

How do we learn to choose the road less traveled?

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Road Less Traveled

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that, the passing there
Had worn them really about the same,
And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet, knowing how way leads to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I--
I took the one less traveled by,
And that has made all of the difference.

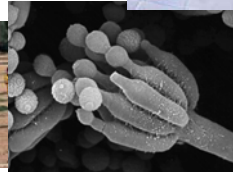
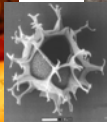
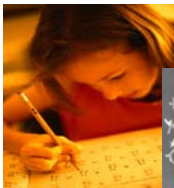
By Robert Frost





“Hey Mom, I want to be a microbiologist!”

- I had big dreams, but little guidance.
- I wanted to take the road less traveled, but did not know how.
- What was missing?
 - Role models.
 - Opportunities to participate in science related activities.
 - Parental education.



“Hey World, I am going to be a corporate lawyer!”

- Uncultivated dreams, practicality, and fear allowed me to opt out and take a road more traveled.
- How did a budding microbiologist end up wanting to be a lawyer?
 - Little meaningful exposure to science after 6th grade.
 - Education was prioritized in my family, but not in my school.
 - I was a first generation college student.
 - I was encouraged to choose a more practical option.
 - Ignorance
 - Lack of resources: Life before the PC and the internet!



“Hey Mom, I am going to be a microbiologist, again!”

- Finding the courage to follow my passion.
 - GBU204 “Yikes!”
 - CHE101 “Oh wow! I have to go back to science!”
 - BIO101 “This is so fun, but boy it is hard work! What have I gotten myself into? Help!”
 - BIO300 and beyond Welcome to the world of microbiology, immunology, and cell biology.
 - Graduate school “I must go to graduate school because I don’t yet know enough to get a job as a microbiologist.”
- Identifying the role models.
 - My first role model was my zoology professor.
 - My second role model was my microbiology/immunology professor.
 - **What is wrong with this picture?**



Hey Mom, I’m getting my Ph.D. in microbiology!”

- Picking a graduate school should be done with guidance, research, and forethought. How did I do this?
 - I decided in March of my senior year as an undergraduate that I wanted/needed to go to graduate school. Where was the guidance?
 - I applied to one program.
 - I was pushy, I did well enough on the GRE’s, and I got lucky!
- I finally took the road less traveled and it has made all of the difference!
 - The program I completed was excellent.
 - My mentor became my greatest role model.
 - I found success and fulfillment as a research scientist.
 - I found even greater fulfillment as an educator.
 - First informed career choice: Four years ago when I decided to become an educator/researcher in a primarily undergraduate institution.



Looking Back: Has anything really changed in 20 years?

- I see a lot of myself in my students. Shouldn't the issues have changed twenty years later?
- I see a lot of missed opportunities within our local education systems.
 - Teachers are ill-equipped to teach science.
 - Teachers are not allowed to prioritize science in early grades.
- Are the role models in our community making an impact?
- We have outreach opportunities in our community and we are continuing to develop more.
 - Science Camp
 - Participation in Science Fairs
 - Kids Teaching Kids
 - Chemistry Magic Show
 - Outreach to Area High Schools



Breaking the Cycle



- What else has to be accomplished?
 - Within our local society we must learn to prioritize education at an early age!
 - Science and problem-based learning must be used as tools to teach reading, writing, and math.
 - We must cultivate big dreams, circumvent practicality, and remove the fear of the unknown through exposure and education!
 - We must illuminate the paths to STEM careers so that they become the paths most traveled!





The Road was Taken: And that has made all the difference!

