

Quotes and Quips



A companion to “Alumni Narratives on Computational Geology (Spring 1997 – Fall 2013)

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The poster to which this handout is attached discusses the primary author’s MS thesis, defended June 8, 2016. In this work, interviews with alumni were transcribed, as noted in the poster. Due to the constraints of the poster format, many of the most interesting quotes and stories could not be included in that format. A selection of quotes is presented here. All names are pseudonyms selected by the interviewee, per the terms of USF IRB approval e22615. For additional information, visit <http://vicricchezza.weebly.com/thesis.html> or scan the QR.

Medusa (MS, PG, environmental consultant, part-time instructor, former regulator)

“...he walked in and said ‘what’s holding you up? What sort of concepts are you having trouble with? What’s not working for you? Why are you failing calculus? What’s holding you up?’ And we spent the first couple of classes talking about that – what we felt we did and didn’t understand, you know... things for which we didn’t understand the relevance of why they were being presented to us. And he came up with a course description based on that.”

“A derivative is change over time, that’s all it is. Geology is change over time. Almost everything we look at in geology is change over time.”

“The course... allowed me to see mathematics as a tool that I can realistically use in the applications of geoscience instead of viewing calculus etcetera as a separate thing from geology. Um, and it took the fear away. It was a very common theme at the time, um, that, you know, folks felt challenged by a lot of the math courses that they were in. They were having trouble with them. Some of them were even failing them. When these concepts really are quite central to geology. And Len saw them as central, didn’t understand why we weren’t, you know, functioning within both equally well, um, so he look at how those courses are being taught, and how geologists think, and created a course that took the fear out of math, which is huge.”

“Well, he answered what I call the primary questions. Which actually may be a concept I got from Len, I don’t remember where I got it, it very well could have been Len. Primary questions being “so what?” and “who cares?” So, um, he went back to relating to the concepts that geologists work with every day. You know, a derivative is change over time, that’s all it is. Geology is change over time. Almost everything we look at in geology is change over time. Until he said that to me, in that sentence, I had never seen it, I had not seen a derivative that way, and I had not really applied, oh, that’s why I might want to use that in geology. Why this, the... the mathematics and the computations are so inherent in the application of geoscience. Um, and so he firstly made it relevant for us, and secondly, was able to get to the nuts and bolts of how you use it instead of just fluttering about with the theory that a lot of the courses were doing. You know, um, a... this is more physics than calculus, etcetera, but you know, a ball’s coming at you at a certain angle, and if somebody hits the ball, how’s it going to go? Well, you know, in my mind, the answer to that was ‘home run’. You know, I didn’t... the nitty gritty of that didn’t matter to me, and Len was able, um, to help me understand exactly why I would want to know that. And why I would want to use these tools to get there. So it... he... he... made it a tool that I can use, and made it something I wasn’t afraid to use, and made it something I was excited to use and felt empowered by instead of somewhat fearful of.”

Jam (MS, instructor)

“It was probably the first day of class. Uh, he taught about I don’t even remember about what. But I left... as I was leaving the room, I walked up to Dr. Vacher, and I said, ‘I just want you to know I don’t do math’. And he looked at me, and he didn’t respond as far as I can remember. And he just let that go. I was very proud of myself for saying that, because this is the course that nobody wanted to take. Everybody was afraid of him and... a little while into the semester when I was... I could hardly wait to get home every day to do the homework. It was the first time in my life I was ever successful at doing any kind of a math problem, a word problem. The homework, Excel stuff. And about, I’ll guess a month into the semester, he asked me if I remembered what I had said to him the first day. And I turned red and said ‘yes, I absolutely remember that’. And he said, ‘You know, [Jam], if you weren’t able to read, you would have been so embarrassed about that that you would never have told me or anyone else. You should be just as embarrassed to have said you weren’t quantitatively literate.’ And that statement changed my life.”

“Somebody says the word logarithm and I say, yeah, man, he made it so clear. (...) And I’ve said this to him, I’ve said it to current and former students in his class, and I’ve said it to people outside of USF. I really felt like I learned more in a ten minute discussion in his class about calculus than I learned in two semesters sitting in calculus math class here at USF. (...) At the end of those two semesters [of engineering calculus 1 and 2], I didn’t know why you do calculus. I never got that a derivative was the slope of a line and that the integral was the area under the slope. Two semesters, I never got that. I... I learned how to take letters and numbers here, and then there was the equal sign, and I had learned how to change those same letters and numbers and make them different over here. And I could do it. I think I got an A or A- in calculus, which I was like, how did I do that? I didn’t understand it at the end. And in ten minutes, when he explained this is why... this is what a derivative, all it is is the slope of a line... oh, the light came on. (...) And... you don’t hear that

in a math class. At least if you do, I wasn't paying attention that day. The same... if they ever said a derivative is the slope of a line? I completely missed that."

Lee (BS, graduate student)

"That was his entire course, was just learning how to think things through logically in a step by step manner."

Sunshine (MS, PhD student, Instructor, former regulator)

"Well, ever since that course, I have used Excel. I never really used Excel before it, and I love Excel now. I use it for everything. I used it for my chemical data that I collected for my rocks for my master's. I used it to create my budget for my house for, you know, my husband. I used an Excel spreadsheet to show my husband that we needed to trade in our other car and buy a new car because it was going to be gas efficient and we were going to save money. (...) And when I did the Excel spreadsheet for convincing my husband to buy a car, I had... I made the spreadsheet up and I had the, um, the amount of what gas would cost as a variable, the amount of miles he was traveling, um, what different types of gas... miles per gallon for each car we were thinking about buying. Then comparing that to what we were spending right now with the car that he was driving, so looking at gas and tolls and then comparing that to how much it would cost... how much it would save us if we bought a new car that was gas efficient, but we had a car payment, but the car payment was still, the car payment plus the gas was still lower than having a car that was already paid off but horrible gas mileage. And I made a whole spreadsheet that he manipulated and played with all these different variables and it changed the bottom number to figure out how much we would save every month. And that convinced him and we went and bought a new car."

"I became really good friends with, um, some ladies, uh, in the course... which we call ourselves "The Front Row Bitches"... So if anybody has met Vacher... he can seem very unapproachable at first, and not relatable... so there's four of us. Four Front Row Bitches. We... did not succumb to Dr. Vacher's intimidating aura, so we sat in the very front row. All four of us in the front row. Everybody else sat back behind us pretty far back. We wanted to learn. We wanted to hear what he had to say, and the only way to... truly be successful in his course was to be involved and to be... connected to Dr. Vacher, to be able to stop him whenever you have a question or be able to... ask him to elaborate... So we sat in the front row and we asked him questions all the time... he was not used to that. (...) And all four of us are still very good friends."

"I remember doing math on a piece of napkin that was Dr. Vacher's goal for the class. That if you could sit in an airplane next to somebody and explain a math problem... on... a regular cocktail napkin, and you could draw a little diagram, that you were successful in his class."

"I can now say being, you know, an educator and a, um, a person who studies how people learn and specifically looking at math avoidance that I did avoid math and I still do. I'm trying to overcome that as I'm sure lots of people are. So... for me to take that course, which it was a requirement for a geology, um, BS, I knew that I had to take a (sic) assertiveness in my own education and sit up front and be there or I was not going to succeed. I just knew that personally because of how I am, so. And that's how the other four girls, the other three girls were as well. You know, we just knew that's what we wanted to do. We wanted to pass this course."

John Smith (MS, environmental consultant)

"[The course] was meant to... force you to think things through thoroughly. Think deeply. He always said think deeply about things. And at first I kind of just thought well, I always think deeply, how can you not think deeply? But until, you know, things really started cooking in there, I got to know what he meant by that. You really do have to dig, deep, for that kind of stuff, to... come up with the correct approach. You know there was sort of a multi-step process to everything we did in there, you know? You needed to first analyze the question on a... you know, face value level, take in the whole thing, and then you kind of broke it down, and, and then from there, you could kind of start formulating... a way to attack it, a way to approach it, and that was, in many ways, the most important part of it, because if, you know, if you started out the wrong way, you'll just end up going down a hallway and you'll never get out... you'll never get to the right answer."

Luke (MS, regulator)

"I learned a lot about Excel... I can look through a sheet and reverse engineer it, find out the calculations... that people have submitted to me."

John Doe (MS, environmental consultant)

"I think, um, what the course did was make us wary of statements like "greater than" or "percent more". Um, Dr. Vacher has a very, um, strict policy on using certain phrases to describe something, um, so description of percent more should mean, you know, percent more than and that was actually a small segment of his course, so I think what it made us, what it makes me do is when someone says something like that or a statistical phrase, um, I think about it and say, "is that what they really mean", because I know mistakes are made all the time."