EDITOR'S NOTE

I'm addicted to Joe. That was the title of a short presentation I gave during a Kavli Institute of Theoretical Physics (KITP) conference in 2014 celebrating Joe's sixtieth birthday. I described the process whereby a student gradually morphs into their advisor as they pick up more and more of their advisor's quirky habits. With Joe, that included his continuous torrent of "uh-huh" as he followed an explanation, his quick "yes, yes, YES" in increasing volume and intensity in anticipation of the conclusion, his slow "well, well" if he didn't completely buy it, and his occasional frantic-head-scratch-with-broad-grin combo when trying to focus.

Also during that talk, I disclosed the real reason for asking Joe to be my PhD advisor. Oddly enough, I didn't know who Joe was when I first started as a graduate student at the University of California at Santa Barbara (UCSB). I mean, I knew that he was the

inventor of D-branes, but UCSB had a stellar team of high energy physicists, all of whom are known for something, and I was a bit too young and inexperienced to appreciate their differences. Picking an advisor is one of the most important decisions a graduate student has to make, with career-defining consequences, but it's also one that has to be made fast before all the available options fill up. I remained indecisive, and anxious, for about a year.

All that changed when I got a "sign" at the local mosque in Santa Barbara. No, this isn't the story of a supernatural religious experience or of finding Joe's name in scripture, but of a serendipitous encounter with a visiting physicist. I stuck around as I usually do following the prayer service, waiting to make casual conversation, when I saw a friend eagerly walk toward me while beckoning someone to follow. He introduced me to M. Zahid Hasan, the visiting physicist, and let us be. After a round of personal and professional introductions, I thought I'd seek Zahid's input on what was plaguing my mind. I figured that he probably didn't know the high energy physics faculty well enough to answer my question directly, so I decided on general advice instead. I wanted him to avoid being generic, so I phrased my request to stimulate some introspection. I asked: "I want you to give me that one piece of advice that you wish somebody had given you." As I was finishing my request, I took notice of a subtle change in his posture, something typical of physicists as they engage with a problem, and I knew right then and there that this was going to be good. I was all ears.

It happened in a split second. He looked down momentarily searching for the answer, found it, then raised his head and said: "Work with Joe." Now *that* I did not see coming! It was as good a

sign as any, and so I scheduled a meeting with Joe and *declared* to him that he would be my advisor, and that I would not take no for an answer. I was fortunate that he agreed.

Coming back to the present, I am also grateful to be the editor of Joe's memoir that you hold before you. The main text of this memoir is a light editing of the one that's already up on the web. I made sure to run these edits by Dorothy Chun, Joe's wife, and his longtime friend and colleague Stephen Shenker, both of whom you'll read about extensively in the memoir. I wanted to ensure that the text retained Joe's signature voice. This version of the memoir also contains a selection of photographs curated mostly by Dorothy and her two sons, Steven and Daniel. The cover of the memoir features a diagram representing Joe's "favorite type" of physics calculation: a vacuum amplitude of an open string anchored between two of Joe's D-branes.

A further addition to the memoir is a collection of physics explanation boxes meant to complement Joe's own description of the physics. They provide further background and intuition on the topics that Joe has either worked on or has deemed important. I agonized a lot over the level of the explanations and settled on that of an advanced undergraduate and beginning graduate student in physics. My reasoning was that, among all audiences who might be interested in reading this book, this category is the one that stands to benefit the most. Nevertheless, I hope that everyone will get something out of them.

This version of the memoir also features a set of bibliographic notes that include references to the works appearing in the main text, along with other useful related material. It is intended to be a resource for those wanting to delve deeper into the physics.

In addition to help from Joe's family and Stephen Shenker, I am indebted to suggestions from Edward Witten, Makoto Natsuume (Joe's ninth student), Ben Michel (Joe's third-to-last student), and Joe's other students, friends, and colleagues.

In closing, I just wanted to say how lucky I am for having Joseph Polchinski as my PhD advisor, mentor, role model, and dear friend. I deeply miss him. He's left a permanent mark on my personality and physics that I will forever cherish. Truly, to this day, my gauge for whether a physics problem is worth pursuing is whether I think Joe would do so. I wasn't kidding about my addiction. In fact, "I'm (Still) Addicted to Joe" was the title of another talk I gave at KITP in late 2018 at a symposium celebrating Joe's life.

To those reading these words and about to embark on a journey with Joe, consider yourselves warned: you too run the risk of getting hooked . . .

Ahmed Almheiri