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The air is surprisingly not as dense, *o humido*, as expected at the 9th latitude north, sifting through 23 million years of geologic collisions, species evolution, and mystery

heedlessly scraped away by sun-crisped bulldozer operators in the infamous Canal Zone. The sun's intensity is felt from all directions, but most notably the burning from directly above. There are no trees in the Zone, not living at least. The petrified root expanse (10 meters across by at least 15 meters deep) is barely worth mentioning for our Archaeological Mammalogist/ Tropical Paleontologist Aldo Rincon because he is looking for evidence of 'higher' creatures. All to be seen is rock and 'soil' (as a soil/polymer scientist, I'm forbidden from referring to it as 'dirt' even if it's like the Sahara for any living biota), and you can imagine the excitement that elicits from the learned, *Cheesebieren wisconsiniae*, in the blaze of the 95°F Panamanian dead zone.

Within the first minute of archaeological excavation I come across a shiny, ebony protrusion from the reddened, iron/aluminum-oxide stained clay soils sprinkled with calcified pebbles. I pick it up, observe more closely, and exclaim to Aldo, "I found something!"

From weeks of digging and being skunked, he is justifiably suspicious of my immediate find. He takes a drag of his cigarette and ambles over.

"Definitely a molar... horse, I think!"

How peculiar! Though we are searching for mammal molars in the Cascadas Layer (formed 23 million years ago), the shallow sea-limestone bed of the Caracha layer (formed 15 million years ago) is not 20 yards away at the same topographic inclination. If the land bridge didn't form miraculously via the conversion of five tectonic plates until 7 million years ago, and the last volcanically erupted landforms connected to the North American plate are around the 13th latitude north in modern day Nicaragua; how did the (assumingly extinct) evolutionary ancestor to the horse (ungulate) become buried in the

Cascadas layer, on the same straight bulldozed plane –20 yards away with shallow sea bed (formed only 15 million years ago)? Well yes, the plates sheer and do not converge uniformly; but how could an ungulate be in a location (measured by the latest in radioactive [Argon/Argon] carbon dating) before the 7 million year ago land bridge connection?

“It’s still unknown completely,” remarked Dr. Tony Coates, director of the new Biodiversity Center in Panama, deputy director and Emeritus senior scientist at the Smithsonian Tropical Research Institute, and interestingly the reason we have leaped in understanding our evolution from primates (with many other collaborative minds). Simply, the land bridge between North America and South America formed yielding differences in salinity concentrations between the Caribbean and the Pacific, increasing the warmth of the gulf stream to Europe, which redistributed the precipitation condensing over Africa, turning lush rainforests into drier grasslands, forcing the monkeys from the barren trees, freeing up the infamous opposable thumb for tool-making and necessitating the larger brain. Take a moment. I’ll confess to an unwitting drop of jaw and a sense of awe for the plasticity of his experience (from a pioneering profession in geology to a proficient ‘enjoyment’ of evolution throughout the biological kingdoms). I am unconditionally drawn to the best.

That’s how I got to Panama. I am attracted to remarkable minds. I attend the best university in the world (second only to the University of Virginia’s Semester at Sea World Campus) because I want to ‘save the world’ and little ‘Eco-U’ is designed to facilitate just that. I am proud to say I am a student of Dr. V.M.G. Nair, not only because of his world renowned work describing the causal organism of Oak Wilt (*Ceratocystis*

fagacearum), but more because of the array of interesting methods he has employed to fix the many hazardous repercussions of human interference from logging, pathogens, and resource exploitation world wide. His life work is the basis for the class, Conservation of Natural Resources. It was undoubtedly the best class I took in college from the most demanding and therefore best teacher, requiring the same from his undergrads as the Mycology/Pathology PhD students in Madison. “You will learn in the same way they learn at Oxford, is right?”

To say, “it is an honor,” is an understatement to my respect and admiration. He only asks, quite humbly, in return for his tutelage - that his students do it better than he.

I’ve got a lot of work to do.

Thanks to the wisely selected philanthropy of Dr. David Cofrin (with undoubtedly impeccable taste), I am able to be exclaiming, quite girlishly, “ooh, ooh dolphin, dolphin, ray, howler monkey, iguana, sloth, woolly opossum, etc. etc.,” learning from a wide array of affable specialists (Drs. Howe – Ornithology, Wolf – Ecological Conservation, Choudhury – Parasitic Ichthyology, and Fewless – Botany, to mention a few, who are just as dedicated to doing the right thing) in cooperation with the Smithsonian Tropical Research Institute. Understanding how interconnected the physical world is by nature, necessitates an interconnected form of education. UWGB’s system is the only one I know to be fundamentally interdisciplinary. Taking a year of Physics opened my mind to forces, relativity, and the predictive laws of nature; a year of Organic Chemistry broke the biological world into mechanistic reactions of carbon; and Epistemology allowed me Descartes-ianism asking, ‘What is knowledge? How do I believe facts?’ All contributing to the usefulness of my Molecular Bio/Chem major and allowing me to be an informed

and honorable citizen capable of conversely contributing to the world's betterment in countless ways. I recycle. I protect soil from erosion and fire induced hydrophobicity to increase vegetative fertility. I am a chef who buys local produce. I know what I know and what I don't know, which leads me back to UWGB to continue in the life-long pursuit of knowledge (not only for my happiness).

Because there are increasingly more questions with complicated answers, it's obvious the only way to make progress is through collaboration of incredible intellects. I am (and will continually strive to be) an excellent collaborator, because a great mind is nothing without people to share it with, and people with something to share are the most interesting to be with. An introduced fungal parasite may decimate a local frog population, allowing an insect population to go unchecked, initiating the decline of a host tree species, leaving seasonal rain water storage unaccounted for, accentuating mudslides, limiting the freshwater in the Chagras River and finally noticed by humans through the negative effect on the financial stability and utility of the Panama Canal. Which scientific specialist do you first consult?