Preface

In the beginning there was nothing. Then the Lord said: “Let there be light” and there was still nothing, but now you could see it. - Terry Pratchett

- This is exactly how I’m feeling at the completion of my PhD. When I started my PhD, I had grandiose dreams of coming up with constructs with world-shattering potentials; works, which will change the way people study proteins. Now, as I’m finishing my work, I know that I am a light-year away from that target.

Yes of course, this effort has resulted in few published papers. Few more will be published in coming months. But they account for peanuts when I was eyeing at a ten-course meal. The PhD study has taught me how complex proteins are and how naive my approaches were while attempting to understand them. Having said that, probably that’s the way science grows, viz. in a slow cumulative evolutionary process; and not through sudden revolutionary jumps. (Indeed, even Einstein couldn’t do a 1905 every year.)

The reason for writing all of this is pretty simple. If you have great expectations from my PhD thesis, please don’t read it; you will be disappointed. However, if you are interested in reading a cohesive body of honest works that attempted to probe protein interior and exterior with self-similarity and scale-invariance, you are most welcome.

A short note of paramount importance should be brought up here. I strongly feel that a PhD thesis isn’t meant for kid’s play. Thus, if you do not have sufficient respect and interest about either proteins or fractal dimensions, do yourself (and myself) a favor; don’t read this thesis. It’s someone’s hard work for five years, if you have delusions of understanding all of it in five hours - you are mistaken. On the other hand, if you do go through these works and feel like discussing and/or criticizing and/or (in the highly unlikely case) appreciating them - please drop me an email (my mail address is: anirbanab@gmail.com). There’s nothing more helpful than to listen to constructive criticisms; I’ll be delighted to talk to you and learn from you.
I have countably infinite number of well-wishers from all across the world. They come in all shapes and sizes; many (but not all) of my teachers, many (but not all) of my students, many (but not all) of my relatives, friends from past and friends from my present, and so many others who cannot be categorized. – It would have been impossible, I repeat, impossible, for me to complete my PhD without their support. Naming them and “thanking” them will merely belittle them; hence I won’t do that. Rather, I will demand that they continue tolerating me and loving me the way they did all these years.

Here, I must write a word or two about the people of Bioinformatics Centre, University of Pune. They were fantastic. Most importantly perhaps, they were homely. This seems remarkable if one notes that my Marathi vocabulary is limited to 3/4 words. The cordiality and hospitality of 'Bioinfo centre' family, never made me feel like an alien. The continuous stream of variegated helps that I received from everyone here, made my PhD adventure far less arduous than what it could have been. I really don't have words to thank them, and I won't attempt that uphill task either, because then everyone here will shout at me for attempting so.

Doing PhD in India wasn’t exactly an enjoyable experience. My senior research fellow scholarship earned me 17,000 Rs. every month (‘basic’ being 14,000); - that, in a city, where one cup of tea in University canteen costs 7/8 Rs.. … - I tend to become bitter when I think about these issues, so I won’t dwell in them. Suffice to say, doing PhD in India wasn’t exactly a pleasant experience. Without unending support from my well-wishers, I could have never, ever, come out of this ordeal.

Anyway, now that I am finishing my PhD, I’m happy. I’ll be happier if someone finds this PhD thesis to be helpful for his/her studies.

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