Working in Industry & the Similarities with Academia

Dr. Chenoa Tremblay
My Background

1999
- BA Chemistry
- Environmental Science

1999-2002
- Changed 3 times
- Lab Tech
- R&D Pharma

2002-2005
- Xemplar LLC
- R&D Pharma
- Helped start the company

2005-2011
- CABOT
- R&D Research Facility
- Specialized in Crystallography & Reaction Chemistry
- Did Chemistry & Engineering

2011-2018
- MinAnalytical
- Develop new lab for mining
- R&D of new technologies

1999
- Plymouth State University

2002-2005
- Xemplar LLC

2005-2011
- CABOT

2011-2018
- MinAnalytical

Academia
- Build LWA
- Tested/Built electronics LWA
- Studied Compact Galaxies
- Gamma-Ray Counterparts

Industry
- Charles River
- Helped start the company

2005-2011
- CABOT
- Did Chemistry & Engineering

2011-2018
- MinAnalytical
- Compact Galaxies
- High-Mass Stars
- Low-Frequency Chemistry

2002-2005
- Xemplar LLC
- R&D Pharma
- Helped start the company
What is the difference?

I just wrote the most beautiful code of my life.

They casually handed me an impossible problem. In 48 hours and 200 lines, I solved it.

Academia:
My god ... this will mean a half-dozen papers, a thesis or two, and a paragraph in every textbook on queuing theory!

Business:
You got the program to stop jamming up? Great. While you're fixing stuff, can you get Outlook to sync with our new phones?

Xkcd.com
Differences Industry/Academia

• The biggest commonality between researching in academia and industry is that the science remains the same
  – so it helps immensely to arrive at industry with a strong scientific understanding.

• Both offer platforms to develop professionally, but in very different ways.
Responsibilities

**Academia**
- Proposing for Grants
- Publishing papers
- Conducting self-directed research
- Teaching
- Mentoring Students

**Industry**
- Research toward company goals
- Foster customer relationships
- Identify and convert profitable sales opportunities
- Mentoring Staff

Both include a large number of regular meetings but, in industry, most of them won’t be around science.
Flexibility:

• **Academia:**
  - Freedom of when, where and how to work
    - But scientists are known to work more.
  - Freedom to choose the work you are doing.

• **Industry:**
  - Constrained by the needs of the company.
  - Less concern over funding
  - Short term plan, immediate action.
Collaboration:

**Academia**
- Work is collaborative and team-work orientated
- Open to cross-disciplinary discussion
- Sense of autonomy
  - Mostly your choice of whom & when to collaborate

**Industry**
- Working toward a larger, shared goal
- Often non-competitive
- Work often across multiple departments
- Opportunities for training across departments
Work Place Culture / Job Pressures:

**Academia**
- Research & Discovery focus
- Pace is driven by the workers
- Long-term goals & education
- Pressures:
  - Funding
  - Publish or Perish
  - Promote and advocate for your own work

**Industry**
- Applied Science/clinical application
- Fast moving with deadlines
- Business-focused problem solving
- Pressures:
  - Deadline-driven
  - Fast-paced
Individual Impact

Academia
- Individual impact and receive recognition for your work.
- Academics can struggle to have their ideas adopted in practice

Industry
- Single member working on behalf of an organization
- Directly motivated by business goals

“To work in industry, one must be willing to work on a team and share credit. This teamwork aspect can also take off some of the pressure of having to individually achieve results.” Northeastern University Careers
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Industry or Academia?

**Determine your priorities.** Consider what matters most to you. Whether you’re most concerned about salary potential, intellectual freedom, or flexibility.

**Think about how you want to spend your time.** Consider how you actually want to spend your time day-to-day. Think about how you feel about teaching, publishing, managing, interacting, traveling, negotiating, collaborating, presenting, reporting, reviewing, fundraising, etc.

**Know your strengths.** Are you a self-starter who is able to proactively manage your own time? Or do you prefer to work in a more structured, process-oriented environment?

**Factor in your personality.** Do you prefer to work independently, or do you thrive when working alongside others? Are you comfortable with self-promotion, or would you be more comfortable sharing your successes with a team?
Going into Industry is the path of no return.

Not True
Applying for Jobs

Industry
- Resume & Cover Letter
- Group Talk

Academia
- CV, Cover Letter, & Essential Criteria
  - Research Plan

Industry Resume
- Try to make 1-2 pages
- Targeted to the Job
- Only relevant
  - Publications
  - Education
  - Experiences
- Remove Scientific Jargon
- Increased White Space

Academia CV
- Show your diversity in science
- Various methodologies used with correct nomenclature
Applying for Jobs

Nature Article by Kendall Powell “How to sail smoothly from Academia to Industry”

- Industry focuses more collaborative accomplishments than individual accomplishments.
  - Highlight the value you bring to a team effort
- Identify vocational strengths & weaknesses
  - Communication & Management skills
- Ability to adapt and switch between complex tasks
- Companies like you knowing something about them
  - Possibly find a mentor or a person within the industry you are interested to discuss culture and other aspects of the workplace.
Skills That Transfer

- Science!
- Technical Writing
- Presenting ideas/work
- Project Management
- Conflict Management
- Collaborative work/thinking
- Organisation skills – time and work
- Troubleshooting /Out-of-the-box thinking/Critical thinking
- Ability to say “No”