-land} on continental & oceanic scale from seasonal ^{water-land} temp. variations. Summer, from sea to land. Winter, vice versa. Strength of wind depends on degree of temp. difference (& pressure difference)

Secondary circulation: Highs & lows, "deflective influence of rotation", centrit. force, & land features affect. 30" & less pressure, cyclone areas, (low). Winds blow around it ~~counter~~

deflected to right in N. hemisphere ~~clockwise~~, bringing heat north. ^{or vice versa} Better in winter than summer. West to east. Anticyclones, highs. Winds blow out, clockwise. Unlike lows, fair weather & light winds come with them. Highs & lows originate on polar front.

Mercurial barometer, balances air column.

Hurricanes or typhoons, very low. Originate at doldrums which is most poleward, develop in trades but go north ^{west} (!?). Oct. & Sept. Rarely get caught in westerlies & hit N.E. Thunderstorms are local convection affairs. Tornadoes - concentrated cyclone, I guess. 400 mph winds, damage. Also, some houses explode due to low pressure. "Chinook" - wind down mt. slope, ~~bringing~~ hot & dry, burning grass to cattle.

Appendix - Weather Forecasting.

(High winds would come in lows rather than highs, because air is being blown together, rather than dissipated.)



Cold highs, hot lows.

Cyclone consists of 2 distinct air masses, one hot, one cold, separated by line thru cyclone center. Warm front & cold front. Rains from warm front, where it gets cooked, or on cold front, where warm air is wedged aloft.

Keep a notebook on track going home.

Ch. 17 - Highlands

- a) Plateaus - Ozark, in part, where it is not too dissected. - the Springfield Plain - limestone - lead & zinc & marble - agr. not phys. ok. Grassland first, settlement at edge of woods, then transp. improvements brought whole into use. (corn & wheat, orchards & truck. Better than average plateau.
- b) Dissected Highlands plateaus. Kentucky part of Cumberland Plateau, e.g. Cumberland Gap. A difficult, isolated area. Corn in isolated patches on steep slopes - bad, makes erosion. 1) limited agriculture, 2) forest industries 3) mining, 4) Tourism Typical of mt. region.
- c) Glaciated uplands - stripped bare of soil. N.E. Minnesota. Poor drainage. Podsol. Only organic soils, boulders. Rivers in good for log running. Good lumber, disastrously cut. Roads poor. 1) limited agriculture 2) Forest industries 3) Mining 4) Grazing 5) Fishing 6) Resorts potatoes, hay Land abandonment & tax delinquency great, bankrupting many counties (parasites stayed when producers moved on) Land passing to state & gov. ownership (Okla. land rush for class)
- d) Mountains (why is it colder higher? Compression?) Vertical & horizontal seasonal migration. As barriers

Ch. 11 Soils

Def. - rock pulverized, chemically changed, organic matter added. Dead or alive. Humus. 20% organic normal. Depth, texture, composition, & structure determine desirability. Bed being constantly weathered away, & soil removed. Normal erosion desirable, as top gets worn out. Rapid runoff & thin soil desirable in tropics. Weathering slower in high lat. Tenants ruin land - p. 156 - in Rome. Tobacco & gullies in U.S.A. c. 1880 represent Ignorance & tenantry ruin land. Structure - arrangement of grains. Texture - size of grains. Organic content increases porosity, lessens % of runoff, the important thing. Sheet wash & gullying in wet land, wind erosion in dry. Temp. erodes

Darius - Earth & Man

Ch. 16 - Surface Features - Lowlands

Surrounding land features, + immediate features affect man (e.g., Erie Canal affects NYC) Highland & lowland, 2 ^{most} general ~~forms~~ ^{classes} - both relative. Lowlands always flatter. Coastal, alluvial, glacial, lacustrine, & degradational types, - difference is in origin. 90% pop. on plains. Defeated rivers in hills.

- a) Coastal plains - raised up from ocean. Our S.E., & more - you know, Atl. & Gulf Coastal Plains. - 0-600 ft. Soils usually sandy & poor, save where they are lime. (?? Why so? - have about shale?) Rivers navigable. Agriculture difficult. Lumbering Tobacco & vegetables, in parts. Subtropical fruits in Fla. Tourist business. People mostly poor (where aren't people so?) Cities not big - mostly outlets for interior.
- b) Alluvial plains - flood plains of rivers. Old ones called river terraces. Deltas. Alluvial fans - dry land deltas. Piedmont alluvial plains - like Calif. valley (& lab. valley) ~~shaped~~ slopes down from hills to valley wall, where swamps may be. Often have to be drained, or grown to forest. Best agr. land - many early civilizations. Cities have difficulties.
- c) Glacial plains - hummocky. Where sandy, then sorting, good only for orchards. - well drained, & protected from frost. Outwash plains - truck gardening, but usually poor. Grass cover makes em better. Where ice retreated rapidly, soils good for agr. - till plain, or ground moraine. - most of Corn Belt. Poor, young drainage. Better than average.
- d) Lacustrine plains. - Lake Agassiz, e.g. Sands no good & clays difficult to drain. Cities, like Detroit & Winnipeg, on lake plains, hard to sewer. Only ridges well drained.
- e) Degradational plains, from erosion. Kentucky bluegrass one of south's most fertile regions. Eden Shale belt - highly dissected, poor soil, difficult for roads. Outer bluegrass.

Davis, D. H.: The Earth & Man

Chap. 12: Inland Waterways & Navigation.

Piivers St. Louis & Chicago, effect on. 35-70 U.S. Piiver freight is on Ohio, to & fro Pittsburgh. - Coal, iron. Cotton on lower Miss. Stupid dredging projects on Kent., Tenn., & Miss. (& many other) Piivers. p. 179-80.

Lakes. Small ones just get in way, but big ones help.

(canals: Erie, 1825. 367 miles. Success till r.r.s. come.

Other canals, from Atl. rivers to Miss., were not so successful.

"Illinois & Michigan" Canal, connecting Lake M. to Ill. R. Helped build Chicago. Still running, but unimportant. Built '36-48.

4000 miles of canal now out, due to rise \$200,000,000 plus

→ lost - (but worth it). In Europe, canals are kept by subsidizing - (bad, improvements discouraged) Eastern Asian

→ canals. At Present, N.Y. barge canal system, 1918, enlarged Erie. Great expense, ec. ly unsound. Has to be operated

toll free to get traffic, supported by taxes. Hennepin Canal, successor to Ill. & Mich., similarly unsound. Proposed

Fla. canal, already started with public funds (E.R.R.) also bad. Good ship canal at Houston.

Parkins & Whitaker

Our National Resources & their Conservation.

Chap. 13 Inland Waters: Power & Irrigation.

Expensive. Morgan & Pilling, L. R., p. 193. Power must be developed close (200 miles) to where it will be used. Niagara falls. Potential undeveloped power in tropics. 73% U.S. potential in Pacific & Mt. states. 8% S. Atl. Since '20, great development, at public expense - non economic. T.V.A. dams will be

silted up ^{eventually}. Power not cheap. - 10,000,000 annu loss. Boulder-Col. one of muddiest rivers in world, silt up. - not so much as others.

Grand Coulee, more expensive yet. Power & irrigation - 1,200,000 acres.

Irrigation: ^{irrigation} rice, strawberries in humid east. $\frac{1}{3}$ land surface too dry to use some irrigation. Nile. - ~~Rae~~ recent dam at Aswan, c. 1900, does 80% irrigating now. 50% of all irrigated land is in India. Italy, Sp, & S. France. Salt Lake

- Phoenix, Imperial Valley. Divotes, 204-5-6
Individuals in joint stock co.s did ~~not~~ ^{not} develop. Communists another
→ $\frac{1}{3}$. Fed. gov. another, unprofitable $\frac{1}{3}$. Underground water
use for 15% irrigation. Imp. Valley: Calif. Develop.
Co. canal from Yuma. More land than can be used for much
profitably. California - recent elaborate canal system,
water from San Valley to San Joaquin Valley. 4% county
irrigable. 1.2% irrigated.

Chap. 14 - Water Supply

50% U.S. drinks ground water. Ok unless small, then minerals
are concentrated. Industrial & human waste pollution of streams &
lakes. Contamination worse in Europe. Cisterns & wells for
rural water - sinkholes for cattle. All big cities use
surface water. All public, once private. Huge, expensive
projects. Much "waste" exists. (How?)

p. 227

Chap. 15 - Miscellaneous use of inland waters, & problems in irrigation & lakes

Fishing. Horseboats on Miss., & esp. S. E. China. Ice supply
Recreation - 2nd only to manufacturing, in N.E. & Mich. Small
cottages in Mich., etc., a development of last 25 years. Floods:
\$35,000,000 ann. loss (direct) Forests on upper slopes will stop. Preexisting
dams on Miami R., but expensive. Drainage - lower Miss., Lake
Plains have most. c. 30,000,000 acres ann. c. 60% already in use.
75-90% drained land never used. Bad - ~~of~~ water table lowered,
streams fluctuate more causing floods, fire hazards, ^{wild life destroyed.} In some areas
advantages outweigh disadvantages, in others, vice versa.

Chap. 19 - The Oceans & Their Coasts.

$3\frac{1}{2}$ % sea water by weight is mineral. NaCl, Mg, & K (thru
help) now only commercially extracted ones, but more in future.

Reading List -- January, 1947

Note: All citations are to be found at the desk of the Main Reading Room, Widener. Only a few copies are available; so do not put off the readings until the last few days.

PART A

Jones and Whittlesey: Introduction to Geography, Vol. 1, pages 105-107, 109-111, 114-115, 115-116, 125-171, 172-175, 142-145, 145-147, 147-150, 150-151, 159-160, 162-167, 167-164, 180-182, 187, 184-185, 185-188.

The above citations present a more or less detailed description of the fifteen climatic types. Relate these descriptions to your climatic map, your climatic graphs, and the illustrative material in the back of the reference.

PART B

Smith, J. R., and M. O. Phillips, North America, Chapters 17, 20, and 27. (1940 edition).

These chapters discuss regions of contrasted natural environment and consequent development. Try to add to the account of each region pertinent knowledge of your own concerning its climate, vegetation, land-forms, soils, minerals, ground and surface water, and location in reference to the Atlas.

(Note: In the 1925 edition these chapters are 17, 19, and 21).

Kemp, Harold S., "Queen City of the Lakes": A Geographic Pageant, The Journal of Geography, Vol XXX, No. 7, March, 1971.

An example of changing human geography with the passage of time.

PART C

Davis, D. H., The Earth and Man, Chapters 1, 5, and 77.

Be sure to review the chapters already assigned in this book.

PART D

During the reading period several topographic maps are to be studied in the Geographic Laboratory, Room 41, Geological Museum, in order to discover all the physical and human geography they disclose. One or more questions in the final exam will be based on one or more of these maps, which will not be available for consultation during the examination. The maps must in no case be taken from Rooms 41 or 42.

Remember: Bring your atlas and climate map to the examination.

Kemp: Queen City of the Lakes
→ Good to give classes a little geography like this.

Judge Cooper, owner of Cooperstown, appraises future land values for land co., says future Buffalo is best. ~~5~~ resources, then - lumber, animals, water power, agr. land, location. Forests & game went, agr. land not much, harbor filled in, but location got better. But Black Rock built better harbor, got trade. Buffalo ~~had~~ improved its harbor. Erie Canal extended to Buffalo, giving boats choice of sites - & they picked Buffalo, because current was too strong, & harbor too hard to hit, at Black Rock - also too small to grow. 1850 & Canal became obsolete. A.A.s hit Buffalo, but tended to replace Lake Erie as road to west, mining Buffalo which more on land - to - lake change. So manufacturing developed - brickmaking, tanning, castings. Then iron from Marquette & coal from 80 miles south discovered, Buffalo a good meeting place. Wheat still came by water - Buff. manufacturing, mills, & storehouses. Cattle, too - slaughterhouses. Farm implements, & other steel industries. But Chic. got farm implements & slaughter, Pittsburgh Steel, by 1880, & Buff. turned to Niagara, which, along with Canadian wheat, saved it. Today wheat, farm implements, slaughtering, steel foundries, in that order, support Buffalo. But miscellaneous industries are twice as important as wheat.

Davis

Presl Parkins & Whitaker,
Our Natural Resources & Their Conservation
John Wiley & Sons, N.Y., 1939

Chap. 32 - Cities & Urbanization.

Convergence of various sorts of routes, in varying degrees makes cities. Location more important than site. Values always changing, with material progress. Recent transportation improvements have made cities possible. Big cities a recent phenomenon. Los A., e.g., 1900 - '42, 102,000 - 1,500,000. Villages serve as market places - & mechanics, etc., go there, as they find steady employ. Early New Eng. villages based on inclosure Eng. land system of which village greens are a relic. Amana colony in Ia.

City must always have trade - ~~with~~ ^{from} ~~not~~ ^{not} emp. 1) Commercial cities - Seattle, Twin Cities (center - port) 2) Industrial cities - Pittsburgh, Detroit. 3) Gov. cities.

4) Resorts 5) Res. suburbs 6) Mining. Hibbing, 16,000; Butte, 39,000 - not so big as others. Well located city with cramped site will grow up (it will anyway - Chicago) Detroit's system of radial streets a handicap now - (Georgist point) Time wasted in ~~will~~ transport a great disadvantage. City grows, nice homes always peripheral, keep being invaded & pushed out. Slums, "blighted area", comes. 2,000,000 in greater N.Y. Lower east side & Harlem the worst slums. $\pm$ Harlem relief. Skyscraper land fabulously expensive - \$100.00 per sq. foot. \$350.00 per sq. ft. in '29. Much good material. Last decade, for 1st time, cities have not grown much (1st ten) Partly because of trend to suburbs (which speculation prevents)

→ c. p. 580

Chap. 20 Life Forms, Plant & Animal

4 major life "associations" - a) Forest b) Grassland c) ~~desert~~ d) Polar
And

- a) i) Evergreen hardwood. Low lat. low alt., steady rain.
 - ii) Deciduous " " , Wet & dry climates, not too cold. Predominance of one species.
 - iii) Scrub & thorn
- Tropical & ^{medit.} ~~temp.~~ deciduous & not

iv) Conifers.

All latitudes. Mid.-l. is best/number

Grasslands.

Trop.) Savanna, steppe, desert.

Mid-l.) Tall, or prairie grass, & short or steppe grass. Long grass thrives on fires, man drove it from Ill. etc. by prevention & plowing.

Marsh grassland - valueless till changed, as in Cal. valleys.

Desert & semidesert - adapted.

Tundra



Man's interest in immediate return rather than long range care ~~now~~ brings bad results. (Tenants care only for immediate return.

Annual loss by insects is \$1,600,000,000. (Effect on land values?)

Chap. 21 - Space Relationships.