Assignment 4

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Math 381 A

I found the paper by Milgram and Travers to be quite interesting. The way they chose to accomplish their study by relying on each participant to send mail is fascinating. Today, this experiment would be much more efficient, especially due to the existence of social networks where the acquaintances of many people are so easy to find. Though I have an idea of how this experiment would be conducted today, I wonder how it would change for different eras from the 1960s to now (i.e 70s, 80s, 90s) with new technologies available as time goes on. It would also be interesting to see how it would be conducted in earlier eras, where technology was even more lacking.

Some of the results of the study were quite surprising. While the Boston random group had a shorter mean length of intermediaries than the Nebraska random group, I thought the difference would be bigger given how far Nebraska is from Boston. I was also surprised by how small the difference between the mean chain length of the Nebraska stockholders and Nebraska random group was. I figured that it would be easier for the Nebraska stockholders to get in contact with the target due to them being in the same line of business and possibly working with each other. Thus, I shared the same expectation of Milgram and Travers that the stockholder group would have shorter chains than the random group. While that did end up being the case, I thought the difference between the two would be much more significant.

Some other things stood out as well, such as the fact that convergence appeared even before the penultimate link. They mentioned how certain people accounted for multiple completions of different links. Given the information about the people, it seems to be the case that people who come into contact with a wide variety of individuals can serve as a connector between different links (e.g. Mr. G, the clothing merchant). It makes me wonder how other links that didn’t converge on these people were able to eventually reach the target. I’d also like to know who received the most contacts among those that directly knew the target. The study also mentioned that there appear to be three tendencies governing the sex of the recipient of a letter. I find it interesting that these tendencies appeared and wonder if the same tendencies would show up if the experiment was conducted today. I think that we would see more crossing of sex lines, mainly from men, as there are more women in the workforce nowadays.

After reading Frigyes Karinthy’s *Chain Links*, the things that stood out to me was his and his colleagues estimation of the max number of people required to link one person to another random person in the world. They said they would need no more than five, which is about how long the average chain length was in the Milgram and Travers paper. It’s surprising that their estimation is almost the same given that this came about from a conversation among peers rather than a full-fledged study.

It’s also interesting how Karinthy talks about the world shrinking, in regards to communication. He states the earth is the smallest it’s ever been as people are more connected than ever before. Now, almost a hundred years later, that small world is even smaller due to things like better transportation, cell phones, and the internet. So right now, in 2021, the earth is the smallest it’s ever been. Thinking about all the different avenues of communication that have evolved over time really puts into perspective just how interconnected we all are.

Karinthy also asks if there was ever a time in our history where it would’ve been impossible to link one person to another through acquaintances. I believe there was a time when it was impossible, as humans have not always been aware of the scope of the entire world. This begs the question, at what point in time did it become possible to link any person in the world to another?

From asking friends and family, there were two examples that stood out to me. Through a friend of mine, I’m connected to a college student in Japan that they hosted as a foreign-exchange student. Through another friend, I’m connected to their uncle, a middle-aged software engineer in India. It’s shocking that despite these people living on the other side of the world as me, we’re connected through only one acquaintance. Hearing about these people helps me to realize just how huge and complex the acquaintance graph is. There’s so many people in the world that I’ll never meet, yet it’s likely that we’re somehow connected in an acquaintance chain.