Why am I REALLY here?

• Experience
  – My career path (so far) has been unusual (for a Geophysicist) but highly stimulating and enormously enjoyable.
  – I benefited from numerous mentors and got lots of good advice
    • Pass some of it along
• Concern
  – Young S&Es don’t get very good career development advice.
  – Such advice is of greatest value at the START of your career!
• Prejudice
  – I believe that technically-trained individuals have enormous opportunity to improve the world.

The world outside of academia has evolved...

Old
  Go to school for skills
  Job Security = Good
  Wages = Reward
  Infrastructure = Biggest Asset

New
  Life-long learning
  Risk-taking = Good
  Stock Options = Reward
  IP = Biggest Asset

Seniority (mattered most)
  Guilds (were everywhere)
  Risk Aversion (was the smart thing)
  Passivity (was the safe bet)

Experience (matters most)
  Independents (are everywhere)
  Risk Management (is the smart thing)
  Entrepreneurialism (is the safe bet)

Unfortunately, much of academia reinforces ...the OLD

The need for PhDs to think broadly about themselves is not new...

“Young people themselves don’t realize how valuable they are with a Ph.D. It means an ability to think deeply, solve problems, analyze data, criticize and be criticized. [PhD-trained graduates] often don’t realize the breadth of what they are capable of doing.”

Dr. Neal Lane
(Former Director, National Science Foundation)
“Producing the Finest Scientists for the 21st Century”
Science 4, November 1994 741-743

PhDs possess many of the traits and skills that are of highest value in the “real world”

Transferable skills

1. ability to function in a variety of environments and roles
2. teaching skills: conceptualizing, explaining
3. counseling, interview skills
4. public speaking experience
5. ability to support a position or viewpoint with argumentation and logic
6. ability to conceive and design complex studies and projects
7. ability to implement and manage all phases of complex research projects and to follow them through to completion
8. knowledge of the scientific method to organize and test ideas
9. ability to organize and analyze data, to understand statistics and to generalize from data
10. ability to combine, integrate information from disparate sources
11. ability to evaluate critically
12. ability to investigate, using many different research methodologies
13. ability to problem-solve
14. ability to do advocacy work
15. ability to acknowledge many differing views of reality
16. ability to suspend judgment, to work with ambiguity
17. ability to make the best use of “informed hunches”

Did you know a Science degree teaches you these things?
Personal qualities

1. intelligence, ability to learn quickly
2. ability to make good decisions quickly
3. analytical, inquiring, logical-mindedness
4. ability to work well under pressure and willingness to work hard
5. competitiveness, enjoyment of challenge
6. ability to apply oneself to a variety of tasks simultaneously
7. thorough, organized and efficient
8. good time management skills
9. resourceful, determined and persistent (and able to live on $2K/month!)
10. imaginative, creative
11. cooperative and helpful
12. objective and flexible
13. good listening skills
14. sensitive to different perspectives
15. ability to make other people “feel interesting”

Employers in all fields are looking for people with these traits

20 successful PhDs in non-academic careers were asked ...

“Of the many skills you developed while in graduate school, which ones are the most valuable to you now?”

Finding one’s own path and taking initiative with little assistance
Ability to work in a high-stress environment
Independence
Maturity
Computer skills
Circumventing the rules
Learning to seek out problems and solutions
Ability to persuade
Ability to create
Ability to work productively with difficult people

and my favorite:
The ability and courage to start something even if you don’t know how yet

What image does “PhD” conjure?

The Curse of Being Smart

We have become very highly skilled
We tend to value our skills the most
We can conceptualize
We can conceive of complications
We are used to knowing it all
We fear being the “dummy”
We are intellectually smart
We fail to appreciate other forms of smart
We are used to being exceptional
We don’t like to fail

Match the Person and the Career

Cell Biologist  Science Media Entrepreneur
Chemist  Congressional Staffer
Astrophysicist  Financial Analyst
Biophysicist  Management Consultant
Geologist  Rodeo Star
English  Experimental Physicist
Plant Biologist  Book Editor
Theoretical Chemist  Chancellor of Germany
Geophysicist  Software Entrepreneur
Mathematician  High School Teacher
Electrical Engineer  Secretary of Defense
Medieval History  Programmer

They do have ONE thing in common: They’re SMART ... like YOU!
The 80:10:10 rule

How will you grow and gain new skills if you don’t invest the time?
How will people know of your abilities if you don’t tell them?

“Opportunities are seldom labeled”
- John Shedd

The skills that will REALLY count ...

Leadership
Persuasion
Humor
Tact
Understanding of Risk and Reward
Understanding of Investment and Return
Organization
Sensitivity
Drive
Perspective
Creativity

“Give me ten people who have all of these skills and I could do anything”

Good News: You can LEARN These!

Typical questions asked by PhDs facing an uncertain job market

“How do I get a job in ______?”
“How do I write a resume?”
“What jobs call for my skills?”
“Where is the bathroom? I’m going to be sick!”

Better questions are:
What do I enjoy doing and what am I good at?
What are various career like?
What careers and jobs are a good match to my skills, interests, and values?
Who can I talk to?

Why are these questions better?

• PhDs are preoccupied with matching skills and ignore other important factors in choosing a career
• PhDs lack information and exposure to other career fields
• Career change for grad students can be harder:
  – lack of an established pathway
  – fear/anger of getting a degree “for nothing”
  – ignorance/fear of life in the “real world”

If you don’t like what you do for a living, you probably won’t be very good at it!

Steps in the Career Planning Process

Career development is a continual process
Career development is part of being a professional

Self-Assessment:

- Informal methods
  Initial brainstorming
- Self-guided methods
  Interest Exercises
- Formal methods
  Exams and Tests
  Career counseling

Make your neuroses work for you!
List each of them, write why you consider it a success, and write a paragraph or two detailing the experience, step by step.

- When have I been most unhappy?
- When have I been my happiest at work?
- What do I like to read?
- What are my values?
- What do I enjoy doing most?
- What do I dislike most about my present career?
- What do you like most and least about your present career?
- What are my values?
- What is a strength?
- What is a weakness?
- What do I like most and least about my present career?
- What do you like most and least about your present career?
- What are my values?
- What is a strength?
- What is a weakness?
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- What is a strength?
- What is a weakness?
- What do I like most and least about my present career?
- What do you like most and least about your present career?
- What are my values?
1. **IDPs**
   - Explore how your skills, interests, and values map onto some common PhD career paths
   - Set goals for yourself
   - Keep you and your advisor in sync

2. **Exploring the World of Work**
   1. Keep your eyes and ears open
      - Read the newspaper
      - Talk to people
      - Browse the Web
      - Hear outside speakers
   2. Build your skills base
      - Stay conversant with the latest technologies
      - Attend workshops
      - Take a class or two outside your area
   3. Build your NETWORK

3. **Networking: Essential Career Tool #1**
   **What is networking?**
   
   My definition:
   Networking is developing relationships with people who share your professional and personal interests, and alerting them to your goals and abilities.

4. **Networking: How most people get their jobs**
   **Networking is not:**
   - Tiresome schmoozing for a job
   - Restricted to the slick and superficial

   As a young scientist you have been networking throughout your career, you just probably didn’t realize it!

5. **Who is my Network?**
   Anybody you know and feel comfortable talking to can be part of your Network:
   - Schoolmates
   - Recent graduates
   - Collaborators
   - Friends from High School or College
   - Past bosses and colleagues
   - Family
   - People you meet at seminars, conferences, and workshops
   - Other people who are looking for jobs
   - Anybody they know

6. **Networking: Essential Career Tool #2**
   - **Networking is made from “friends-of-friends”**
   - 70% of your business connections will be made from “friends-of-friends”
Who is my Network?

Anybody you know and feel comfortable talking to can be part of your Network:
- Schoolmates
- Recent graduates
- Collaborators
- Friends from High School or College
- Past bosses and colleagues
- Family
- People you meet at seminars, conferences and workshops
- Other people who are looking for jobs
- and
- Anybody they know

The most valuable in your network are those already established in the career field that interests you and who are willing to give you help.

“The best preparation you can make toward the goal of having an [academic] career is to find yourself a “research aunt or uncle,” someone with little or no authority over you, who has enough experience to act as a sounding board and giver of accurate advice. Do not be shy about getting to know the people outside your advisor’s realm.”

Peter Feibelman, A Ph.D. is NOT Enough!

Your E-persona

- Facebook – for friends
- Linked In – for colleagues and professional friends
- Your/your group’s website
  - Post your papers
  - Post your bio
  - Don’t post your CV
- Vanity Google

You can link to me at Linked In (Peter Fiske – Put Your Science to WORK)
What do you want your image to be?

• What professional face do you want to project?
  – What are the consequences of choosing one part of your professional “façade” over another?
• What would a potential funder think when viewing your profile?
• What would a potential employer think when viewing your profile?
LinkedIn Etiquette

Rules to Link By

• Never Go Generic—when sending invitations, cordially explain the connection and motivation
  – Don't use the automatic “link to everyone in my contacts list”
• Be timely—If you are going to seek a Link—do it within the first 24 hours of meeting the person
• Have a goal in mind
• Establish rules and stick to them
  – Fiske’s rules:
    • Always accept invites from people I have worked with, met in person, spoken to on the phone, had an exchange with on a chat room or LinkedIn Group or students from one of my classes
    • (Almost) always accept invites from people not in the above categories who provide a cordial and clear explanation for why they want to Link
    • (Often) redirect link requests from “personal friends” with whom I have had no professional interaction — to Facebook

How to get a meeting with a busy person

• Be persistent
• Make it easy for them
  – “I will come to your office/home/wherever…”
• Offer them something:
  – “I’d like to have coffee with you and pick your brain… In exchange, I will tell you everything I know about ___”
• Thank them
  – … and follow up a few months later with an update (very sticky!)

Constructing a bio

• 1 paragraph
• 3 paragraphs
• 1 page

Dr. Fiske is a Chief Technology Officer for MPM Technology Inc. and PMI Technologies as well as the FAS for parent company PMI’s RTI in MPM’s role as the top executive for the company. In addition, Fiske has been involved in numerous technical, management, and development projects. He has been the recipient of several major awards and recognitions, including the NASA Space Shuttle Program’s Best Team Award, the National Aeronautics and Space Administration’s Outstanding Technical Achievement Award, and the NASA Space Shuttle Program’s Best Team Award. Fiske’s research interests include the development of advanced materials for aerospace applications, with a focus on the use of advanced manufacturing techniques to create high-performance materials for use in the aerospace industry. Fiske received his Ph.D. in Chemistry from the University of Maryland in 1988 and his B.S. in Chemistry from the University of Colorado in 1985.
Business Cards

- Get a PROFESSIONAL looking card (spend the $)
- Talk to your Departmental Secretary or Campus Bookstore about logo and printing
  - 500 is usually the minimum

Business cards are a professional courtesy – and an indicator of professionalism

Focusing on Specific Opportunities: Becoming an Insider on Every Job

Research your career field of interest as thoroughly as you research your science

Stalk your next job like a big game hunter

Techniques for getting on the inside track:
- Informational Interviewing
- Interning
- Volunteering
- Part-time
- Moonlighting
- Consulting
- Incorporating the outside world in your research

Informational Interviewing

“Going directly to places where you would like to work is six times as effective as mailing out résumés and cover letters.”

Richard Bolles- What Color is Your Parachute

Advantages to Informational Interviewing:
- you are in control
- you can ask sticky questions that wouldn’t be appropriate in a job interview
- you can see people in their actual work environment
- you can get feedback and advice
- you can make sure the work environment is right for you
- you can gain visibility
- you can practice being perfect for when it really counts

Informational Interviewing:

How do I get started?

- Get a point of contact through your network or the career planning and placement center you are using
- contact the person by phone or e-mail, explain that you want to learn more about the career field and that you got their name from ____. They may refuse or say that another person would be more appropriate. If so, contact that person and move forward.
- prepare some of your questions in advance - don’t waste time: a typical informational interview is only 30 minutes. People do NOT enjoy answering questions that could or should have been investigated elsewhere
- questions asked usually pertain to:
  1. Required background and training
  2. Specific information regarding the career
  3. Personal experiences
  4. Advice
  5. Future trends

If you do well the person you talk to may end up being a useful part of your network

Informational Interviewing:

Some final advice

- Treat it like a formal interview for a job:
  - do your homework
  - think carefully about what you want to learn
  - prepare questions
  - act professionally
  - write a thank-you note
- Do not treat it like a formal interview for a job:
  - do not ask for a job, even indirectly
  - do not speak with one person and assume you have the whole story

Why are people willing to be bothered?

- People like to “give back”
- People like talking about themselves
- Finding fresh talent is critical to an organization’s success
- Information transfer is a two-way process they may learn something important from you
The Science of Résumés and CVs

True or False:
The purpose of a résumé is to get you a job
A résumé is a description of all your past achievements and work history
An individual résumé can be sent out to many different employers without alteration
CVs and résumés are basically interchangeable

And now for the answers ....

The answers:
The purpose of a résumé is to get you an INTERVIEW, not a job.
A résumé is a description of those past experiences that are MOST relevant to the position being sought. A resume is as much about where you are going as it is where you have been.
You should adapt your résumé for each specific job opening and you should USE THE WORDS IN THE JOB DESCRIPTION as much as possible.
CVs and résumés are totally different documents and should NOT be used interchangeably. If you are uncertain whether an employer wants a CV or a résumé ASK THEM!

The best resumes...

• The best resumes...
  − Connect clearly with the job being advertised
  − Highlight key accomplishments that are relevant to the position being sought
  − Are cleanly laid out, easy to follow

• The best cover letters...
  − Are engaging, direct and well-written
  − Challenge the reader to rethink their preconceived notions of you
  − Explain the gaps and apparent mismatches

Resume and Cover Letter Advice

On the web:
http://www.nextwave.org
Tooling Up
Past columns:
  How to Write a Winning Résumé
  The Electronic Résumé Revolution
  The Commandments of Cover Letter Creation

On the bookshelf:
The Damn Good Resume Guide by Yana Parker

Don’t give “salary history” or “expected salary”... even when asked!

A methodology for answering questions: STAR

Situation/Task: Describe the situation you encountered. Give the background, and its relation to you.
Action: Describe what YOU did to address the situation or solve the problem.
Result: Describe the result of your actions.

Negotiating an offer

1. Delay the salary negotiations as long as possible - try not to get locked into a salary before you are offered a job
2 Value the offer fully. Consider these other parts of compensation:
  - health care
  - schedule of raises
  - bonus plan
  - commission plan
  - stock option
  - pension plan
  - profit sharing plan
  - employee education/tuition reimbursement
  - stability of company
  - dependent tuition reimbursement
  - paid parking
  - car provided
  - vacation
  - maternity/paternity leave
  - flex time/alternative work schedule
  - anticipated work hours
  - relocation allowance
  - potential for advancement

Get it in Writing!
Can you get the offer raised?

Consider the factors listed below. The more that are true, the greater your flexibility:

- You possess unique abilities
- They have few other candidates for the job
- The search has been going on a long time
- This is a unique position in the organization
- The organization is flexible in general
- You have other offers
- They really need someone soon

In contrast, you will have less flexibility to negotiate salary and benefits if the following are true:

- The job is at an entry level and similar to others in the organization
- The organization is highly structured and rigid
- The organization expects you will take what is offered

Some final advice on interviewing

- Arrive early—give yourself 10-15 minutes to sit and chill out
- Case the joint—if it is in a place you've never been before, swing by the day before just to make sure you know how to get there. The assurance of having been there before will help
- Bring along extra copies of your resume
- Give a good handshake—if you are unclear about what a good handshake is, go try out your handshake on your friends
- Make eye contact—one simple technique for ensuring that you have made good eye contact: make a mental note of the color of your interviewers eyes
- Ask questions—it's better to be clear about the question at the start than go rambling down some tangent
- Be yourself—people tend to do a poor imitation of anything else but

Perceptions and Realities: Overcoming Stereotypes

According to business people, academics are:

- simple minded about money
- impractical about time
- no sense of deadlines
- socially passive
- value ideals as absolutes

Other potential perceptions to overcome:

- hermit vs. leader
- arrogant vs. team player
- rebel vs. organizer
- problem person vs. solution person

Don’t forget your own misconceptions...

Summing it all up: You must be a T-person

Adaptability, Problem-solving, Drive, Leadership

Myths and Realities of the Modern Job Market

Myth 1# Find a job that matches your skills
Myths and Realities of the Modern Job Market

Myth 1# Find a job that matches your skills

Reality #1: SKILLS, VALUES and INTERESTS are all critical aspects of finding a fulfilling career.

“You always end up overvaluing what you know and undervaluing what is out there in plain sight.”
Thomas Friedman – The Lexus and the Olive Tree

Myth #2: Employers care only about technical skills

Reality #2: Employers care about lots of things in addition to skills:
- Personality
- Degree of Fit
- Learning Ability
- Leadership
- Communication Skills
- Persuasion Skills
- Drive

“We hire for attitude and train for skills”
VP for Product Development – Specialty Chemical Manufacturer

Myth #3: You should map out your career trajectory many years into the future

Reality #3: Serendipity, unplanned detours, and “setbacks” are inevitable. The people who can exploit chance opportunities, explore new areas and make the best of setbacks tend to be happier and more successful.

“Five years ago, I would never have predicted that I would end up here!”
Astrophysicist-turned-Financial Analyst

Some final thoughts

Job hunting in the new century involves personal connections, chance encounters, and random opportunities.
The more people you know, the greater your “job cross section.”
Getting a job in academia requires the same job hunting skills and techniques as any job (including getting a job in academia). Thinking about finding a job is stressful, demoralizing and produces anxiety. Actually doing something about finding a job is liberating, empowering and fun.
You can serve science, your community, and your country in many different environments - don’t be afraid to consider a non-traditional career path just because it is unfamiliar to you, your advisor, your department or your family.
**My latest column…**

**COLUMN**

**Ticket to everywhere**

The fossilization of the PhD harms students, employers and science in general, argues Peter Fiske.

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