

Professor Garvey has asked each of us to introduce him- or herself briefly and (perhaps) to say a word or two about why we have chosen to teach in this year’s Core Human Questions Montserrat cluster. The idea (I believe) is that by listening to us today, you’ll start to get to know all of the CHQ faculty, not just the instructor of your seminar. We’ll be doing a lot together over the course of the year through our cluster activities and readings, so this session is mostly a way to begin those common experiences.

So, “here goes:” I am John Little from the Mathematics and Computer Science department. I’m going to be teaching the seminars called *Mathematical Journeys: From Known to Unknown* this fall, and *From Unknown to Known* next spring. The best way to explain why I have been a pretty regular participant in Montserrat almost since the start is to say that, while I *am* a mathematician, I am not *only* a mathematician. I’m very interested in how mathematics connects with other areas – not just the “obvious” connections with the physical, biological, or social sciences, where mathematics serves as a language and a tool for describing relationships, modeling the “real world,” and predicting its behavior, but also the more subtle connections between mathematics and music, mathematics and art, and even mathematics and literature, where we can see the creativity of human minds working in similar ways. I’m also very concerned that the way mathematics is often taught today at the elementary and secondary levels in the US doesn’t do enough to encourage young people to see those connections and exercise their creativity. To me, figuring things out in creative ways is the real point of mathematics and not seeing this because of an over-emphasis on acquiring rote skills for high-stakes tests can tend to kill any interest students might have in mathematics or any satisfaction they might get from studying the subject.

So I’m hoping to give the 15 students in my seminar a small taste of what I find most interesting and exciting about mathematics by connecting it to the theme of this year’s CHQ cluster. We’ll be reading about the journeys in Homer’s *Odyssey*, Mark Twain’s *Adventures of Huckleberry Finn* and Cheryl Strayed’s *Wild* along with all of you. And we’ll also be looking at the role of *proofs* in mathematics, specifically the ways that a mathematical proof can be understood as a sort of journey, not from one place to another, but *from one state of knowledge to another*. Interestingly enough, this side of our mathematics was also introduced and developed most highly by the ancient Greek civilization that also produced the *Odyssey*. Several hundred years after what we think was the time of Homer, the Greeks began to develop the idea of *deductive proof* in mathematics and what they did for elementary mathematics was systematized about 300 BCE by the mathematician Euclid in a most famous and influential book called the *Elements*. We will read a section of this, take some of those proof journeys ourselves, and then think about how people actually find and develop proofs. It will be an interesting journey!