

Meeting 4 • 16 January 2014

Week 2: Ships & boats, roads & paths, legs & arms

Version:
1/15/14

picture of the week



Humboldt's canoe
(source: Botting,
*Humboldt and the
Cosmos*, p. 103 [0027])

thought-bite of the week:

"I reckoned that it was my duty... to record all the data obtained from reliable sources.... The further man is from civilization, the more he enjoys astonishing people.... He says he has seen what he imagines may have been seen by others."

(Humboldt, "Personal Narrative", from *Jaguars and Electric Eels*, ed. & trans. Wilson, pp. 19 & 46)

mini-text of the week (start):

"At midday we stopped at a deserted spot called Algodonal. ... I walked along the beach to observe a group of crocodiles asleep in the sun.... [M]y stroll almost cost me my life.... "

Humboldt, "Personal Narrative", from *Jaguars and Electric Eels*, ed. & trans. Wilson, p. 74 ([read more](#))

Materials for today

course poster; course goals; overview of schedule; intake questionnaires (experiences; skills); Helferich, Humboldt & Stegner (e-)books; portraits of AvH; work sample: "Leaving Home"

Topics for today (key to symbols)

(5') Thought-bite of the week (from week 1, actually): "Nature" - what does it mean? Where do you and others "find out" about "nature" and that unity? How does this relate to sustainability?

(5') Mini-text of the week: Our own fearful encounters with fearsome, ferocious creatures

(30') Speaking of fear: The quantitative ingredient of this course.

Why it's necessary: 1) in the footsteps of Humboldt as an explorer and scientist (see thought-bite of the week) - we need to understand how he developed the science that underlies ecology and environmentalism; 2) part of exploring main topic of sustainable environmentalism, including the controversial topic of climate change; 3) information from reading FRINQ portfolios shows that quantitative competence needs attention (learning? documentation? teaching?). What's your take on #3?; 4) later you'll have an assignment where you evaluate your education in your choice of a main subject area, perhaps math (or perhaps not)

Basic principles: 1) simulating / re-enacting some of Humboldt's key activities (whether as ends - acquiring information - or means - surviving the travel); 2) using the tools of his time, rather than modern tools (which are often built on those earlier tools); 3) strengthening conceptual / process skills (estimation, comparison, proportion, cross-checking); 4) using everyday knowledge to generate a "good enough" answer, rather than short-cutting to a

source that delivers the "right answer" with no processing.

English vs. metric; using our hands and feet to fathom the world (daycare center: "How big is [child]?"); telluric vs. planetary views / consciousness; moving over the surface of the world vs. looking at the Earth from space (one of you has blogged about how the technology of travel has changed our experience of the world through which we travel)

So let's do a warmup before (next week) we SINQ the Humboldt Canoe quantitatively and maybe even actually:

Small groups (4-8): Using the [basic quantities worksheet, stage 1](#), generate (without using outside sources) the collective sense for these everyday quantities, which can then be used to do much more quantitatively. Report and compare the groups' quantities.

Now go back into groups to use your quantities to determine these quantities ([basic quantities worksheet, stage 2](#)), which are examples of quantities Humboldt needed to work with constantly. Report and compare in plenary group.

Next meeting you'll apply your quantities to determine some real-world (sometimes life-or-death) quantities needed by people who had to get across and around the globe in earlier times, and also some quantities that we encounter in discussions of sustainability.

(5') Humboldt's travel routes through the "New World": route on the Orinoco and Amazon Rivers (0036); along and atop the Andes (0037); through Mexico (0038); . While you look at the map, think about the distances and what it meant to cover them on foot/ horseback / water. (NOTE: These maps are from the ink-on-paper Helferich biography of Humboldt; they aren't in the electronic editions.) The maps are linked from the [Table of Contents](#) frame of the main webpage. Soon you'll be using mobile apps to trace his route and examine the territory.

(5') 20% of the way through the course - are we on course? Where are we on our course title? We've got AvH into exploring, but not into really doing science and not into sustainable environmentalism.

AvH's view of nature: not a separate, pristine entity, absent of people, artifacts, - or numbers (but *Jaguars and Electric Eels* leaves a lot of the numbers out)

A quick look at some key words and their original meanings: ecology, economics, environment ([online etymological dictionary](#))

(10') [Humboldt-named schools and their role in this course](#)

(10') So what was I doing in Hawaii? [Link to Lyon Arboretum](#); [Arboretum Center & panorama](#); a threatened plant (plant; signage); professor as Humboldt in Lyon Arboretum;

Cyanea humboldtiana: preservation & restoration (1361 sterile culture; 1359 closeup of culture with student intern; 1363 in storage with label; 1389 greenhouse sprouts; 1386 in the greenhouse, start of mature plant

Foster Botanic Garden: 1461 sign "Cannonballs"; 1464 Cannonball tree; 1467 Cacao; 1470 Macadamia nut sign; 1471 coffee bush; 1474 urban surroundings

a Hawaiian canoe; history of Bible in Hawaiian; sea asparagus and sustainable agriculture;

possible upcoming activity: portraits of ourselves as environmentalist-explorers

(5') Announcements and previews?? soon: we'll load and crew a mockup Humboldt Canoe; note also how I have annotated the outlines for previous meetings with comments about what happened during them

Hello all,

15 Jan 2014

I've received email addresses from almost all of you. Thanks.

The meeting outline for tomorrow is ready:

http://web.pdx.edu/~fischerw/proj_pub/humboldt_project/SINO/SINO_2014W/html/meetings/04_16ian_2014.html

If you go to the "schedule" page

http://web.pdx.edu/~fischerw/proj_pub/humboldt_project/SINO/SINO_2014W/html/schedule.html

you'll also see that I've added comments to the outlines for the previous meetings, and links to the PDFs of the handouts.

I've also had enough time to gauge the general level of this year's group, and it looks pretty good. That means I can streamline some features of the course. One big feature is how I handle classroom time. I always put more on the outline than we can cover in class, and I'll continue to do that - what we don't cover will usually appear on the next outline.

But some of that materials is of lesser importance, and also things come up in class that need attention but weren't on the outline. So, rather than take up still more classroom time catching up on that, I'm going to try putting my comments in emails. Here's the first try:

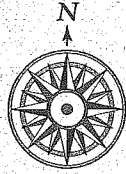
I've read many of your quick reflections about the Weitsch portrait of AvH. I want to say more about the portrait itself in class, but we also need to think about the activity as an assignment. It doesn't count for much of your grade, and the only possible grades on it are 6/A+ (=you did it) or 0/F (=you didn't). That's because I wanted to see the general level of writing skills (and dependability) in the class, not examine you about your ability to discuss art. If you want to gauge that, roughly, you would probably do well on a graded activity if your discussion of the pic gave plenty of attention to the actual picture, rather than spouting off about your own viewpoints or speculations. That attention to detail would include mention of the flower, the book, the mysterious instrument, the rock, the leafy canopy, the face and clothes, the arm/hand/bent finger, and that view in the distance. Later in the course we'll return to the picture and you'll see how much more you can see in it.

If you want to think more about the portrait right now, consider this: Is AvH leaving home, back home, at home, away from home?

The handout for meeting #3: I was trying to catch up from my trip and also move class along, so I slipped up on something: I didn't hand out the handout until the end of class. Also, I didn't cover something that was in it. There is a writing sample (from an earlier version of the course) of the "Leaving Home" assignment, with my comments on the paper and the scoring guide as well. I may mention that sample briefly in class, but we just can't take time for its details. Read it and the SG and you can probably do even better on upcoming assignments.

The activity about floating in various kinds of water and calculating your body's volume: The general purpose was to check some STEM skills (math, chemistry, physics), but more specifically to get us started on one of our next major classroom activities: figuring out how much AvH could get into that canoe of his and not have it swamp among those crocs and piranhas, especially where going from the water to the shore would involve facing some more jaguars. I'm planning that activity for next Tuesday; explorer-theme clothing and equipment, especially if retro to 1800, will be most welcome (I'll bring some). If any of you can give plausible nautical commands, imitate monkeys or parrots, sing sad songs in an indigenous language, or chant prayers in Latin (or Spanish, French or German), your skills and talents will be most welcome.

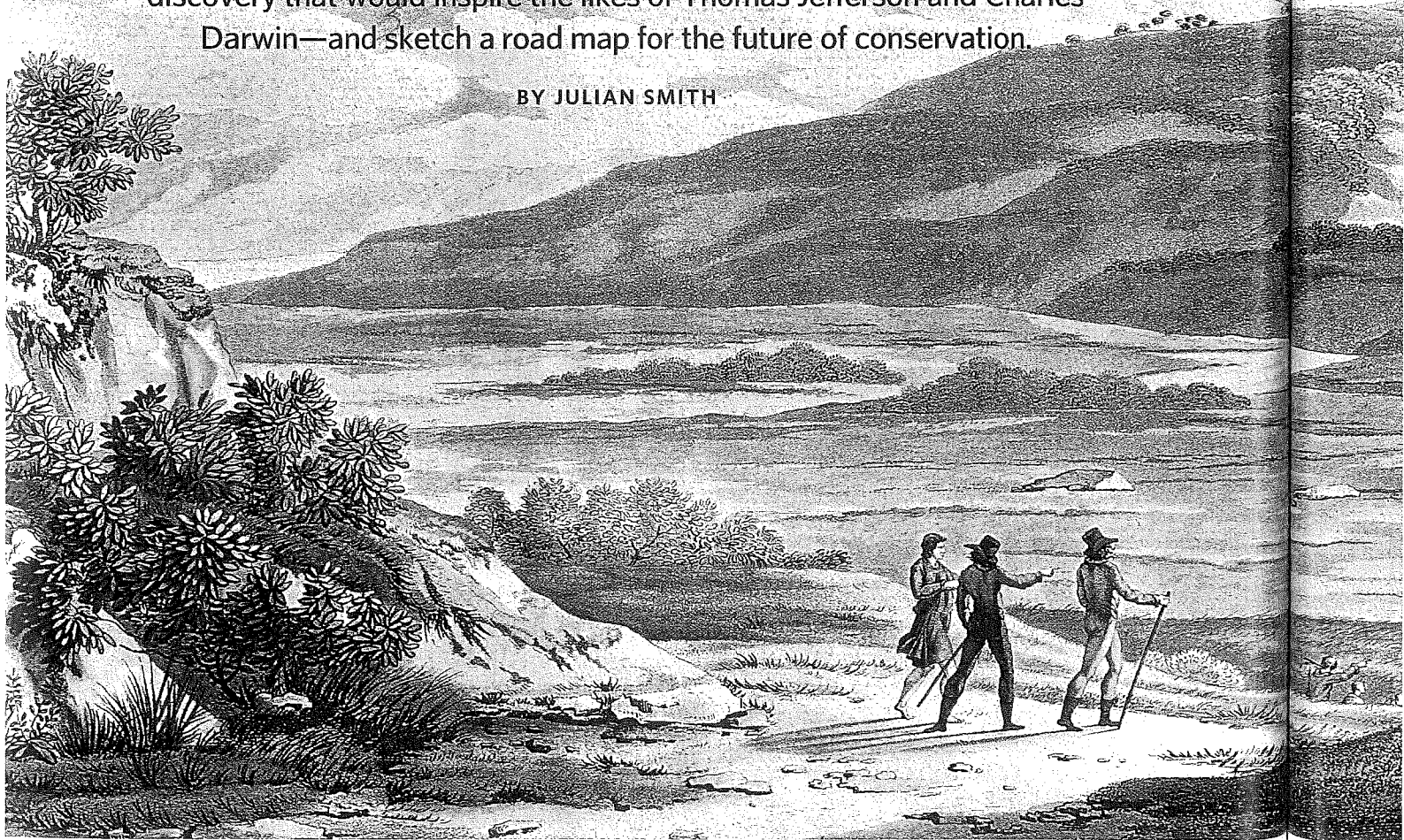
See you on board!



HUMBOLDT'S NEW WORLD

Two hundred years ago, a young scientist set off on a voyage of scientific discovery that would inspire the likes of Thomas Jefferson and Charles Darwin—and sketch a road map for the future of conservation.

BY JULIAN SMITH



Basic Quantities Worksheet • Stage 1

last modified: 1/16/13

Members of your group:

Using NO outside reference sources, determine and record "ball park" quantities for the following measurements or basic quantities. Include a brief indication of how (from whom, if in a group) you determined the quantities (examples: personal experience; guess; learned in school).

quantity to estimate	quantity	how determined
airline flight time coast-to-coast of US, in hours		
driving time coast-to-coast of US (number of hours on interstate); OK to use a selected stretch of that distance (example: Portland to Denver or Chicago)		
driving time from north to south in Oregon (number of hours on I-5); use PDX to Medford or similar as the north-south endpoints		
current world record for the 100-yard dash (or 100 meter)		
current world record for the mile run (or "metric mile" of 1500 meters)		
current world record for the marathon		
time for ordinary person to walk a mile (maybe use walking around a running track)		
number of time zones in US		
latitude of Salem, OR (ask someone who drives I-5 near there a lot)		
number of degrees in a circle		
number of degrees in a right angle (think about how a person who is walking - or thinking - exactly the wrong way has to make a "180-degree turn", and many right turns you make in a car on a one-way street grid of multi-lane streets to avoid waiting forever to make the left turn you really want to make)		
length of a football field, in yards		
area of a football field, in square yards		

Basic Quantities Worksheet • Stage 2

last modified: 1/16/13

Members of your group:

Using NO outside reference sources, apply the knowledge you recorded in the "Basic Quantities Worksheet • Stage 1", to determine and record "ball park" quantities for the following measurements or quantities. Include a brief indication of how (from whom, if in a group) you determined the quantities (examples: used calculator; figured out on paper; talked it out).

Technical terms / concepts: latitude = north-south measurement of a sphere (like the Earth) in terms of degrees; longitude = east-west measurement of a sphere (like the Earth) in terms of degrees.

Key quantity to use in estimations of global measurements: The circumference of (distance around) the Earth at its equator is a (hint!!) very convenient 25,000 miles.

quantity to estimate	quantity	how determined
How big is the US in square miles?		
How big is Oregon in square miles?		
How many degrees of longitude(=east-west) are there in a time zone?		
How many miles wide (east to west) is a time zone at the latitude of Portland?		
How many miles wide is a degree of longitude at the latitude of Portland?		
How many miles wide (east to west) is a time zone at the equator?		
How many miles wide is a degree of longitude at the equator?		
How big, in acres (or fractions of acres), is the lot of a typical suburban home?		
How big is that lot in square miles?		