Networking on the Network:
A Guide to Professional Skills for PhD Students

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This is the version of 14 August 2005. Please send me any comments that might improve future versions, particularly if you have tried putting my advice into practice.

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SECTION 1. Introduction

As a graduate student preparing for a career in research, you have two jobs: (1) do some good research, and (2) build a community around your research topic. These two jobs

may seem to conflict with one another, given that research is generally a solitary activity (or something you do with the local gang in your lab) whereas networking is a social activity, something you largely do away from home. The demands of your thesis committee may seem so immediate and crushing that you let your community-building slide. Or your thesis advisor may be locked into the old patriarchal view that you will succeed professionally because of your thesis committee's contacts and not because of your own effort. I want to offer another view: you are in charge of your career, and the best way that you can *take* charge of your career is to build a community around your research.

This article is an introduction to professional skills for PhD students, and the most important of these skills involve building a professional network. I will proceed as follows. Section 2 provides a simple six-step model of the networking process. Section 3 considers several advanced topics: noticing emerging themes in your area, using consultation to organize things, ensuring that you get proper credit for your contributions, learning to engage professionally with people from different disciplinary and cultural backgrounds, and deciding where to publish your work. Section 4 describes the relationship between your professional network and your dissertation. Both of them pertain to the process of knitting yourself and your work into a set of professional relationships. Section 5 reveals the mysteries of academic language. Section 6 explains how to get an academic job, building on the networking you've done and on the concepts that underlie networking. Section 7 assumes that you have established yourself in the research community and introduces the topic of advising others. Section 8 explains how to get tenure, emphasizing the "deep tenure" that you attain within your research community rather than the details of departmental politics. Section 9 presents several theories of your career. My own theory of your career is called iterative alignment. Its main purpose is to keep you from overgeneralizing when you find yourself in career circumstances that aren't entirely positive. Section 10 presents a more advanced theory of networking, including the process by which research fields become institutionalized. Section 11 then examines the moral issues that the process of leadership can raise. An appendix provides an annotated bibliography of books and articles on the topic of professional networking.

About the title, "Networking on the Network". When I wrote the first version of this article in 1993, the Internet was still big news in most academic departments, and everyone was wondering how to use it. Because I had been using the Internet for fifteen years, I thought it might be useful to write an article for PhD students about how to use the Internet as part of their professional networking. The first version of the article, accordingly, had a section explaining how to network without the Internet, a second section about the various pitfalls of the brand-new Internet medium, and a third section about how to extend the traditional paper and face-to-face version of networking by using e-mail. As time went by, however, two things changed. First, my interactions with students and with helpful people on the Internet caused me to add numerous additional sections to the original article. Most of these new sections presupposed the Internet-based skills that I had outlined, but few of them were otherwise specific to the Internet. And second, the Internet became so familiar in the general culture, and especially the culture

of undergraduate education, that new PhD students no longer needed any instruction in its use. In recent editions of "Networking on the Network", therefore, I have eliminated much of the Internet-specific material. Perhaps someday I will think of a better, more descriptive title for the article. In the meantime, however, the title of this article will have to remain somewhat askew from its contents.

SECTION 2. The Basic Steps

Here, then, are some of the fundamentals of professional networking. They will sound cumbersome and abstract. You'll be able to skip some of the steps as you get established in your field (or if, unlike most of us, you can charm rooms full of strangers in twenty minutes), but if you're starting from zero then the process really is this complicated.

(1) Do some good research.

All of my advice in this article presupposes that you have done some good research and are ready to report about it at professional conferences. There's a sense in which you don't even exist in the profession until you have done some research and written some papers about it that are at least capable of being circulated. And once you do finish that first round of publishable research and write something about it, the substance of your research will very much determine who you should be adding to your network.

(2) Identify some relevant people.

Having done some research, it is time to identify relevant people to network with. "Relevance" here is reckoned in functional terms: given how your particular professional world operates, with whom do you have a mutual interest in making contact? In the world of research, mutual interest is almost always defined through the content of your research: you wish to contact people whose research bears some important relationship to your own. Your network will thus consist, more or less, of the people whose work you cite, at least the ones who are still alive. And when you cite someone's work, you should form the intention of adding him or her to your network. But how do you identify these people? Most of the methods are mundane: asking people with good networks, chance mentions of people in conversation, and the habitual scanning of bibliographies, abstracts, and conference proceedings. Get used to these mundane practices before you explore anything fancier.

Here is a way to think about it. Let us say that your research involves ethnographic study of grade-school teachers' strategies for including computers in their lessons. While you must certainly identify any other people who conduct research on that exact same topic, you should also cast your net more widely. Start by chopping your research interest into pieces; the pieces might be "ethnographic research in classrooms", "research on teachers adopting computers", "strategies for including computers in lessons", "ethnographic research on people adopting computers", "grade-school teachers' work strategies", "new

technology in schools", and so on. Take those pieces to the library and locate the existing literature in each area. This will feel strange at first: if you've only worked with ethnographers, then the non-ethnographic work on your topic will seem foreign; if you've only worked with education people, then the work of business people or sociologists will seem foreign; and if you've only worked with people who study teachers' strategies, then the work on students' strategies will seem foreign. The vocabulary and research agendas may well be different, and it may take some effort to figure out what constitutes good research in a different literature. But find the relevant literature anyway, photocopy it, read it, get your head around its issues and worldview, highlight salient passages, take notes, write full citations in your notebook, and look particularly for the authors whose work you respect and whose values you share.

If this seems like a lot of work, think of it as shopping: the library is a giant department store, and you are shopping for professional colleagues. Accumulate a "long list" of potential colleagues. Study their work and learn from it. Figure out what elements your work has in common with theirs. Then practice explaining your research in a way that puts those elements in the foreground and the other elements in the background. The general formula is "I'm interested in [elements you have in common with the person you're talking to], and to this end I'm studying [elements that you don't have in common with them]". For example, "I'm interested in how teachers adopt computers, and to this end I'm conducting an ethnographic study of some grade-school teachers' strategies for including computers in their lessons", or "I'm doing ethnographic research on people adopting computers, and my fieldwork concerns grade-school teachers ...". Now you are ready to build a community for yourself that includes relevant people from several different research areas. These people will be like spokes in a wheel, of which you are the hub.

In working through this exercise, you are already encountering two fundamental principles of professional social life, both of which will recur throughout this article. The first one was already well-known in classical rhetoric, and I will call it "articulating commonalities". The point here is to develop relationships with people. And relationships are founded on commonalities. These commonalities might include shared values, shared research topics, shared goals, or anything else of a professional nature that you might share with someone. To articulate a commonality means formulating language for it. This will not always be easy. Because the people whose work you cite will often inhabit worldviews quite dissimilar from your own, you may have to draw on the full resources of language in order to identify the large, irregularly shaped patches of ground that you share in common. The recipe that I just provided for sorting elements of your work into foreground and background is one simple method of doing this, and you will develop other, more advanced methods as you go along. Think of yourself as growing and evolving a distinct language for every one of your professional relationships. Having done this, you can then proceed to explore differences, disagreements, debates, and other stimuli to clear thinking. Many people avoid conflict because they want to preserve relationships. As a result, they become unable to assert their opinions and their distinctive intellectual contibutions in public, professional fora. And indeed, disagreements that are conducted outside a framework of articulated commonalities are most often confused,

destructive, and a waste of time. Lacking such a framework, the combatants will lapse into projection, stereotyping, sloppy thinking, and other such junk. The principle of articulating commonalities is the secret to getting along with people.

The second principle of professional life that you are encountering here is a concept from sociology called "structural holes". (See Ronald Burt, Structural Holes: The Social Structure of Competition, Harvard University Press, 1995.) A structural hole, intuitively speaking, is a bunch of people who don't know each other but ought to. Your research topic almost certainly defines a structural hole, and you occupy that hole precisely by building relationships with all of the people whose research is related to your topic in several different directions. The different directions are crucial: you want relationships with people from diverse communities. The intuition, again, is that these people ought to know one another, and you will be providing a public service by serving as the go-between. You will not know in advance just how you will interconnect these people. Perhaps they should all gather for a meeting. Perhaps some of them have useful ideas that could be used in the others' research. Perhaps several of them have useful ideas that can be combined to improve your own research. The more diverse people you build relationships with, the more of these unpredictable opportunities will arise, both for your own benefit and for theirs. Occupying a structural hole also alleviates the fear that derives from putting all of your eggs in one basket. If your contacts in one community somehow fail to appreciate the importance of your work, then you will still have contacts in several other communities who remain uncontaminated by the views of the doubters.

I am taking a strong stand here about the nature of networking, so let me explain the point another way. Many students ask themselves, "which network should I join?", and they worry that they will make the wrong choice. After all, your social network defines your career in a profound way, and if you choose an unfriendly network then you can make your life miserable. But this is the wrong way to think about it. You are not choosing which network to join; rather, you are creating a new network of your own. Your network is made out of individuals -- the individuals whose research and outlook are related to your own. These individuals' own networks will overlap to some extent, but they will not be identical. Most of them will attend several different conferences, publish in several different journals, and so on. You should do the same. Don't spread yourself too thin by trying to cultivate everyone who could possibly be relevant. But don't confine yourself to existing boundaries either.

Those, then, are the basic methods of identifying people to include in your professional network. How can you build on them using the Internet? To begin with, the most fundamental way of finding people online is to help them find you. This starts with your home page. Your home page is a projection of your professional persona -- a way for people to know who you are as a member of the profession. If you have had a past life in a professional field, then you instinctively understand the point: your fate depends on how people perceive you, and so it matters what image of yourself you project. Your home page should include four things:

* complete contact information (paper mail and e-mail addresses, work phone and fax numbers, that sort of thing),

* links to organizations you are associated with (your department, laboratory, project, professional associations, events that you are involved in organizing, classes you teach, etc),

* full citations to all of the publications you want people to know about (these should ideally be linked to complete text for all of those publications), and

* links to other Web-based facilities that you maintain, for example a page of links to resources that are relevant to your research topic.

It is especially important to put your publications on your Web site. This can be difficult, given that publishers generally ask you to sign over your copyrights. But even when this happens, you can still amend the copyright form with a marginal phrase like "I retain the right to post the paper on my Web site". The publisher may grouch at you or say no, but it's worth a try -- vastly more people will read your work online than in the dusty pages of a journal. The best situation is when you publish in a journal (or conference proceedings) that is itself online. In that case you can link from your home page to the official version of the publication, and the official version of the publication can include a link back to your home page. In general, the more you spread around links to your home page, e.g., by always including your URL in your bio when you write magazine articles and the like, and by including it in all of your messages to discussion groups and the like, the more it will help you to connect with others.

Unless you know what you're doing, I do not recommend including personal information on your professional Web page. If you do want to maintain a personal home page for your friends and family, or if you want to post your baby pictures and jokes and links to TV show fan pages, get an ISP account and create a completely separate home page for that purpose. I also do not recommend putting goofy stuff on your professional home page. Your professional home page need not be dour and pompous, but it should not be frivolous either. Humor is okay, but professional humor. It's a fine line.

Having made yourself visible on the Web, you can also use the Web to search for people whose work is relevant to your own. Web searching certainly does not replace library work. But the library and Web sort the world in very different ways, and you can accomplish a great deal by moving back and forth between them. Look for specialized online resources that are specific to your field, directories of research project in your field that people might have built on the Web, and the home pages of relevant university departments and other research institutions. Hunt through them, and notice how badly designed most people's home pages are for your purposes. When you do find useful materials, such as online research papers, be sure to capture URL's and citations for future reference. You might even consider creating your own Web page with links to those resources, thus saving both yourself and other people the trouble of searching for them again.

You can also use online discussion groups to find people, but you should do so cautiously. If someone in a discussion impresses you, don't approach them right away. (It's obviously okay to answer routine functional requests on the order of, "does anyone know ...?", provided you simply answer the request and leave the networking for later.) Instead, head back to the library catalog and periodical indexes (which are probably on-line anyway), look the person up, read a sample of what they've written (especially any books they might have published -- at least skim them), and proceed with the next step. Then use standard Web search tools to locate this person's home page, which might include some citations or even complete papers. Only if you cannot find any relevant publications should you consider sending the person a concise note saying, "what you said about XXX is interesting to me because of YYY; if you have an article on the subject ready to distribute then I'd much appreciate a copy".

Or, having listened in on a discussion group for a while and observed its customs and conventions, you might consider contributing something yourself. Don't just react or chat. Instead, write an intelligent, self-respecting, unshowy, low-key, less-than-one-page message that makes a single, clearly stated point about a topic that's relevant to both their interests and your own, preferably but not necessarily as a contribution to an ongoing discussion. Since your message might be read by people all over the world, avoid any slang or jokes which might not travel well. Sit on this message overnight to make sure you're not just reacting to something or repeating a familiar point that happens to make people in your community feel good. If you're feeling uneasy or compulsive about it then just throw it out and wait for another day, or get comments from someone whose judgement you trust.

Having thus refined your message, contribute it to the discussion group and see what happens. If nothing happens, don't be too concerned. Part of having a public voice is that your audience isn't always directly visible; you won't always get the same kind of immediate feedback that you get in a one-to-one, face-to-face interaction. So resist the urge to agitate until you get a visible response. If your message happens to start a discussion then listen respectfully, constructively acknowledge all halfway worthwhile responses, and be sure you're not just reacting to things. This process might flush out some people worth adding to your network. Or it might not. In any case it will get your name out and will establish your reputation as an intelligent and thoughtful person. Remember: don't bother doing any of this until you've written up some work and are ready to actually start building your network.

One thing that does not work, in my experience, is broadcasting a message to half the world saying, "I'm looking for people who are working on such-and-such", or "I've written papers about X and anyone would be welcome to read them". I don't know why exactly, but such broadcasts either don't reach the most worthwhile people, or the most worthwhile people are too busy to answer them. Whenever possible, then, approach people as individuals. What you *can* do, aside from publishing your work and giving talks at conferences, is to send messages individually to small numbers of people saying, "Can I ask your help? I'm trying to locate people who are working on such-and-such. I've tried the obvious sources in journals and indexes, but without much luck. Any leads you

can offer would be much appreciated." Only do this if you have a specific purpose in mind for finding such people, such as organizing a workshop or other professional activity.

(3) Write to these people individually.

The right way to start a professional relationships with someone whose work is relevant to your own is not entirely obvious. Unless you are already well known in the person's field, you should *not* simply approach them and say, "hey, I hear you're interested in ...". The reason for this is profound, viz, whereas ordinary social life calls on you to simply be yourself, professional life calls on you to construct and maintain a complex professional persona that is composed largely of your research, writing, and professional activities.

Therefore, in approaching possible professional contacts, you should let your research articles be your emissaries. (If you haven't written anything yet, let your networking wait until you have. Unpublished articles, conference papers, and research reports are all okay. In writing your first articles, you will want to lean heavily on your local system of advisors, mentors, and peers; the skills involved in this process are a subject for another time.)

Here is the procedure: (a) choose someone you wish to approach and read their work with some care; (b) make sure that your article cites their work in some substantial way (in addition to all your other citations); (c) mail the person a copy of your article; and (d) include a low-key, one-page cover letter that says something intelligent about their work. If your work and theirs could be seen to overlap, include a concise statement of the relationship you see between them. The tone of this letter counts. Project ordinary, calm self-confidence. Refrain from praising or fawning or self-deprecation or cuteness or making a big deal out of it -- you're not subordinating yourself to this person; you're just passing along your paper. Don't sound like you're presupposing or demanding that you'll get a response. Try a formula such as, "If you should happen to have any comments, I would be most interested to hear them". A good final sentiment for your letter is, "Will you be at such-and-such conference?".

Don't drop dead if you don't get a response right away. Anybody who isn't egotistical will appreciate your taking the trouble to write them. Most people are thrilled to learn that someone understands what they're saying. If they don't reply, that's regrettable but it just means they're busy. The deep principle is that network-building takes time. It's a long-term investment. You have to get your name out there. Keep taking the actions that I am describing, and trust that your community will come together when it needs to. The lack of an immediate response does not mean that nothing was accomplished, and you should not read any meaning into it.

In some countries, custom places great emphasis on "being introduced" to someone. That is, if you wish to meet with person X, you must first convince a professional peer of X, let us say Y, to formally introduce you at some professional gathering, or at least write you some kind of letter of introduction. While this procedure is harmless enough in itself

as a substitute for the kind of letter I described above (provided that you have written a relevant paper along the lines I also described above), I think it is most unfortunate when customs actually *require* introductions. The effect is to reproduce social inequalities by making it difficult for anybody new to break into the existing circle of professional contacts. The procedure I advocate may sound embarrassingly American, but it is also relatively egalitarian.

A few comments about the paper itself.

Make sure you include full contact information on the front page. That includes your mailing address, phone number, e-mail address, and home page URL. Be sure to mark the paper as a "draft" unless it has been formally published, and put a date on it to distinguish different versions.

Double-check all of your quotations from other people's work. It is remarkably easy to get them wrong.

Write a good abstract. A bad abstract just announces a question ("topic X is important and I will say something about it"), but a good abstract also answers the question by clearly stating the substance of your new idea or discovery. You may resist putting the bottom line of your paper right there in the abstract; it feels like you're making the paper redundant. But don't worry; it only feels that way because you know how the conclusion is arrived at.

Do not use citations as a form of flattery. This sort of thing fools nobody. Instead, think of a research paper as a kind of open letter, with the people you cite included among its addressees. The research literature is a conversation, and your paper is a way of starting new conversations with people in your area. When in doubt, get advice.

In the old days, the article and letter you sent to approach someone were both printed on paper. Should you use electronic mail instead? I actually recommend using paper. At least you shouldn't use electronic media just because they're modern. For one thing, paper is much easier to flip through quickly or to read on the subway. It's also much easier to write comments on. Use your judgement. If you do decide to employ electronic mail for this purpose, use just as much care as you would on paper. Remember that first impressions count. And don't try to use e-mail for the get-to-know-you type of chatting that should logically follow at this point. Instead ...

(4) Meet each person face-to-face at a professional meeting.

Research people normally go to great lengths to attend conferences and other professional meetings, and computer networks are unlikely to change this. So submit papers to conferences. Once you're at a conference, by all means attend the talks that interest you. But spend most of your time tracking particular people down and talking to them. If your target is scheduled to speak, attend the talk, take notes, brainstorm low-key questions and conversation topics, and then introduce yourself as the crowd is breaking up, or in the

break or reception time afterward. The person's talk will provide conversation topics, and most people are more relaxed after their talk is over anyway. You shouldn't introduce yourself out of the blue by saying, "I wrote you a letter, remember?", but you can gently refresh their memory a moment or two into the discussion. Unless you really know what you're doing, you should keep the conversation to safe, professional topics. Ask questions about their work that you genuinely want answered. Ask them about the people they work with. Figure out who you know (that is, professionally) in common. Say things like, "I hear that your school has started a new such-and-such program; is that something you were involved in?", or "So-and-so from your group joined our faculty recently; nice person, interesting work". If other people, projects, or laboratories come up in the conversation, say whatever positive things you honestly have to say about them -- avoid criticism and negativity.

The most important project, once the discussion turns to matters of professional and intellectual substance, is the articulation of shared values, for example, "we both believe in using research to change the world", or "we both believe in using both qualitative and quantitative methods judiciously, without any a priori bias against either". Shared values make for stronger professional bonds than shared ideas or shared interests alone. Don't rush into this, but do keep the conversation focused on the concrete professional topics that will provide raw materials for it. On the other hand, if the conversation doesn't seem to be going anywhere, that's not your fault. Don't force it. Don't set enormous expectations for a single conversation. It's a long-term process. Just say "nice chatting with you" in a pleasant way and let it go. If the interaction went well, you can end the conversation by saying, "do you have a business card?" in a mildly enthusiastic way (assuming you have one yourself); if they don't have a card then shrug and let it go. If the interaction leaves you feeling bad, go get some fresh air, acknowledge the feelings, and be nice to yourself. Talk it out with someone if you need to. Then carry on.

If the person you wish to approach is significantly more powerful than you then the prospect of conversing with him or her will probably make you uneasy. That's okay. Concentrate on meeting people who intimidate you less and your courage will grow. Your single most important audience is actually not the power-holders of your field anyway, but rather the best people of your own professional cohort, especially other graduate students and others who are a few years further along than you. These people share your situation and will usually be happy to talk to you.

I believe, notwithstanding all the talk about "virtual reality" and "electronic communities", that electronic communication does not make face-to-face interaction obsolete. Instead, as I said at the outset, you should think of e-mail and face-to-face interaction as part of a larger ecology of communication media, each with its own role to play. In particular, you do not really have a professional relationship with someone until you have spoken with them face-to-face at length.

Having said that, the availability of e-mail will nonetheless bring subtle changes to the ecology of communication in your field. This is particularly true with regard to the telephone, whose uses change considerably in e-mail-intensive communities -- so much

so, in fact, that many people nearly stop using the phone altogether (or never learn how) and try to use e-mail for unsuitable purposes like asking discussion groups for information that could have been gotten more easily through resources listed in the front of the phone book. (It's amazing what you can accomplish over the telephone once you learn how. And long-distance really is not that expensive unless you're planning to settle in for a long chat, which you usually are not.) But the role of face-to-face interaction will change as well, particularly since many kinds of routine work can be conducted almost as easily at a distance electronically as in formal meetings face-to-face. Electronic communication might even allow face-to-face interaction to shift its balance from its practical to its ritual functions. In any case, the general lesson is to pay attention to the relationships among media so you can use the right tool for each job.

One more note: when you go to a professional meeting, take a minute to flip through your e-mail correspondence and make a list (ideally on paper) of all the people you've "met" on-line who might attend the conference. Right before the meeting begins, recite all of the names out loud to yourself so they'll be on the tip of your tongue. Few things are more embarrassing than drawing a blank when someone at a conference approaches you and tries to pick up a conversation begun on e-mail.

(5) Exchange drafts.

Having made initial contacts with people, I'm afraid that the next step depends on the hierarchy. If someone is much more senior than you, your goal is simply to get on their radar screen -- one chat per year is plenty. (That's mostly because they already have a full network and have begun to reckon relevance differently from you.) If someone you have met is more or less equal to you in the hierarchy, and if they still strike you as relevant, worthwhile, and trustworthy, it will probably be time to exchange pre-publication drafts of new articles. Again, keep it low-key: pass along a draft that you're ready to circulate and invite "any comments you might have". (Make sure you've run your draft through a spelling checker first.)

Upon receiving such a draft yourself, take the trouble to write out a set of comments on it. Make sure your comments are intelligent, thoughtful, constructive, and useful. And legible. Good comments include "so-and-so's work might be relevant here because ...", "I can imagine a so-and-so arguing that you're wrong here because ...", "I didn't understand what you meant by such-and-such; do you mean X, or Y, or what?", "a possible counterexample here is ...", "another question that might be interesting to discuss here is ...", "you could take this analysis even further by talking about ...", "this point could probably use more explanation because ...", "I found the transition here to be jarring", "would it be correct to say that you're arguing that ...?".

If you are uncomfortable writing critical comments, frame them with positive comments ("this is obviously an important topic and you've made some valuable observations"), develop a lexicon of hedges ("I'm not clear on ...", "maybe"), emphasize what's possible instead of what's wrong ("maybe you can build on this by ...", "perhaps you can further clarify this by ..."), own your feelings and judgements ("my sense is that ...", "I had

trouble with ...", "I couldn't figure out whether you meant X or Y", "I'm worried about the assumption that ...", "I think I disagree with this argument because ..."), emphasize the audience ("I'm concerned that this particular audience will perceive this as ...", "I think these readers might interpret you as saying ..."), turn shortcomings into opportunities ("a topic for future research here might be ..."), and keep to specifics ("how does this step follow?" as opposed to "woolly and vague"). These rhetorical devices may seem baroque at first; their purpose is to let you express yourself honestly without fear of giving offense. Indeed, once you get used to these devices you may realize that you've spent your whole professional life saying what you think you're supposed to say instead of asking yourself what you really think and feel. The point, of course, is not to use the precise words I'm offering, but rather to find words that work for you while serving the same general purpose.

Most of your comments will respond to local issues in the author's paper. When you get done with these local comments, but while the issues are still fresh in your mind, it's good to take a step back. Ask yourself, "what is the outstanding paper that's in here trying to get out?". Then explain to the author what this outstanding paper is like, without of course implying that the paper isn't already outstanding. On a more mundane level, you might take a moment to think of relevant references that the author hasn't cited.

When you get someone else's comments on your draft, you should take them seriously without regarding them as nonnegotiable demands. When they suggest that you change something, distinguish clearly in your mind between the problem the commenter was having and the solution they suggested. If they saw a problem (grammar, logic, fogginess, etc) then a problem probably does exist and you should probably fix it in some way. But their particular solution might not be the best one, and you should not feel bound to adopt it. In fact, the most common error in using such comments is to follow them superficially, making the changes that entail the least possible effort, without honestly asking yourself what the underlying problem (if any) might be. For example, it will sometimes be clear that the reader misunderstood something you wrote. Their misconstrual will usually be offensively absurd, and you may feel frustrated. The solution to this problem is not to send the commenter a message to set them straight, but rather to figure out how a reasonable person, operating from a particular background of assumptions, might misconstrue what you wrote in that way -- and revise accordingly. Such misunderstandings will naturally happen in moderately large numbers as you're first tuning in to a given audience, and your whole language and ways of explaining things might evolve a great deal as you learn to anticipate and avoid them. In general, when you're revising a paper based on readers' comments, try to formulate particular rules or themes or slogans to define an agenda for improving your writing. Identifying such an agenda will make you more aware of potential problems in the future, as well as motivating you to take some action about them, for example by rereading Strunk and White's "Elements of Style" or Claire Kehrwald Cook's fabulous and little-known copyediting book "Line by Line" one more time.

The ritual of meeting people and exchanging drafts is tremendously important. It's a shame, therefore, that nobody ever seems to teach you how it's done. When in doubt, ask

for help. And if somebody comments a draft for you, thank them, include them in the paper's acknowledgements, and be willing to reciprocate. (You don't need to make an explicit offer of reciprocation, though, any more than you need to express your willingness to pass the salt -- it's understood.) Doing so will cement a long-term professional relationship -- a new member of your network. What is more, having thoughtfully reflected on others' comments on your work will help you to internalize their voices. That way, their voices will keep on talking to you during later projects. You will be smarter as a result, and you will have a clearer and more realistic sense of who your audience is and how they will react to your writing.

Once again, you should decide whether to use paper or electronic mail to exchange comments on drafts of articles. I recommend using electronic mail. Read the paper once with a red pen, marking small items and writing two-word marginal comments -- just enough to remind you of your thoughts an hour later. Having marked the superficial problems, you may need to read the draft again with more weighty questions in mind. Again, simple comments in the margin will suffice. Then, right away, before your thoughts fade, sit down at a computer and type in a long e-mail message with all of the thoughts that your two-word comments call back to mind. Just keep typing until you run out of red markings to explicate. You will be amazed at how much useful material you can generate in a short time. Once you are finished, toss the author's draft in the recycling bin. The author will miss out on some of your detailed copyediting, but you don't want to take the risk that the author will misunderstand the cryptic comments you wrote in the margin. If you do decide to paper-mail the marked-up draft to the author, put your name and phone number on it so they can keep track of whose comments were whose.

(6) Follow up.

Keep coming up with simple ways to be useful to the people in your network. A few times a year is plenty. Pass things along to them. Mention their work to other people. Plug them in your talks. Include them in things. Get your department or laboratory to invite them to speak. Put them up when they come to town. Write reviews of their books. And invent other helpful things to do. None of this is mandatory, of course, but it helps. And I can't repeat this often enough: keep it low-key. Never, ever pressure anybody into anything. Don't say "please" or "I know you must be very busy", which can sound like emotional manipulation. Don't heap so much unsolicited help on someone that they feel crowded or obligated. Don't complain. Don't approach the whole business as a matter of supplication and begging, but rather as ordinary cooperation among equals. Likewise, make sure you're exchanging these favors out of courtesy and respect, and not as phony politicking -- everyone hates that stuff. Build relationships with personal friends outside of work so you won't be unconsciously trying to get professional contacts to play roles in your personal life (for example, the role of sounding board for your troubles). If you don't hear from someone for a while, let it ride. If you feel yourself getting obsessive about the process, go talk it out with someone you regard as wise.

Following up with people is one area where e-mail makes a qualitative difference. Once you've established a professional relationship with someone, e-mail provides a

convenient way to maintain a steady, low-key background of useful two-way interactions. You might wish to forward things to people (abstracts, interesting messages, conference announcements, press releases, book reviews, whatever) depending on their interests. Or you might wish to recommend their papers (in a low-key way, with a concise summary and a complete citation, and only if you really mean it) to e-mail discussion groups. Don't overdo it, and pay attention to whether the gesture is being reciprocated.

After a (long) while you might consider building an electronic mailing list of people who share your interests and would like to get interesting stuff forwarded to them routinely -- including, of course, your own abstracts and shorter papers. Never add anybody to such a list (or any list) without asking them, and never pressure them or make a big deal out of it. (And make it a real mailing list, run on an automatic server that lets people subscribe and unsubscribe automatically, rather than a long list of addresses that you send a message to. If you do have to send mail to a large number of people at once, be sure to put their addresses in a Bcc: field, not in the To: field where everyone will have to look at them.)

E-mail is also obviously useful for a wide variety of other purposes, for example scheduling and organizing professional events. Make sure that some purpose is actually being served; don't engage in professional e-mail correspondence simply for the sake of it.

SECTION 3. Building a Professional Identity

So far I have been talking about networking at the one-to-one level. That's where it starts. But the research community is a public place, and as you become established in your field, publishing in journals and speaking at conferences, you will also develop an identity. This section describes some of the basics of building such an identity. I call it a professional identity because its workings are governed by the tacit rules of the research profession.

Socializing at conferences

Sooner or later (hopefully sooner), you will start attending research conferences in your field. Section 2 has already discussed the techniques for approaching someone at a conference that you have already written to. This section offers more suggestions for getting the most from a conference.

First, though, let me explain what a conference is. Almost any professional field will have one or more annual meetings, typically three or four days in length, sponsored either by a professional association or by an organization created specifically to host that particular conference. Most such meetings are held in a different city each year, although some smaller meetings are held in specific appealing places (e.g., Hawaii in January). In

recent years many conferences have started gesturing toward globalization by (for example) rotating between the United States and Europe. Most conferences, especially larger ones, are held in expensive downtown convention hotels, for the simple reason that such hotels are the only places where large numbers of out-of-towners can sleep. At first it might seem like a scam that everyone in your field gets to travel to a different interesting city every year for a conference. You'll stop thinking that way, though, once you have been to a few dozen conferences and gotten sick of traveling. People's home institutions are spread out, they have to meet somewhere, and so they might as well meet someplace reasonably nice, hopefully with good airline connections. They'll be spending most of their time in homogenized airports and hotels anyway, so it's not like a trip to a resort.

The fundamental purpose of professional conferences is networking. Everyone in your field has a professional network, just like you. They built their networks the same way you are, and they attend conferences to keep their networks in working order. In the old days, before the Internet, conferences were also occasions when committees would meet, for example to edit journals or plan future conferences. That does still happen to a degree, but e-mail and the Web have moved most such logistical matters online, leaving the more ceremonial functions to face-to-face conference interactions. Conferences are also occasions to publicize your work, although that function can hardly be dissociated from networking, and they are places for the job market. Some conferences have evolved rituals for interviewing job candidates in hotel rooms; others simply provide hunting grounds for advanced graduate students to network with senior scholars whose departments are likely to be hiring. For all of these reasons, you should attend conferences, and take them seriously as professional occasions, as soon as you have research that's ready to report.

Although each field has its own practices, as a broad generalization conferences accept papers in two different ways: either you submit your paper (or perhaps an abstract) as an individual, or else you join a coherent "panel" of papers that are submitted to the conference as a group. In either case the program committee somehow decides which papers get accepted. You should find out which practices obtain at the conferences you hope to attend, and plan accordingly. If the conference only accepts panel proposals, it would not be excessively presumptuous of you to start organizing a panel yourself. You might discover that the people you approach are already putting panels together, in which case they might (or might not) include you in their planning. This process can get a little bit clumsy, but don't worry about it.

If the conference takes individual paper submissions, then you should seek detailed advice about the politics of the process. For example, some conferences require you to provide a few keywords on the title page so that the program committee can route your paper to the most suitable referees. Obviously you want to include the keywords that get your paper routed to the referees who are most likely to appreciate your work's virtues, and only your faculty advisors can tell you what those keywords are likely to be. (You should find out whether the conference is formally refereed, meaning that the program committee recruits people to actually write comments on each paper, accepting some and

rejecting others. Formally refereed conference papers are more valuable in career terms than papers that were handled more informally.) Papers that are accepted individually will usually then be grouped into panels by the program committee, so that the program will list your paper alongside a few other people's, and responsibility for convening the panel will be assigned to a panel chair, most likely a regular conference attendee whom the program committee has drafted for the job.

Some conferences distinguish between papers and posters. A paper is something that you present in front of an audience, at a set time, with a microphone and audio-visual aids. Posters, on the other hand, are grouped into one big room. You'll be given a bulletin board of a set size, and you'll be asked to prepare a poster that can be tacked up on the board. Conference attendees will be able to browse through the posters, and certain times will be advertised when poster authors are asked to be available alongside their posters to chat with passers-by. A poster is a lower-status form of presentation than a talk, but no stigma attaches to it, and you shouldn't be embarrassed to prepare a poster. Once you get over the feeling that you're a salesperson waiting on customers in a shop, it can be a more relaxed way to talk to people individually than the crush after a panel is over. If you do prepare a poster, take the time to do it right, with appealing and legible graphics.

Conferences cost money. Most conferences have discounted student rates, which you might even be able to afford. Many conferences offer free registration for students who are willing to engage in menial jobs such as staffing the registration desk, and you should go ahead and accept such deals unless it offends your pride. There might be a Web page for students looking for other students to share hotel rooms with, or perhaps you can establish such a page yourself. If you are getting ready to go on the job market then you should guilt-trip your thesis advisor into paying your airfare to the conference, or at least make sure to write travel money into the relevant grant proposal well ahead of time.

Here, finally, is the promised advice for socializing at conferences, partly adapted from notes by Dan Ryan.

Many conferences are preceded by smaller one- or two-day workshops; these events will usually provide a more focused and comfortable occasion for mixing with people than the larger conference. It is much easier to approach someone at random during such an event, something that tends to work poorly in a crowded conference setting.

Stay in the main conference hotel if at all possible; when you check in, locate the fitness center, if any, and the nearest good breakfast place. Study the conference schedule to determine which talks you'll be attending, and find out in advance where the meeting rooms are. You'll be happier if you don't look lost. Go find the room where you will be speaking and check it out. Find a moment when nobody is using the room, stand at the speaker's podium, and get used to the energy.

Once the event gets rolling, act like a host. Introduce people to one another, include them in things, and notice when they are feeling bad or being oppressed. Hunt for the person who is chairing the panel that you are speaking on.

When your talk comes, keep it simple. Practice your talk several times in realistic conditions before traveling to the conference, so you can be confident of doing well when the time comes.

If you aren't accustomed to speaking with a microphone, take a moment to do it right. If the room has an audio technician, ask if you can get a cordless lapel mike, which is much less constraining than a mike that is mounted on a podium. Refuse to use a headset or a hand-held mike, which are only for experienced performers. If you must use a podium mike, you can avoid looking like a fool by stopping briefly to familiarize yourself with its on-off button. If you are the first speaker in a session to use the mike, check the sound level ("can you hear me?") before you launch into your talk. If you are seated at a table with the mike on a stand in front of you, resist the temptation to press your mouth right up against it. You don't want the mike directly in front of your mouth, since the wind from your sibilants (s-sounds) and plosives (p-sounds) will make a roaring sound in the speakers. Sound travels in all directions, not just straight out of your mouth, so put the microphone just below your mouth. That will also help people to see your face. If you have problems with the microphone, don't be shy about stopping to get help. It happens all the time.

The chair of your session should tell you in advance how long to speak for. If not then ask. Try to finish on time. But if your talk runs more than a minute over your allotted time, suppress the overwhelming urge to race through the rest of it at 100mph. Don't be one of those people who says "in conclusion" but keeps on talking. Instead, just give up. Shrug and say, "oops, well, I've gone over time so I'll just stop here; I have the full paper here if anyone wants it", and then briefly remind everyone what your bottom-line conclusion is. Everyone will be impressed at your poise.

After all the panel members' talks are over, a question period typically follows, with audience members specifying which speakers their questions are addressed to. Don't worry if you aren't asked any questions; questioners are often drawn to the most provocative comments, and provocation doesn't imply quality. If you are asked a question, resist the temptation to launch into a long speech that explains all of your intricate thinking from the beginning. If the question has a short, conclusory answer (such as "yes" or "no"), say the short answer first. Having said the short answer, you might find that the long answer becomes shorter as well.

When your panel is over, hang around for a few minutes in case anybody wants to chat. Bring business cards to exchange (but, as the speaker, don't offer anyone a card unless they offer a card to you). Affect a calm, low-key demeanor and ask them, with genuine interest, "are you working in this area as well?". When you're done, go get some fresh air.

Relax. Take care of yourself. Breathe. Drink water. Buy a book. Don't drink coffee. Don't eat junk food. Rarely pass up an opportunity to go out with a group to eat. If you run out of things to do, go figure out who the smartest people at the conference are, especially the more human and less established ones, so you can start promoting their work.

If you have a laptop computer, consider typing in a straightforward narrative account of the ideas presented at the conference; after the conference is done, you can help others by editing this narrative for clarity and sending it to a mailing list of people in your field. This is a low-effort way to help the community and get your name out.

Start imagining yourself into the role of conference organizer by consciously noting aspects of the conference that are especially well- or poorly-organized.

Some technically advanced conferences have created Web-based systems for helping attendees connect with each other and schedule their time before the meeting even begins; advocate that such a system be built for any conference that you might be involved in organizing.

The most basic skill for attending conferences is talking to other researchers about your work. They will ask you, "What do you work on?", and you need to be able to answer this question any time, to anyone, at any length. This is amazingly hard, and you may end up kicking yourself at your stammering non-answers. That's fine; it's part of the process. You should rehearse answers to this question before attending conferences. Your local research group may not be helpful; since they already know what you're working and share all of your assumptions, you rarely need to explain yourself at a basic level to them. Try practicing ten-second explanations, one-minute explanations, five-minute explanations, and so on, up to a full-length talk.

The hardest part is tailoring your explanation to your audience, and this is an area where you should invest sustained, structured effort. Do you remember when you were in the library, identifying researchers whose work was related to yours in various directions? This is similar. Try to avoid explaining your work to a complete stranger. Instead, get them to talk first. And while they are talking, work to articulate specific elements that your respective research interests share in common. (By the way, the phrase "I am interested in ..." actually means "I am conducting research on ...".) Perhaps you both employ qualitative research methods. Perhaps you are both doing comparative work. Perhaps you both have a political agenda, even if maybe not the same one. Perhaps you are both studying the history of a certain region, or a certain century, or a certain industry, even if other elements of your research topics are different. Perhaps you are both aiming your work at industrial applications. With practice, you will begin to spot the commonalities at a greater distance.

Once you have identified the commonalities between your two projects, fashion an explanation of your own project that puts the common elements in the foreground and leaves the other elements in the background. For example, if you are using economic theories to study the Mongolians, and the other person is using cultural theories to study the Mongolians, put the Mongolians in the foreground; explain what sources of evidence you're using, what particular people and places you're looking at, and so on, and then mention along the way that you're using some economic ideas to look at those things. On the other hand, if you are using economic theories to study the Mongolians, and the other person is using economic theories to study the Japanese, put the economic theories in the

foreground. Explain what theoretical authors you are drawing on, what methods you are using, what big economic questions you're hoping to help answer, and so on, and then mention along the way that your case study happens to be drawn from the Mongolians.

This strategy of foregrounding shared elements might seem weird at first; it might even seem manipulative or phony, as if there were one single authentic answer to the question "What are you working on?" and all the other answers are artificial. But that's not how it works. The answers that you construct for people from unfamiliar backgrounds will certainly feel unfamiliar. But if they are honest representations of your work then they are good, informative, relationship-building answers. Once you get some practice consciously constructing explanations of your work for many sorts of people, you will begin adjusting your explanations automatically, and the sense of weirdness and fakeness will dissipate.

If you have a hard time traveling to face-to-face meetings

The Internet helps people at far-flung or ill-funded universities to keep their hand in the research world. Here are some guidelines:

* Follow the basic six-step outline I described above, more or less omitting the steps that involve face-to-face contact. This is better than trying to undertake those steps using e-mail, since e-mail really is not very good at some things.

* Correspond. Spend lots of time writing intelligent, thoughtful letters to people about their manuscripts and papers, along the lines I've described.

* Translate. If the major language of your country is not English, but you are corresponding with authors who *do* write in English, consider translating short papers that provide introductions to their work. This is a good way to build professional relationships, as well as bridges between different intellectual cultures.

* Publish. And then make it a priority to get reprints into the hands of people who might be interested in them. If postage is a problem, make a postscript file (or preferably several different formats, since not everyone can translate postscript) available on a Web site or ftp server.

* Join the conversation. You might be isolated geographically, but you don't have to isolate yourself intellectually. Make sure that your letters and papers are part of a conversation. That is, formulate your professional papers as responses to the existing literature, and to particular contributors to that literature, and make clear the nature of your debts to those authors and the nature of your own contribution. If you're not clear how this is done, use existing papers as a model.

* Relentlessly promote your own work. Mention your ideas and publications in messages to appropriate electronic discussion groups. But always keep it low-key. No fanfare, no

hype, no big claims. Cultivate an attitude of quiet, confident intellectual seriousness, and then consciously and carefully project that image.

* Make yourself useful. When you read something you genuinely respect, send a brief review and recommendation to the appropriate discussion groups. Pass along useful items you encounter on the net. Invent some useful network facility, if only an annotated bibliography or guide to resources.

* Be systematic. Once you've gotten accustomed to the whole process of networking, take a few days out to search all available resources, both on the network and on paper, and make list of all of the people you want to approach using the six-step process and all of the e-mail discussion groups you want to publicize your work on. Then slowly and systematically, over several months or a year, approach them all. The process takes lots of time, but it does work.

* Keep trying to raise travel funds. The professional contacts you develop on the net ought to be able to help with this, since the world is full of international travel grants and exchange programs that are relatively easy to set up once you have willing parties on both ends. But wait until you have a fairly strong relationship going before you try this.

* Make your travel count. Don't spend your hard-earned money on travel unless you're going someplace where you can meet with several people you already "know", if only through e-mail correspondence and the networking process explained above. Unless you're an unusually sociable or charismatic person, don't attend a conference in the abstract hope that you'll meet someone useful there.

* Share your experience. Help build the electronic networking community by getting involved in Local Civic Networks and the like. Reach out to people in your area whose interests in computer networks might be different from yours, and do some community-building among them. Reflect on how your relatively marginal position in the world's research system conditions your work and your life. Write down your experiences and advice for the benefit of others.

Publication and credit

Another dimension of the institutional structuring of professional relationships pertains to credit. If you do something new, you ought to get credit for it. Credit resembles money in the sense that you can "buy" certain things with it -- for example further research funding. (Credit for this observation, for instance, belongs to Bruno Latour and Steve Woolgar in their book, "Laboratory Life".) Credit can also be understood as an informal type of intellectual property. A research paper resembles a patent application, which is always drawn as widely as possible, consistent with the actual accomplishments of the work and being careful not to trample any prior art. But credit differs from money and property in other ways. The most important of these is that nobody is keeping an objective ledger of who gets credit for what; it's much more an evolving consensus that only becomes formalized years after the fact. Many people get neurotic about credit and invest

tremendous effort trying to manipulate others into giving them the credit they think they're due. But the actual keys to getting due credit for your work are simple. The first is to publish promptly. When you do something good, write about it and get it out there. And the second is to do your networking. I have already explained one reason why writing helps with networking -- it gives you something to talk about. A second reason is that if you talk about your work without having circulated it in written form then you will be (perhaps justifiably) paranoid that someone else will (perhaps innocently) publicize your idea before you and therefore get the credit for it. Don't get yourself into this demoralizing rut. And understand where the danger comes from: when two people are doing research in the same area, their relationship is inevitably structured by a tension between a natural alliance (helping one another, organizing things together, jointly publicizing the shared area of research) and natural competition (over credit for new ideas). This tension will be much easier to manage if you continually put sane amounts of effort into both your writing and your networking.

When you do publish your work, where should you publish it? Two errors are common. One error is to choose your publication venues reactively by simply publishing in the places where someone in your network happens to invite you to publish -- for example, in a book that this person might be editing. While accepting such invitations might actually be a good idea, don't let invitations drive your publication strategy. Instead, talk to people who are knowledgeable, hit the library, map out all of the potentially relevant publications, and make conscious decisions. This leads us to the second common error, which is to get obsessed with publishing in the "good places". Lots of people get preoccupied with ranking journals, so that publication turns into a zero-sum status game. This is most unfortunate. It is much better, in my view, to think about publication choices in terms of professional relationships. A journal is not just a badge of rank. Much more importantly, it is a gathering-place for a particular community of people, namely the professionals in that field who read it. When you publish in a particular journal, you are doing two things: (1) you are representing yourself as being relevant to such-and-such a research community, and (2) you are introducing yourself to that community and inviting them to get to know you. So instead of asking, "where is the high-prestige place to publish", ask "who would I like to associate with professionally?". That makes the decision much easier. If you don't know what sorts of people read a given journal, you can always ask. Most likely you will get different answers from different people, according to their own relationships to that journal's readership, but that's alright. Just decide who you believe and carry on.

Intellectual leadership

The steps for making contact with people that I've been describing obviously do not exhaust the social skills that are necessary to get along in the professional world of research. But they do provide a necessary foundation -- the basic strokes of the professional combustion engine. Having gotten your network going in this way, the obvious question is what to do with it. Well, maybe you do nothing with it. Having people to talk to about your research might be plenty. But if you'd like to do good in your field, or do well in it, or both, you'll want to try organizing something: a workshop, a

journal issue, an e-mail discussion list, an approach to a funding agency, or whatever. Later sections will discuss these activities in more detail. Right now I want to introduce two important concepts related to them: "emerging themes" and "consultation".

Most everyone regards the notion of an "emerging theme" as hype, and no doubt I will be thought cynical for explaining it, but it's tremendously important anyway. Research, of course, is about new ideas -- and not just individual new results, but whole new fields of research and whole new ways of doing research in a given area. New ways of doing research rarely spring full-blown from any individual's head. Rather, somebody who has been keeping up with many different research projects starts to notice a trend -- a direction in which a substantial number of research projects are all headed. Perhaps it's a previously unnoticed analogy among various new concepts; perhaps it's a metaphor that makes sense out of a range of seemingly unrelated results; perhaps it's a pattern that appears to underlie the work of several different groups; perhaps it's a method from another field that several groups have been importing into their own field and have independently found useful or necessary; or perhaps it is a widely shared dissatisfaction with the old intellectual frameworks that is now starting to take form as a new framework. If you want examples, simply look at the titles and introductions to any edited book, any special issue of a journal, or any workshop. Fame and fortune justly attach to the people who notice such things, put names on them, and gather together the people whose research appears to fall within them. These people are the shamans; their role is not to create something out of nothing, but to help the community become conscious of new understandings that have been taking form below the surface. Such people have four qualities: (1) their own research is an instance of the patterns they are noticing (unfortunately, this is usually a prerequisite to being taken seriously in the role of pattern-seeker), (2) they care enough to actually think about other people's research (this quality is in short supply, thus creating abundant opportunities for those who possess it), (3) they communicate intensively enough with other people to actually keep up-to-date with them (this is where e-mail helps), and (4) they are smart enough to notice the patterns in the first place (this is sometimes the least important factor). You can work wonders if you cultivate these qualities.

As a practical matter, you'll work these wonders through consultation. Research people, especially in academia, generally insist on being consulted beforehand on any matter that affects them. Consultation is the fundamental protocol of all academic life -- both within institutions and within disciplines. So, for example, if you have noticed a hot new theme emerging from the research in your area, you should not immediately announce a workshop or a mailing list on the topic and expect people to flock to it. (In general, never try to organize a group activity just because you think, in an abstract way, that it would be a nice idea. It doesn't work that way.) Instead, you should decide who the affected parties are and communicate with them. One way to get started on this is to write a (short or long) survey paper that describes the pattern you see emerging, puts a name on it, sketches in a sympathetic way how various projects (your own and others') seem to fit within it, explains what can be learned by looking at things this way, extracts a set of axioms or principles or methods or organizing concepts, and outlines some suggested lines of future research. Another approach is simply to write a paper that explains your

own research in terms of the emerging pattern and then, as a secondary matter, explains how the other projects fit in. And a third approach is to attempt to organize a workshop or other small-scale professional meeting around the theme you've begun to articulate.

To do this, write a draft announcement for the meeting that explains its unifying concept -- the emerging theme. Clearly label it as a draft. Then -- and this is consultation -- send this draft *individually* to each of the ten people whose participation in the meeting is crucial. Include a cover letter/message soliciting their perspectives and their guidance. (The phrase "I'd like to ask your advice" causes miracles the world over.) Ask them if they think the time would be ripe for such a meeting, and ask them if you have articulated the emerging theme in the best way. Do not present anything as a fait accompli. When you get responses back from these people, take the responses seriously. Modify your draft to take them all into account. Rewrite it from scratch if necessary. Get lots of advice and really listen to it (even if you don't follow it). You will probably fail at this process once or twice before you succeed, but more importantly you'll learn what it's like to internalize other people's opinions -- the basic mechanism of socialization into a community. And remember that consultation, like most things, works much better if you have gone through the six network-building steps I've described above, at least with a majority of the people involved.

This whole consultation process probably sounds like a lot of work. Many people even regard it as a thankless sort of "dues" that they must pay to their field. This is not so. Engaging in consultation is a powerful act. It changes your whole way of seeing the world. You learn to notice the conditions that make action possible, and you become able to internalize others' thinking without giving them power over you. As a result, a whole landscape of possibilities will become visible before you -- a landscape that most people never see. It is a good idea, therefore, to organize professional activities in your field. It does require a lot of initiative, but it does not necessarily require a vast amount of work. The key is to delegate. If you are willing to lead -- that is, to take the initiative to define, consult, oversee, subdivide, and keep track -- then lots of people will be willing to take responsibility for one piece of the larger whole. If this *doesn't* happen -- that is, if you *can't* get people to commit to narrowly defined jobs -- then that's a sign that you have misjudged how much energy really exists around the theme you have identified. Either rework that theme through another round of consultation or simply abandon the whole project and write down the lessons you've learned from it. Don't force something to happen if it just won't. Lots of good ideas will never happen; your job is to find the ones that *can* happen.

When a new theme does emerge to organize the research of a community, often someone will complain that they had articulated that theme themselves some years before. Usually, however, that person had not done the hard work of talking to everyone, internalizing their perspectives, and building consensus around a particular formulation of the theme. That is what I am encouraging you to do.

Having identified an emerging theme and organized a meeting of the community around it, the next step might be to edit a book. You may not think of yourself as the sort of

person who does book deals with publishers, but it's not that hard. Here is a simple method. Identify a senior member of the emerging community who is decent and well-connected, with whom you have good rapport and who would be regarded as an honest broker by everyone involved. Approach that person and say this:

I'm thinking it be might time for an edited book about this emerging theme. Here's a rough draft of a proposal for the book. Likely chapter contributors would be A, B, C, D, and E. I'd like to propose that we edit the book together. If you can help with the diplomacy of recruiting the authors then I will do all of the logistics.
Don't use those exact words; hopefully you'll know this person well enough by now to find words that are comfortable for you. In any case, you have just signed up for a lot of work: iterating drafts of the proposal through consultation with the most important authors, dealing with the publisher and copyeditor, keeping track of all the manuscripts, sending reminders, cajoling people to offer comments on one another's draft chapters, drafting an introduction to the volume, writing your own chapter, preparing the index, managing your overcommitted coeditor, and fighting the half-dozen fires that will erupt along the way. It's work, but it's worthwhile. If you go through this cycle even once then you will truly understand how the world around you works. You will also have a book on your vita. Of course, you won't know how to do much of the work you've signed up for. How, for example, do you find a publisher? Asking advice from the people in your network is part of the process. If you take the initiative, and if your emerging theme has enough energy behind it, then people will be happy to help.

That being said, here is some more advice for would-be book editors. You should organize the project in a loose way, for the simple reason that one or more of your chapter contributors may flake out on you. Everyone from the publisher to the people who review your book for academic journals will insist that all of the chapters fit together to make a coherent whole, and this is a good ideal to the extent that it is practical. Don't try to organize an edited book unless you do honestly think that the chapters will work together. But make sure that the book will still work if one or more of the chapters fails to materialize. Realize, too, that some people can't write, or can't make deadlines. One reason to build your network is that you can find out ahead of time which potential authors are good to work with in these ways, and which ones will cause you a lot of headaches for very little payoff. When you discuss the project with a publisher (or, more precisely, an acquisitions editor who works for a publisher), keep in mind that publishers only eat when they sell books. As a result, they always have a mental calculator going in their heads that tells them how many copies of your book they can sell. You can't trick these people, so have an honest conversation with them about how the book works as a business proposition. Who would buy it? Publishers are generally unenthusiastic about edited books these days, in part because they are less likely to be reviewed by large-circulation magazines and journals, much less newspapers. So you have to make a clear case that your project has a lot of social energy behind it, and that the topic you have identified is right on the verge of exploding into a major intellectual movement of the sort that sells books. Most academics find it hard to think in business terms about their publishing projects, so swallow your pride and let the publisher instruct you in the matter.

Maybe a project or two will fail before you learn to see the world through the publisher's eyes.

If the book project goes forward, you'll be negotiating a contract with the publisher. Don't make it complicated. An academic publisher won't be making much money on your edited book, and you're probably not famous enough to be negotiating for special terms. The only hard question you'll face is how to distribute the royalties. Should the people who contribute chapters get any of the money? How much? It is common not to mention money when dealing with the chapter authors, so that the book editors pocket it all. This is not an unreasonable procedure given the work that's involved, and the publisher may not want to deal with the complexity of paying a percentage royalty to each chapter author anyway. Another approach that's a little more fair is to pay each chapter author a fixed honorarium that's basically a share of an advance. In most cases, however, you'll find that the authors are surprised to be getting anything. So don't worry too much about it.

When you do build your professional network and identify your first emerging theme, a voice in your head may tell you something like, "well, if you thought of it then it must be obvious; surely you are the last to know". And since the task of initiating activities such as the ones I've described can look like a steep mountain when you're doing it for the first time, you might be tempted to assume that it's not worth the trouble. You'll think, surely someone else will beat me to it. When you hear these voices in your head, pay close attention to them. They don't want you to succeed professionally. Why? Are they trying to protect you from the pain of failure? Or do they just think that you've been destined to fail since they day you were born? The fact is, if you've built your professional network, and if someone in that network already has activities under way around the emerging theme that you have identified, then you are likely to have heard about it already. Of course, as you progress with your organizing you might learn about other activities that are related to yours in one way or another. In rare cases an existing activity will render yours redundant. It happens. But much more often, the existing activities will be off at an angle from yours. In that case, you will want to have a friendly conversation with the people who are organizing them. Perhaps you will decide to join forces, or perhaps you will articulate the way in which your respective activities are complementary. (You will find that "complementary" is a useful word.) You can then decide whether and how to redesign your activity to bring out more clearly its unique contribution.

Those, then, are some of the rudiments of intellectual leadership. (I will return to the subject later on.) Many people don't want to be leaders because they associate leadership with abuses of power. It's true, many leaders do abuse power, and if you lead then you will acquire power that you will be tempted to abuse. But real leadership does not require you to manipulate people, and a community of well-informed and confident people cannot be manipulated. So even if you can't imagine yourself as a leader, I hope that you will organize something, just once, so you'll understand how it works. Focus on articulating shared values and you'll be fine.

Norms of humility

I have been advising you to promote your research and take a position of leadership in your field. Many people flat-out refuse my advice, however, on the grounds that self-promotion is either inadvisable or literally wrong. Those people are not entirely mistaken. They are referring, on one level or another, to the norms of humility that operate in most areas of social life. Suppose that you stood up in public and said, "I am exceedingly intelligent" or "my research is of very high quality". The audience would be incredulous, and would openly treat you as a jerk. Even otherwise pleasant people can become quite nasty when you violate these unwritten rules. Norms of humility thus place extensive constraints on your public persona, and you will have to learn an elaborate phraseology before you can engage at all effectively in professional conversations.

Here, then are the phrases that you need:

* Say "we" rather than "I", as in "we discovered such-and-such". "We" can refer to your research group, or to the people who have joined themselves into a particular workshop or intellectual movement.

* Mitigate your expressions of opinion by saying things like, "I personally think that ...", owning your opinions rather than asserting them as truth.

* Give credit to others. In explaining this article, for example, I typically say that "NotN includes good advice accumulated from dozens of people over many years, and I want to get it into the hands of every PhD student in the world". This statement is true -- NotN does include advice accumulated from dozens of people, etc. I could have emphasized my own originality, but what purpose would that serve?

* Don't crow about your successes. Yes, of course your paper made a big splash at the last conference. But why talk about it? The success will speak for itself, especially with the people whose opinion you most care about.

* Deflect praise. If someone says something positive about you and your work, you should calmly take the first opportunity to acknowledge it. Say this: "I appreciate the kind words". Or this: "Whether my work has such-and-such merits you've mentioned is for other people to decide". Notice that these formulas are mandatory: if someone praises your work in your presence, and you don't deflect the praise, it is as though you uttered the praise yourself. Strange but true. So you should not let any praise go by without deflecting it.

* Emphasize the intellectual reasons for your work, not the personal reasons. If someone asks you, for example, why you chose a certain direction in your research, you probably know enough not to say, "so I can get tenure". Instead, your answer should refer honestly to the way in which research such as yours might hope to make the world a better place. Have such answers already rehearsed so that they will be ready when the time comes. The commonalities that you have articulated in your conversations with others will help a lot.

* Recognize that some social puzzles have no good answers. If you are invited to a conference that you just don't find worthwhile, or are invited to a collaboration with someone who you just don't respect, then you are stuck. You don't want to say yes, you don't have any honest way to say no without making yourself seem superior, and you don't want to lie. "I'm sorry, but I'm afraid I can't" is probably the best you can do.

As you evolve a professional persona, you will learn many formulas like these, each of them adapted to a recurring problem of professional life. In each case, you will have to struggle with the feeling that you are being fake. Listen to the formulas that other people use in similar situations, and do the best you can.

Recognizing difference

These concepts, I hope, further illuminate the complex structure of professional relationships within the institutions of research. As with any social system, the point is not that some infinite power imposes this structure on us from the outside, but rather that we recreate the structure ourselves every time we interact with another person. And these numerous local accomplishments are all the more remarkable given that, structures and systems notwithstanding, people really are different from one another. If you are carrying around an overly rigid view of institutions and their workings (say, for example, the view you probably got from your experiences of undergraduate education) then you might not even notice the real and rewarding work of exploring the differences between yourself and your professional acquaintances. The skills of recognizing human difference -- not in the abstract, but concretely, within particular interactions and particular relationships -- are growing more important as research communities in all fields lose their national and cultural boundaries.

A common mistake is (usually unconsciously) to use networking skills to seek out people who seem identical to you, either by ignoring the differences, putting easy labels on the differences, or blowing the differences out of all proportion. This might have worked alright when research worlds were heavily segregated by gender, culture, discipline, research "school", and everything else, but it doesn't work now. Just about everyone is being forced, for example, to reflect on different national traditions' remarkably different ideas about the relationship between theory and evidence. And we are likewise learning to develop professional relationships with people who don't already speak the same disciplinary language that we do -- it no longer suffices to detect potential allies simply because they talk the same way. Nobody yet knows how the practices of professional networking might evolve under the pressure of these increasingly prevalent types of professional difference. My sense, though, is that e-mail is poorly suited for the initial stages of establishing a shared context for discussion between people with different cultural or disciplinary backgrounds. If this is true then my emphasis on careful mixing of electronic and face-to-face communication takes on new importance.

A problem that often arises when talking with someone from a different intellectual tradition involves "results". What counts as a "result" in your field? A theorem? A policy prescription? An experimental outcome? A newly theorized concept? As you start talking

to people, you will be surprised to discover just how diverse the various fields' conceptions of a "result" can be. People who have been socialized into a given school of thought will habitually search anything they read for the specific type of "result" that they are accustomed to. Even neighboring subfields of the same intellectual tendency within the supposedly same field can fail to communicate because they are trying to discover incompatible types of "results" in one another's work. This failure of communication can be calamitous. Each side may perceive the other to be doing poor work -- or, literally, no work at all. They may even accuse one another of *hiding* their conclusions. Emotions may become strong, and serious conflict may result. In many cases the conflict will be ongoing, and (sub)fields may have developed elaborate and nasty stereotypes of one another. These stereotypes can be hard to puncture because they are expressed in the metatheoretical shorthand that each field has developed for its own discussions. The neighboring (sub)field, for example, may be said to have "no ideas", where the word "idea" has acquired a complex history of unarticulated baggage that automatically rules out anything that does not fit that particular group's ways of working and talking. Or, to take another example at random, qualitative fieldwork methods might be disparaged as "anecdotes that don't really prove anything" -- not a good way to think if you're going to start a professional relationship with an anthropologist. Needless to say, you'll want to anticipate this problem and defuse it before it damages anyone's reputation or messes up a potential relationship. This may require you to overcome your own disciplinary socialization, which has almost certainly included a lot of taken-for-granted invidious distinctions that mark certain "others" as intellectual barbarians.

Getting a public voice

Although the institutions of research tend to focus your attention on the other researchers in your field, your research interests probably have a broader importance to society. (I realize that some parts of mathematics can't be explained to a general audience. But that's the exception.) As you develop your professional voice, I hope you will also consider developing a public voice, that is, a voice that normal people outside your research community can understand. This includes speaking to community groups, writing for newspapers and magazines, being interviewed by the media, testifying in legislative hearings, circulating commentaries to a broad audience on the Internet, or simply being able to discuss your field with normal people in social situations.

Some of these situations are relatively tractable. For example, if you announce a discovery and a science reporter asks you to explain it, you will probably be able to find plain language for it. That situation is relatively easy because it's your own personal research topic. You've promised that you'll make it interesting, a professional reporter has decided that you'll succeed, and you give more or less the same speech that you give to people informally at conferences. Even easier is when someone else makes a discovery and you are asked to comment on it. You say, yes that person is a serious researcher, and yes that discovery sure sounds important, though of course much more work will be required before we are sure.

Or perhaps you want to start a sideline of popularizing work in your field. Unless you are a real popularization prodigy you wouldn't want to make popularization into your major line of work, because that is an entirely different and exceedingly competitive profession that requires extreme amounts of networking in entirely different worlds from your own. But writing popular works as a sideline can be lucrative, personally satisfying, and a public service, if not necessarily in that order. Stephen Jay Gould's monthly magazine columns about biology, which have been collected into a long series of successful books, are perhaps the prototype.

If you want to write these sorts of popular works, you face several sorts of challenges. One is that all of your academic colleagues believe that it's their job to help you get tenure, and so they will all discourage you from writing such works until that happens. I know of one department, an extreme case I'll admit, that actually put in writing a policy that non-academic publications will be counted against a candidate for tenure. But if you write easily, I personally see no problem of spending a day a month, as Gould did, writing that sort of thing, and if you publish enough refereed journal articles then only the crazies will hold it against you.

A second challenge is that wide-circulation newspapers and magazines prefer to publish work by people they know. The solution to this problem is actually easy: start an Internet mailing list and Web site to circulate your popular work. Your circulation will be low at first, but your work probably won't be very good at first either, so that's okay. As your work gets better, people will pass it around and your circulation will go up. If your work is good then it will definitely get circulated to the editors who should be publishing it. Part of their job is to look for new talent.

A final challenge for the popularizer is simply coming up with a steady stream of topics to write about. You can probably come up with a few topics just from your own research, but if you want to write regularly then you will need to cultivate the right sort of intellectual life. Popularization is really for people whose reading and thinking are not confined strictly to the latest research reports by their micro-specialized peers, but who naturally spend a reasonable percentage of their reading and thinking time ranging more widely into the deeper meanings of the field. If this kind of breadth comes naturally to you, or if you take the trouble to cultivate it, then it's particularly important that a wider audience get the benefit of your effort. The writing will come hard at first. But as you start writing regularly, something good will happen: you will find yourself spontaneously rehearsing phrases that relate the ideas to the world of a normal reader, and before long you will establish a kind of pipeline back and forth between the professional world where you present your research papers and the public world where normal curious people are concerned about the things that normal curious people are concerned about. Columns will take form almost spontaneously in your head, and you will write them down. So don't be disheartened by the difficulty of getting the process started. It will get easier.

What's really hard is when you are called upon to address yourself to different issues than the ones that organize discussion in your field. Any sphere of debate, whether scholarly or political or anything else, has an "issue agenda" (also called its "problem set"): the

questions that are consensually considered to be on the table right now, and that everyone is expected to address themselves to. The people in your field probably have a consensus about which issues are important right now, and you have probably learned how to talk in a way that addresses those issues. Problems arise when the broader public, or more accurately the pundits and politicians in the media, have a different issue agenda. A reporter will call you on the phone, perhaps having gotten your name from your university's PR office as an expert in a certain field, and will expect you to address the issue that happens to define public discourse. You will find to your surprise that you aren't able to speak to that issue, for the simple reason that your day-to-day professional life has rarely required you to do so. You might select from your repertoire whatever standard spiel falls in the general vicinity of the reporter's question, only to be told, politely or not, that you're heading off at some weird academic angle to (what the reporter regards as) the real issue.

The solution to this problem is, first, to understand it, and second, practice. You simply have to figure out what the issue agenda is and come up with something to say. As a voice in the public sphere, you will be expected to have a "message": a single line that responds in some way to the issue agenda and that epitomizes the larger collection of things that you have to say. (My own "message", in case you happen to care, is that radically improved information technology is causing the ground rules of every institution in society to be renegotiated.) You should also be prepared to answer some standard questions, most particularly what implications your argument has for public policy. This would seem like an obvious question, since that's what the sphere of public debate is all about. But unless your research area is directly related to public policy, your professional training has taught you how to address research agendas, not public policy agendas. So give the question some thought and rehearse some answers before you get caught flat-footed.

It helps if you understand how the public sphere works in practice. Political philosophers often have an idealized picture of the public sphere in which citizens get together and engage in deliberation, or in which public intellectuals spin an elite sort of public philosophy. This idealized picture is almost entirely false. In reality, the public sphere is itself a sprawling professional network with its own meetings, gossip, rivalries, and the rest of it. At the center are journalists, by which I mean not just day-to-day working reporters but a broader class of professional writers who make their careers largely by building extensive networks within the field they report on. Many of these figures go on to become semi-intellectuals in their own right, for example by publishing serious books or starting institutes. Also at the center are foundations, many of which specifically intend to shape public debate by building networks and publishing reports that are designed for maximum coverage in the media. Some foundations regard themselves as nonpartisan, and spend their money flying people to resorts to debate the issues of the day. Others are aggressively lean and mean think tanks that exist to argue the positions of their funders. If any money is at stake then the players will also include lobbyists and other professional advocates.

Scholarly researchers such as yourself are definitely part of this picture, and do get invited to the talking shops where the real work gets done. As you establish a public voice in your area, you may get swept into this world. You will develop a network outside your research field, and you will have to decide how much time and effort you want to invest cultivating it and pushing your own public agenda through it. Understand that this is not the research community whose rules I have been explaining. Even though most of the people are decent and serious, it is a different world that runs on its own rails. They don't use formal peer review, methodology is often weak, sophistry is widespread, sound bites are important, and the essence of the game is shaping the evolving issue agenda. Because everyone is assumed to have a public persona, you won't be sending people your publications unless someone asks for them. On another level, though, the similarities to the research world are strong: you succeed by building networks, the glue that holds relationships together is the values that you share with people, and the way you get things done is by articulating emerging issues within the collective thinking of that particular network.

Last comment. Although normal rules of etiquette will largely suffice for your dealings with the world of public debate, it will help to keep in mind that people in the non-profit sector (meaning, outside of universities and corporations) who are funded by foundations have a very fragile existence. If networking is important for your career, it is ten times more important for these people. The way they feed their families is by defining an issue, building consensus with the relevant foundation people, and finally being invited to write a short grant proposal that gets them the money. This is a long-drawn-out process, and it requires continual upkeep. When you are dealing with such people, therefore, you should take special care not to be seen as encroaching on their issue-territory. Being an academic, you may not feel like you are competing with them. But they don't know that. So even a stray comment about how you're interested in a certain topic, or wrote a comment on a certain subject, can be misinterpreted as announcing an attack on their foundation funding. Your life is easier than theirs.

A final point

Before you get too comfortable with the relatively advanced skills I have described in this section, I hope you will take a moment and remember what it was like not having a clue about professional networking. Fix this memory firmly into your mind, and bring it back any time you're working around junior people. Cut them some slack, explain to them what's going on, and hand them a copy of "Networking on the Network".

SECTION 4. Networking and Your Dissertation

What is the role of your dissertation in all this? After all, many people are mystified that graduate schools expect their students to spend years preparing an enormous document that will get stuck on a library shelf where maybe five people will ever read it. (Speaking of which, you should be one of the five: go to the library and look at the structure and

language of some dissertations, just so your goal will be concrete in your mind.) I do realize that many people go on to chop their dissertations into journal articles or revise them into books, and in some fields one prepares a dissertation by publishing several articles and then binding them together. I have no problem with any of that. Nonetheless, a narrow focus on publication misses most of the point of writing a dissertation.

Here is the profound fact: when you produce a dissertation, the most important thing you produce is yourself -- that is, yourself as a new member of the research profession generally, and of a particular research community. Becoming a new member of a research community is not simply a matter of doing some research, nor is it simply a matter of getting a publication accepted by a journal. It's much deeper than that: becoming a member of a research community means knitting yourself into a web of relationships and dialogues. Remember all of that work you did in the library to identify people whose research was related to yours? Those people are going to become your professional colleagues. You are accountable to them: you have to give them credit for their work, and the institutions of research will turn to them when it's time to evaluate your work. You are going to be engaged in a conversation with them: the papers you write will be, among other things, responses to what the people before you have written. As you read those people's work, and then later as you converse with them, their voices will take up residence in your head, and your voice will take up residence in their heads.

Establishing this very complex set of relationships to this enormous cast of characters is not easy. It takes time and practice. And that is what your dissertation is for. Your dissertation should of course report important original research. But just as importantly, it should represent in great depth how that research is related to all of the relevant research that other people have done. It will represent those relationships in obvious ways through your citations and reviews of related literature. But it will represent them in a hundred more subtle ways as well. Certain words will have acquired specialized meanings and connotations, for example through their association with particular authors and their views, and by using those words in certain ways you will define yourself in relation to others who have used them (or not used them). People whose intellectual background and assumptions differ from yours will probably misinterpret many passages from your first draft, and one purpose of getting comments and making revisions is to anticipate those misinterpretations and search for language that will convey your meaning to all the diverse sorts of people who will hopefully be reading it. In the course of making yourself intelligible to those people, you will be constructing a relationship to them.

In short, you are rehearsing a professional voice. This is hard work, and many people who are developing a new professional voice will feel that they are being torn apart by the huge variety of seemingly incompatible demands that come from every side. After all, you will be joining a research community in which people disagree with each other, in which people have read things that you couldn't possibly have time to read, in which everybody holds assumptions that they have not articulated fully, and in which some people are hard to get along with. And yet you are supposed to talk in some way that takes this whole buzzing confusion into account while simultaneously expressing what *you* want to say, in the way that *you* want to say it. It can be done, because innumerable

people have done it. It takes time, though, and iterations and revisions, and feedback from professional colleagues. Reading and rereading those colleagues' written work is a good way to anticipate their thinking, but it does not substitute for personal contact. So make those contacts. And as you build your community, and as you take seriously the comments you get on drafts, your voice will evolve. You will no longer have the sense of being pulled apart. You will be able to identify the emerging themes that knit your work into the community, and that start to make the community seem unitary. Your ability to articulate those emerging themes is a sure sign that your project is part of a community, and that your audience will understand what you are talking about. It means that you have established a deep underground continuity between your own project and the projects of your professional colleagues. It also means that your project will be noticed, and that it will not fall through the cracks. This is the goal. Along the way to this goal, you will of course make a couple of mistakes. You will say some dumb things. You will get a bit of criticism. But that's life. When the bad stuff happens, make mid-course corrections and carry on. Everyone else has been there too.

It helps if you understand the structural reasons why graduate school can be so difficult. In passing through graduate school and joining the research community, you are making a transition from one social identity to another, and from one professional persona to another. In a sense you are becoming a new person. But you face an irreducible chicken-and-egg problem: you can't do research without being a member of a research community, and you can't be a member of a research community without doing research. This chicken-and-egg problem is typically at its worst in the middle phase of graduate school, after you finish your required coursework but before you narrow down a dissertation topic. During that middle period, the whole world can seem chaotic. All of your candidate topics will seem impossibly gigantic. It might feel like you are pretending to do research rather than really doing it. People will keep asking you, "when is your thesis going to be done?". You might be seized by paranoia about people who will persecute you publicly as soon as you try to present your work. These are common feelings; understand that they result from the structural situation you are in, and not from your own personal failings or (necessarily) the failings of other people around you.

Once you understand the structural chicken-and-egg problem, you can set a strategy for overcoming it. Start by looking for ways to watch the professional world in action. Ask your advisor for suggestions. You might sit in on a program committee meeting, serve as a referee for conference or journal papers, coauthor a survey paper, host some visiting speakers, have coffee with a visiting fellow in your department, or volunteer to help with the logistics of a conference. These tasks require labor, of course, some of it mundane. But they will also help you become comfortable with the rhythms and styles of your new professional community.

More fundamentally, though, you will overcome your chicken-and-egg problem through iteration: starting small and then working back and forth between the chicken side (defining your topic, rehearsing your voice) and the egg side (building your network, getting feedback). That's why you should start building your network just as soon as you have a conference paper to present, but no sooner. You needn't pursue a hundred network

contacts on the basis of that first small paper, and you probably shouldn't. Contact a few especially promising individuals, just to get some practice. Then work up to more ambitious public presentations of your work and more ambitious levels of socializing. If you follow this plan then your dissertation, once it is finally done, will be your masterpiece: your proof to yourself and others that you finally have a professional voice, and that you are finally knitted into the professional network that you want to join.

Here is another way to understand it. Many beginning scholars experience a conflict between their own personal interests and the demands that the institution places on them. They feel that the politics of their department or discipline prevent them from pursuing the ideas that they care about, or that funding imperatives push them toward boring research topics that are geared to someone else's agenda, or even that the research world in general is cynical and filled with self-interested poseurs. I'm not here to tell you that the research world is a thoroughly beautiful place. It's a human place, with all of the virtues and vices that come with that. What you have to understand, and you have to trust me about this, is that most of the bad feelings that I have described are simply consequences of the structural process that you are passing through. If you really do your homework, and if you really do your networking, and if you really take the trouble to study and internalize the ideas and voices of the researchers in your field whose work you respect, and if you really get out there and become involved in the activities of your profession, then eventually that inner sense of a conflict between yourself and your environment will dissipate. The great thing about the research world is that you get to choose your environment, which consists in large measure of the members of your network. Of course, this also means choosing the topics you work on, the language you speak, the values you embrace, the dialogue you participate in, and so on. You choose the whole package. You make it. You build it.

And as you do so, you and your environment will become aligned. Internalizing all of those other people's voices will change you. The changes will happen almost automatically, and for the most part you won't even realize that it's happening. You may not even remember the time when you felt that your research interests were incompatible with the professional environment around you. Of course, you will not be completely free, the way you'd be if you had a million dollars. You will still have to build networks, write grant proposals, and so on. But you will be woven into the institutional structures that make all these things possible, so that doing them will be the most natural thing in the world. That is what your dissertation is for. In fact, your dissertation is, in a paradoxical way, a time of great freedom. It is the moment when you choose *where* in the great sprawling fabric of the research community you are going to knit yourself. So take the time to read widely, reflect deeply, talk to lots of people, and choose the topic that will propel you into the life you want, rather than the life that someone else might stand ready to choose for you.

This understanding of the dissertation suggests strategies for dealing with several common problems that arise with dissertations. I will describe three of them, in the beginning, middle, and end of the process.

Beginning. Graduate students who are writing thesis proposals often try to bite off too much -- their proposals describe a life's work, not a couple of years' worth. Paring down the initial proposal to a manageable size can often be a dispiriting process; it feels as though you are surrendering your ambitions and ideals, step by step, until you have compromised everything that was valuable about your original vision. I have seen this many times. The underlying problem is a misunderstanding of the way that research is evaluated. People will evaluate your research partly for what you have accomplished: which theorem you've proved, which ancient city you've discovered, which grammatical patterns you've explained, or whatever. You do need to accomplish something, of course. But more fundamentally, people will look at the methods by which you did it. They will ask not only "what did s/he do?" but "what direction does s/he point?". If you prove a big theorem by means of a tortured calculation that provides no useful guidance for proving other theorems then you won't get a lot of reward for it. Your ideas and methods should generalize. They should map a previously unsuspected territory for research. This matters in job-hunting terms, since your prospective colleagues will want to know whether you have a practicable research program laid out. So when you write your dissertation proposal, don't assign yourself an infinite task. Instead, ask yourself what fragment of that task would make a relatively self-contained project, and would also provide a clear illustration of the more general project that you see ahead of you. Present your thesis study as an example, a case study, an illustration, of the more general theme that you have identified, and take care to draw out and explain the generality of that theme. If you follow this strategy then the dissertation itself might resemble a staircase: it begins with the overall research direction that you are announcing, and then it steps down into successively more specific applications of that overall approach, laying out the theoretical concepts and relevant literature at each step, until finally you present the specific results that you've obtained. Then, having presented your results, you can work your way back to the top, step by step. This is not the only possible architecture for your dissertation, but at least it's one approach to managing the complexity.

Middle. In writing a dissertation, and especially when writing a talk about the dissertation research, one often encounters points that need to be stuck in the introduction or conclusion. Terms need to be defined, methodology needs to be explained, objections need to be anticipated, patterns need to be identified, distinctions need to be made, and unanswered questions need to be acknowledged and posed as problems for future work. Of course, everyone tries to assign these points to a suitable place when preparing an outline. But many students find that the points just keep coming, as if a volcano were continually erupting in the middle of the thesis, causing a disorderly mass of troublesome junk to flow out toward the edges. The sheer mass of this junk can be overwhelming, and it can seem as though the whole thesis is going to turn into a hypertrophied introduction and (to a lesser extent) conclusion, with the actual substance of the work left as an afterthought. You should plan for this process, and realize that it is crucial for the formation of your professional voice. What's happening, believe it or not, is that your mind is reorganizing itself. You are integrating all of the many voices that will lay claim to your topic, and you are sorting out a conceptual framework for your research program that addresses all of those many voices in a coherent way. You may not think that you are engaging with other people's voices, since the depths of thesis-writing are a very

personal, even isolating process. But if you are at the point of writing a thesis then you have already done a great deal of reading, and so you are familiar with established patterns of thinking on many subjects. Those are the voices that you are integrating at this point of the process.

End. Writing a dissertation is like living at the bottom of the ocean: the project itself is so large, and the process of imposing intellectual order on the project and on the thesis document itself is so enormous, that you become accustomed to a kind of total immersion that is unusual in other areas of life. This is mostly a good thing, or at least inevitable. A dissertation is a big accomplishment, and if you can finish your dissertation then everyone knows that you can do research on your own. Nonetheless, students often get into trouble as they resurface from the bottom of the dissertation ocean -- a kind of intellectual bends that can be painful and confusing if you don't understand it. When you are living down there amidst the infinite details of your dissertation project, you can forget that everyone else isn't living down there with you. As a result, you can lose your ability to explain your project to other people. You will begin your explanations at the fourth or fifth step of the argument, leaving out all of the premises that explain what the project really is, why it is important, what all the words mean, and how the whole thing fits into something that your audience can relate to. You may never have learned to explain your project to anyone outside your research group, and as a result you may find yourself confronted with basic questions that you can't answer. A well-run research group helps dissertation authors to return to the surface of the ocean in a controlled way by offering them constructive advice about the sorts of questions they will get in the outside world. But even the best research group cannot predict these questions in the necessary detail. This is one more reason why it is important to keep building your network, even as you deal with the pressure of writing and deadlines.

During the final days of your dissertation project, you may run into another distressing circumstance: you will be reading someone else's work, and you will suddenly develop a powerful sense that this other person has already done your project. When this happens, realize that you are probably suffering from a thesis-induced delusion. Except in the hardest of subjects like mathematics, it is rare for someone else literally to have done the same project as yours, or even a project that makes your own obsolete. It happens, yes, but it's probably not happening to you. What's actually happening is much more interesting: because of your total immersion in the logic of your research, you are engaging with the other person's work in greater depth than you are probably used to. As a result, you are tuning into their thinking at a deeper level than is normally possible. This feeling can be scary and intimidating, but roll with it. As you first get your mind around what the person is saying, you can feel as though your entire worldview is being transformed. You may then go through a phase in which it seems like your whole dissertation needs to be rewritten. This is probably a delusion as well. Go ahead and allow the other person's work to be a corrective to various mistakes and thin spots in your own thinking. If you're really getting lost then get advice. Eventually the storms will die down and you can identify the specific revisions and extensions that will be required to give fair credit to the other person, as well as improving your own work. You may even go through a few cycles of this. It's normal.

My conception of your dissertation as an occasion for professional network-knitting may sound different from other people's. But I think that my conception is the right one. A much more common approach is to keep your head down, staying in the lab and the library until your dissertation is done, and only then making contacts with others in your field. In my opinion this is a terrible strategy. It works only if your dissertation advisor is doing all of your networking for you, and only if your dissertation advisor is capable of anticipating and telling you about all of the reactions that everyone in the relevant world is going to have to your work. Making yourself dependent on your advisor in that way might actually suffice, but it is not something to count on. Unless you have already joined the research community, which you haven't, you cannot yet be certain that your advisor is sufficiently talented at networking and communicating. By all means develop a good relationship with your advisor, but use that relationship to help you build your own community. If you don't have a community then you can't be confident that anybody will understand your work, or that anybody will care about it. And without that confidence, you will probably not be able to get a job.

SECTION 5. Academic Language

As a new graduate student, you face a whole series of institutional problems that are hard to explain to someone who hasn't already mastered the workings of the institution. One problem is endemic to human life in general, namely that you're always entering conversations in the middle. You show up someplace -- a new job, perhaps -- and the people there already have a conversation going on. They probably have quite a few running conversations, and they have probably accumulated a big network of shared background assumptions. Many words have probably acquired specialized local meanings whether the people are aware of it or not. Meanings will have been shaped by long-past events (what anthropologists call "critical incidents") and by political fault-lines that nobody ever needs to mention. Even an innocent word choice can place you on one side of a conflict or another. These phenomena need not be spectacular or pathological, but they are certainly universal, and they can seriously confuse a newcomer.

One way to understand academic language is that this entering-a-conversation-in-the-middle effect is amplified about twenty times relative to any normal setting. That's because academics are paid to say things that are new, which is very hard, so that they are continually torquing their language -- usually for good reasons, but of course not always. As a result, you can be forgiven if you feel like you are walking around in a linguistic minefield. What is worse, the language that you will encounter in academic settings is a kind of capital. That is, the ability to use the language is a valuable commodity. Talking a specialized academic language is what one gets paid to do, or at least it's a precondition of what one gets paid to do, which is hopefully to say something, and so it is understandable if you feel obligated to learn the languages you hear.

As a teacher, I find these things frustrating. I encounter students who feel compelled to learn the latest fashionable jargon whether it serves them or not. Usually I demur. My

first question is always: what do you care about? Once we answer that basic question, we can go looking for suitable conversations to join. But graduate students are not stupid, to the contrary, and if Foucauldian vocabulary is valuable capital then they can spot that fact a mile away. They are intimidated by the job market, and they intend to get the capital they will need to get a job. I don't mean to overgeneralize. Everyone is different. Still, I often find myself saying, no, you really don't have to learn to talk that way unless you intend to join a conversation in which everyone else talks that way. But that's not how it seems when you're new and you have to graduate in five years and you don't yet have a differentiated sense of the terrain. Who's really right?

As an example of the train-wrecks that these phenomena can cause, let us consider the famous problem of importing French philosophy to the United States. The French think highly of philosophy, and they have an exceedingly centralized and hierarchical meritocratic system for identifying and training the best philosophical talent. Even though they take their philosophical training system for granted and even harp on its defects, it nonetheless works very well. True, most of the really famous French philosophers are consigned to the margins of the system. (See Pierre Bourdieu's entertaining preface to the English edition of his *Homo Academicus*.) But they exist, which is more than we can say for the other systems. What this means is that French philosophers assume an audience that is widely read and deeply sophisticated, and that will know and recognize all of the precursors of their ideas.

This system may sound bad to American ears, but it works: it enables these authors to get a great deal of intellectual leverage from the background of knowledge that they share with their readers. It is the kind of pressure-cooker that, as Randall Collins suggests in his stupendous book *The Sociology of Philosophies: A Global Theory of Intellectual Change* (Harvard University Press, 1998), is required for any great philosophy to get done. It is the ongoing-conversation effect multiplied by fifty instead of twenty, and its decline is probably why (with the possible exception of Michel Serres) no great philosophy is being written right now. To get an idea of what I mean, have a look at Mark C. Taylor, ed, *Deconstruction in Context: Literature and Philosophy* (University of Chicago Press, 1986). It is a scholarly sourcebook of the precursors of Derrida's method of deconstruction, and it is a revelation. Derrida suddenly seems not like something from another planet but like an incremental advance beyond a whole series of people like Levinas, Bataille, and Blanchot. Now, serious specialized scholars in the United States certainly understand this. But it takes real work to become that serious, and most people, not having been brought up in the French system, will never have the time.

Now pick up some French philosophical texts and move them to another country, such as the United States. It is a notorious fact that some American scholars have copied the style of a Foucault in a superficial way, and now we're in a position to understand why this causes so much trouble. Academic discourse only works if it's part of a dialogue. In France, philosophical dialogue works because everyone knows the background. Individual authors can develop highly personal writing styles without disrupting the conversation. Everyone has read Leibniz, and so everyone can allude to him constantly without naming him. Some of those writing styles have more of a point than others, and

I've chosen Foucault as my example because his own style (prior to the relatively plain language of his last few books) was much less motivated than that of the others. When Americans copy these styles, disaster often results because the conversation is broken. Readers in the American context generally cannot see the language as part of a densely organized dialogue, so the whole thing locks up. The dialogue loses its dynamic, forward-moving quality, and everyone falls into a kind of intellectual autism, a black hole from which nothing can emerge.

This is not to say that Foucault, for example, has had no beneficial impact on American scholarship. Scholars who employ the ideas without copying the style often have useful things to say. An example would be John and Jean Comaroff's multiple-volume anthropological history of the Tswana in northern South Africa, *Of Revelation and Revolution* (University of Chicago Press, 1991 and 1997). Their research is influenced by Foucault, but you wouldn't know it to read their prose, which is somewhat mannered to be sure but for their own reasons and not because they are copying anybody. Instead of falling into a solipsistic vortex of writing style, they have engaged with the ideas and digested them into their own thinking, along with everything else that they have engaged with, which is a lot.

There is one final reason why people in academia, including graduate students, often feel compelled to acquire specialized languages that are not necessarily suited to their own projects: academic languages exhibit network effects. Just as people around the world invest in learning and speaking English because so many other people already speak English, likewise the theoretical vocabulary of a particular author can become the de facto standard of conversation in a certain field. And in case you think this is just an artefact of the fashion-ridden humanities, you should know that mathematics is one of the fields where it happens most furiously. A mathematician who invents a new formalism (what they call "machinery") will be forgotten unless other mathematicians use that formalism to prove theorems of their own. Often a variety of formalisms are available that do generally the same kind of work. Each mathematician has an incentive (not necessarily overriding, especially when the choice of machinery makes a major difference in the results one can obtain, but still significant) to use the same machinery that everyone else is using, precisely for purposes of compatibility. In this way the development of mathematics is path-dependent, with some well-promoted or centrally-networked authors defining the basis of subsequent development in their fields while other authors retire in obscurity. I don't mean to disparage the mathematicians' culture, which is perfectly nice. It's not about anyone's human qualities. Network effects happen whether people are elbowing one another or not.

The same thing is true in many other fields. Once Foucault becomes the vocabulary of choice for talking about the social construction of the body, for example, people will use Foucault-speak for that purpose even though some other author's vocabulary might be better-suited to a particular purpose. And just as newcomers to a field of mathematics frequently sledgehammer a problem with machinery that is too general to reveal the problem's inner logic, likewise newcomers to social theory will use five-star Foucauldian jargon to say things that could be said using the admirably plain language of John

Commons or Anselm Strauss. Outsiders will mistake this for academic empty-headedness, and that's sometimes what it is. But at least as often it's more complicated. And the humanities and social sciences get a disproportionately bad reputation for doing it because outsiders haven't the slightest clue what the mathematicians are saying, whereas they think they have a clue what the others are saying.

So that's what happens. As a graduate student, you are walking into the middle of a complicated set of dynamics that nobody ever explains. It's little wonder, then, if you feel compelled to master arbitrary codes that your career seems to depend on. It's that structural situation that I am interested in, not the properties of graduate students themselves.

Because you are not yet in a position to see the inner logic of your professional community, you may find yourself wanting to fasten onto formal aspects of the process: politicking your thesis committee, passing exams, mastering jargons, and so on. You can't ignore that stuff, but you can get it into proportion by focusing your attention on the communities you want to join. Needlessly esoteric academic languages can give you the wrong idea: they portray research as a matter of becoming someone else, rather than becoming a professional version of yourself. They make it seem like becoming a researcher means acquiring someone else's voice, rather than developing your own. And they exaggerate the degree to which success in research depends on making yourself accountable to other people's agendas, rather than actively seeking out a community of interlocutors whose agendas can be brought into productive dialogue with your own.

The institutions of research are hardly perfect. But I think that their imperfections would be best alleviated not by blowing them up and placing them under the power of some extraneous authority, but rather by systematically teaching graduate students the things that I am saying here. Owning and applying a powerful model of the institutional dynamics around you is where sanity begins, and it is the best way to dissuade people from the misguided strategies that reproduce institutional pathologies rather than dissolving them.

SECTION 6. How to Get a Job

Networks and job-hunting

The world is full of books about getting a job, and most of them are preoccupied with the formal aspects of the process: learning about job openings, filling out the paperwork, giving a job talk, and that sort of thing. Those formal aspects are important, but you will completely misunderstand them unless you understand the substance: relationships and community-building. Get used to a deep intuition: the right way to get a job is to build a network. Once you build a network, formal things like jobs just happen. A network is not only a list of people you happen to know, like points that you score in a video game. A network is a circuit through which things flow: ideas, energy, dialogue, information,

favors, and so on. Being in dialogue with the people in your network means that you have identified values that you share with them, so that you say "we" and "us". You have chosen the members of your network precisely *because* of the values that you share in common, and you have taken the trouble to identify those shared values and to get a running conversation started that is founded on them. And in the process you have changed: you have drawn out and articulated parts of yourself that may not have had any words before. It's still you, but it's a version of you that is defined in part by its relationships to other people. If you have chosen those other people badly then you will be unhappy with your new self. But if you have done your homework and chosen wisely then you will be thrilled to death.

And this is where jobs come from. Among the good things that flow in professional networks are things related to jobs: the official public information about job openings, the inside scoop about job openings, the informal invitations that enable you to meet people before you have to deal with the formalities of job openings, the postdoctoral fellowships that keep you going until you identify the job openings you really want, and so on. If you have really built your network, then it will seem like the most natural thing in the world for this good stuff to flow into your mailbox every day. It takes time and effort to build a network, but this is the payoff. Having a member of your network on the hiring committee makes a big difference. The effort that you've invested in articulating shared values will help that person to articulate to the rest of the committee what the job should be about. The effort that you've invested in communicating your work will help that person to explain you to everyone else. The effort that you've invested in commencing a dialogue with that person will be the first installment on your effort in commencing a dialogue with everyone else in the department. But don't think of it as, "if I get to know this person then maybe I will get this job". That's fake and it doesn't work. Get to know people because you respect them -- because you have some shared interests and values that you want to develop. Then just believe that good things will flow from that, someday, somehow.

Many people refuse to believe all of this. They look at me like I am stupid and they say, "but the job market sucks" or "but it all comes down to power" or "but I'm marginalized because I'm this or that". People who believe such things are setting themselves up to fail; they are rehearsing their excuse. Yes, the job market is real; yes, power is real; yes, discrimination is real. But if you believe that those gigantic abstractions are the fundamental and immutable reality of the world, then you will make that belief true in your own life. In encouraging you to work from a more positive set of beliefs, I am not saying that your failure to get a job, if that's what ends up happening, is your own fault. But I *am* saying that your lack of a job *is* your fault if it's something that you chose, and if you go around saying, "such-and-such gigantic abstraction means that I'll never be able to get a job", then you are choosing not to get a job. Here is the truth: no matter how bad the job market is, no matter how bad the power deal is, no matter how much discrimination there is, the thing to do about the problem is to follow my advice and build yourself a professional network. Lots of people out there share your values, including people whose lives and backgrounds are otherwise completely different from yours. You need to find those people and establish relationships with them.

Job announcements

Now that I've gotten my lectures out of the way, how do you get a job? Let's assume that you have been building your network, and that you have been presenting papers at conferences, and that you have been making your work available on the Web, and that you have engaged in other activities that make you and your work visible in your field. Let's assume, in other words, that you have done the first 90% of the work. The last 10% of the work is the formal part, and it starts with the job advertisement. Given that you know so many people and hear so much useful information by e-mail, you probably know about most of the jobs before they are advertised. But you won't know about all of them, so join professional societies and study their job-posting bulletin boards, which might be published in the society's newsletter. Or look in a publication such as the *Chronicle of Higher Education* that publishes large numbers of job ads. (The *Chronicle* works as a business matter because affirmative action laws require universities to publicize jobs widely. This is good.) It is a good idea to study these ads a year before you go on the market, just to get a sense of them.

When you do read the ads, you will find that most of them are written in Martian: the people seem to want someone whose skills come from a completely different disciplinary background from yours. This is not a cause for panic. One reason to build a professional network is that you will learn to speak different languages. When speaking with a person who speaks Martian, try to explain yourself in Martian as well as you honestly can. Of course you won't really be speaking fluent Martian, but you'll be meeting your interlocutor halfway. (The secret to speaking Martian, by the way, is not to use a lot of Martian words that you don't identify with. Instead, articulate in plain language, on an intuitive, everyday level, the key insights of the Martian worldview, and then frame your ideas in relation to that. You'll be speaking Martian without the jargon, and the Martians will like it.) Having thus built a network that includes people whose language is different from yours, you will be less shocked when it's finally time to go on the job market. You'll have come up with ways to explain yourself and your work in Martian, and you will know how to apply for a job on Mars. Of course, you will have to decide whether you *want* to work on Mars, but the time to decide that is after you have a sheaf of job offers in your hand.

Which jobs should you apply for? All of them. Having impossibly many interviews or offers is an easy problem to solve. Your real choice is how much effort to put into applying for each of the available jobs. It is possible to expend a huge effort applying for a job, and so you need a sense of priorities. If you have built a network then it should be easy to figure out what your priorities are. Most likely the jobs you most want will be in the departments where you already know people. Find out about those jobs far enough in advance that you can buy your friend a social beverage, say the magic words, "can I ask your advice?", and ask about the real deal with the job. Should I apply? How do the politics work? Is there a strong consensus about the definition of the job, or are there factions, or is it genuinely open? Which members of the department will I most need to connect with? What else should I know? What should I emphasize in writing the cover letter on my applications? Are you on the search committee? Who else is on it? Don't

bother asking your friend about internal candidates for the job, however, since you can't do anything about them and you'll just waste time with obsession and gossip. Remember that your friend just has one point of view. Your friend might be misinformed or preoccupied with some minor grievance, or may simply not be perceptive. Ultimately you have to use your judgement about what to believe.

You can learn more details about the available jobs in other ways. Your friends and thesis committee members have their own networks, and can pass along reputations and other useful information. You should certainly look at the department's Web site. Get a list of the faculty, figure out which ones are closest intellectually to yourself, and hit the library. Individual faculty may have their own home pages, but online materials are less important than published books and articles.

Applying

Now it is time to apply. I will explain how to apply for a faculty position at a research university because that is what I know, but I expect that the broad outlines of my explanation will apply elsewhere. Some positions require application forms, but most job ads will simply specify what you should send: a cover letter, a vita, publications, recommendations, and that sort of thing. If the ad specifies a deadline, you should certainly try to make the deadline. But even if the deadline has gone by, apply anyway or at least ask whether applications are still being accepted. They want the best candidate they can get, so they will probably not insist on formalities.

The most important part of your application is your cover letter. If nobody has explained the purpose of the cover letter, by all means ask. The customs vary, so I cannot give detailed instructions. The general idea, however, is that you write a formal letter, two or three pages, to the chair of the department's search committee. (If the job ad does not provide this person's name, call the department office and ask for it.) Start by saying that you are writing to apply for the job that was advertised in such-and-such a venue. State precisely what job you're applying for (e.g., "the assistant professor position in bovine orthodontia in the Department of Veterinary Dentistry at the University of the Witwatersrand", being careful to spell everything correctly and extra careful that you don't mistakenly mention the name of another school that you happen to be applying to). If you have discussed the job with any members of the department, say so. If the job ad specifies formal requirements for the job (e.g., having a PhD), then be certain to state that you satisfy the requirements (assuming that you do). Then tell your story. Expect to throw this letter out and rewrite it at least three or four times. Really. Don't get lazy and just send out the first draft because it seems good enough. Assume that your first couple of drafts stink and need fundamental rethinking. Get feedback from your committee members and close professional friends.

Your goal in this letter, as in the entire process, is to articulate a clear case for the fit between yourself and the department where you are applying. The raw materials for this story are the research that you have done, the larger-scale research agenda that your dissertation was part of, the kind of job you are looking for, the attributes of the

department that make it a good place for you to pursue your research agenda, your teaching experience and specific details of your commitment to teaching, and the particular individuals in the department whose work is related to your own. It needs to be the best honest version of your story; don't spin or exaggerate anything, because it's wrong and you'll get caught. When applying to your top five choices, strategize each letter pretty much from scratch; then draw on the best pieces of those letters as you prepare a more generic letter that you can vary slightly for the other places. When applying to research-oriented universities, emphasize research but also discuss teaching; when applying to teaching-oriented schools, emphasize both and then expand on the real-world challenges and opportunities that graduating students in your field will face -- and how your specific background and skills make you the right choice for a department that wants to take the lead in this new environment. Emphasize the future as well as the past. Your letter must be extremely well-written. The prose should be clear and vigorous without being bombastic or arrogant, calm and polite without being obsequious or weak. Get rid of commonplaces, cliches, empty formulas, shallow fashion-following, fake boasting, and emotional manipulation. Moderate the jargon. Get to the point. Get a good writer to copyedit it for you. Format it in a professional-looking way. And print the final version on good paper. Your letter should be your best representation of yourself and your plans for your career.

Many people find this letter difficult because they are caught up in a mental state of being desperate for a job. "I'll take anything!", they are thinking, and so they feel driven to write a letter that conforms to (their fantasies about) what the people want, rather than a letter that genuinely tries to articulate the two-way fit between themselves and the department that they are applying to. For example, if the job ad specifies that the applicant should be able to teach topic X, these desperate people might tell some twisted story about how they can teach X, even when it's not true. This is not a good idea. Of course you are not going to present a unilateral, take-it-or-leave-it kind of deal to the people. Rather, you are going to draw on your experience of talking to different people in your network. All this time you have been coming up with lots of different honest ways of explaining yourself, and in your cover letter you should explain yourself in the honest way that is the closest fit to the people who are reading your letter. Maybe it will not feel like a precise fit, but it's better to be honest and confident and persuasive than to make something up. If you really believe what you are saying, then that will come through in your letter. You don't know whether the specifications in the job ad are set in stone. For all you know, they wrote that ad without thinking very hard about it, and in fact the job is still basically undefined. When you come along, sounding much more interesting and up-to-date than their boring ad, they will want you rather than the hundred clones who conformed to the boring expectations they had set up. This is the truth: if there's no honest story about you that fits precisely with the specifications in the ad, then your best strategy is to tell the honest story about yourself that fits best, even if it doesn't fit perfectly, and then let it go. If it's going to happen then it will happen.

In applying for a job, you may find yourself preparing a vita for the first time. A vita is the research world's equivalent of a resume. It starts with your name and contact information, and then it details your educational history, publications, teaching

experience, and other professional involvements. A vita differs from a resume in an important way: whereas resumes in the corporate world are filled with puffed-up language that hypes the individual's past job experience, a vita is more like a database entry -- just the facts. You are going to explain your background and future plans in your letter, not in your vita. The format of a vita is not especially standardized, but you can look at your thesis advisor's vita and model yours on that. In any event, make it neat and professional. And do not include items that aren't related to your professional persona, for example information on your personal life (e.g., family or hobbies), personal references (as opposed to researchers who can write about your professional work), seminar or class papers (as opposed to conference and journal papers), or technical reports in which you are not primary or second author.

Applications for research and teaching jobs also require letters of recommendation from established researchers who know your work. Practices differ; in most cases your recommenders will send their letters direct to the department that you're applying to, but some schools want you to arrange for letters at the time you apply, where others prefer to be given recommenders' names so they can solicit letters only from candidates who they are considering seriously. If the job ad does not explain what they want, go ahead and ask your recommenders to send the letters. Asking someone to write a letter for you is a serious matter. The ideal letter-writer has two properties: (a) knows you and your work (and in a positive way), and (b) is known to the people who will be reading the letter (and in a positive way). If your field is relatively fragmented, or if you have not been doing your networking, then those two properties might trade off. Most departments will want roughly four recommendation letters for an entry-level job. (For high-level full-professor jobs, as many as twelve letters might be required.) Line up your letter-writers a few months before you send in your job applications.

When it does come time for your letter-writers to write their letters, you should try to make their lives easier. First of all, you should tell them precisely whom they should send the letter to (as with your application letter, this should ideally be the chair of the search committee), and the deadline, and the complete address. (This seems obvious, but when the time comes you will have a million things to do. I'm telling you so you don't get sloppy.) Also make sure that they have an up-to-date stack of your papers (including the ones you wrote for their courses), chapters from your thesis, your vita, and other raw material. I also recommend that you offer them a set of bullet points that they can draw on -- for example, a concise statement of the intellectual accomplishments of your thesis, the topic of the research that you're planning post-thesis, your teaching history, and the activities that illustrate your potential for intellectual leadership. Don't try to evaluate your work; just provide them with the factual basis that they'll need to supply their own evaluations. If they don't want the bullets then don't push it.

Practices for writing the letters themselves are fairly personal and vary a great deal. Don't worry about what the letters contain; you will probably never see them (at least those are the rules), and you probably can't do anything about them anyway. But to provide some kind of intuition, let me explain how I write such letters myself -- it's the method that I learned from the guy who supervised my master's thesis. First of all, I definitely ask for a

set of bullets from students, and I am struck that I must often ask two or three times until I get the bullets I need. Many students, even very good ones, haven't rehearsed their voices enough to be able to explain their own intellectual accomplishments. This is not good. Once I do get the necessary bullets, I come up with everything positive that I can honestly say about the person. This is where the bullet points come in: I use them to provide evidence for my positive statements, and I use them to help me think of more positive things to say. This method makes letter-writing more convenient from a moral perspective, since I don't have to struggle with my conscience about providing negative evaluations. I try to organize each letter around a single headline -- the most important of the candidate's positive attributes -- while trying to make sure that I cover everything positive that I can come up with. If a student has weaknesses, I simply don't mention them, figuring that a letter that makes no mention of the student's ideas, hard work, personality, or whatever will speak as loudly as one that says bad things on those topics. The people who read the letters, all of whom write such letters all the time, will see what I am doing, and they will interpret accordingly.

I will admit that some people have more sophisticated approaches to letters than I do; they have reverse-engineered the bureaucratic processes in their heads, and they design their letters based on a finely-detailed understanding of the bureaucratic process, including the precise questions that the people who read the letter are going to be asking themselves. (I explain this further in Section 8.) I don't have that kind of savoir-faire.

Once you do apply for a job, you may also find that your network contacts will volunteer to put in an informal good word for you. This usually means that they will send a simple e-mail message to their friend in the department where you're applying, saying "this person is smart and I think would make a good match for your department". There is nothing wrong with offering to send these back-channel messages, and you should normally accept. The main exception is if you do not trust either the sincerity or the judgement of the person doing the offering.

Interviews

Next you will be invited to job interviews. If you apply for lots of jobs, including jobs are only mildly interested in, then you will get lots of practice at job interviews. This is good. It would be dishonest to interview at a place where you would never go in a million years. But don't turn down job interviews at marginal places unless you really are overwhelmed with better interviews.

When you do get invited to an interview, you might panic. If so then there are things you can do about it. Get advice. Give practice talks -- several of them, until you can give the talk in your sleep. Have your friends sit you down for practice interview conversations, like they'd have with people they were interviewing for real. Then know that you can do the whole thing on autopilot if necessary. But also maintain your routine. Keep making progress on your dissertation.

When you go for a job interview, attitude is important. Do not think of the interview as primarily a way to get a job. That short-term approach will make you act desperate. Instead, look at the interview as an opportunity to establish or deepen long-term professional relationships with the people in the department. You need to be thrilled to meet everyone and find out what they care about. Some of the people will be in completely different research areas from you, but even they will turn out to be connected to you in unexpected ways. Be open to that and think long-term. That way you will be relaxed, and you will feel more comfortable asking them questions as well as answering theirs.

The fundamental principle of an interview for a research-related job is that you need to be able to establish a point of commonality with everyone you meet. Remember how I said that a professional network is based on the articulation of shared values? This is similar, except that you have to do it on your feet. One more reason to develop your network is the practice that it will give you at articulating points of commonality with people, and this is where that skill will be most handy. In the old days, a job interview meant establishing this sort of connection with complete strangers -- believe it or not, it was often hard to obtain a simple list of the department faculty. Now we have the Web, and most job candidates show up for interviews having memorized the faculty and their research interests. You should too. You should also learn in advance about the resources of the university as they pertain to your research interests; this can mean surfing the Web, asking friends, or placing calls to the library and archives. Also find out about relevant research units in other departments. That way you can answer the question (both for your interviewers and for yourself) of why there is a good match between you. But realize that the real work is going to be done interactionally: you will meet with the people, you will converse with them, and the main product of each conversation should be one very clear reason to believe that you and that person will have something to talk about in the future.

More concretely, job interviews usually come in three parts: the public presentation, individual conversations, and socializing. At a research-oriented institution, the public presentation is simply a well-practiced research talk, methodologically airtight, organized around a single visionary argument, and aimed at a broad nonspecialist audience. You might be terrified, in which case you will be especially happy that you practiced your talk. Don't get lazy and prepare it at the last minute. This is your whole career we're talking about.

The question period after your talk is especially important. You will probably get some of the standard questions that challenge you to fill in seeming holes in the argument, and your history of networking with diverse people and internalizing their perceptions of your work will help you deliver the crisp, non-defensive answers that the audience needs. But you may also encounter questions that seem completely random. You will find yourself answering a question that appears to have nothing to do with your talk, as if the questioner were too lazy to understand your talk and were instead asking you to address some personal hobby-horse. When this happens, it helps if you understand what's really going on. You are not being abused, and the questioner is not self-absorbed. Instead, the questioner wants to know if the two of you share any potential conversation topics. The

real form of the question is, "I'm interested in this, so tell me how your talk relates to that". If you draw a blank, adopt a faintly quizzical but basically delighted tone and say, "that's interesting; tell me more". Then look for a point of connection in the response. Your goal in answering questions, and in all of your interactions with the people, is *not* to show how smart you are -- your written work and your talk have taken care of that -- but to show that you are an interesting person to converse with. Blasting people with the firehose of your overbearing brilliance is not the right approach at this point. What you're looking for is a point of contact, just a single way to make a connection between your interests and those of the questioner. You needn't pretend to understand things that you don't understand, and you needn't chase down every implication of every question. Just open up a single topic that builds a bridge between your interests and theirs. Once again you will be happy that you've attended conferences and had plenty of chance to explain your research to people who don't share all of your premises; the job talk isn't the best time to discover just how completely people can misunderstand your work.

A job interview typically also includes one-on-one conversations with faculty and students. These conversations are usually less stringent than in the corporate world, but you should certainly have strong answers ready for the standard interview questions: "Why do you want to work here?", "What do you have to offer?", "What are your research plans?", "What is your teaching philosophy?", and so on. (To get a sense of how hard-core corporate interviewing works, see Martin Yate, *Hiring the Best*. To learn how to answer the questions, see Martin Yate, *Knock 'em Dead*.) For the most part, though, your goal in these conversations is the same as with the questioners after your talks: come away from each conversation with a point of intellectual contact between the two of you. It helps if you have a guess about this point of contact going in, and this is where your homework helps. You have more flexibility in these conversations because they need not be focused narrowly on your research projects. They can include the person's background, cultural and political aspects of the department, the students, and other things that you want to know about. Sometimes the interviewer will have an agenda that they want to cover, in which case you should go along with that, at least at first. But otherwise you should gently take control of the conversation. Find opportunities to tell relevant information about your career, your work with students, and so on. Do not conceive of this stuff as advertising. Do not strain to say flattering things about yourself, as if you were reciting the selling points of a product. Instead, focus on finding something professionally in common -- one thing -- between yourself and your interviewer. Don't be surprised if the people interviewing you have not read your file and know little about you. Your candidacy was probably approved by a committee, and it is a logistical challenge to get your file to everyone in the department. So be prepared to explain yourself to people from scratch.

When I say "take control of the conversation", I don't mean that you should dominate the conversation by talking a lot. Instead, alternate between telling facts about your professional life that might provide points of contact and asking questions that are likely to elicit the kinds of raw material you need to identify the commonalities you're looking for. This may seem daunting at first, especially if you are talking with someone whose work seems completely unrelated to yours. But if you just get started, and get practice at

it, then you will find it a lot easier. Because your interviewers will talk to one another, you should not repeat the same information to everyone. Instead, consciously try to have a different conversation with each person. For example, with at least a couple of your interviewers you should display knowledge of, or at least a sincere curiosity about, the department's curriculum. A good way to start that conversation is to ask how course assignments work. Also make sure you tell someone your research agenda for the next several years. They don't know whether your brilliant dissertation was your own work, or whether you simply transcribed the ideas of your advisor. So frame your future work in a way that builds on the accomplishments of your dissertation while clearly moving into new territory. This will be hard because you're probably still in the depths of the dissertation. So take time out to think about this before you arrive. Try to convey a concrete sense that you can set up a pipeline that produces refereed journal articles as its output.

In general, try to portray yourself (truthfully) as someone who is already functioning like an assistant professor. You need to be publishing, networking, speaking, organizing professional activities, and teaching, and you need to have plans for growth and development in each of those areas. The result should be a sort of business plan for your next several years of work, the result of which will be highly-visible refereed publications that bring glory to you and your department. If you can explain that business plan to the people who are interviewing you, then they will have a clear idea what they are getting. In particular, people who work in different research areas from your own may have a hard time understanding how your work is important, and this is a prime opportunity to explain how your work should be evaluated.

During the interview, you should not talk about topics that are better postponed until you get an offer. This includes salary and benefits, and it especially includes topics such as course reductions for research that may make you look less than completely thrilled about your teaching responsibilities. See the discussion of negotiation below for more details about that phase of the process. During the interview, however, it probably *is* useful to open the topic of what people would expect from you if you want to work there. You might approach this topic either very directly (i.e., "if I came to work here, what would be expected of me?") or very indirectly (e.g., by sensing what happens with each individual as you try to articulate points of commonality with them). Use your judgement. Try to discern whether everyone has the same expectations for you, or whether the expectations conflict. For example, you might find yourself in the middle of a tug-of-war between factions, each of which wants you to join their projects and ally yourself with their political agendas. This kind of conflict is not necessarily unmanageable, but you do want to know about it.

The final component of the interview is socializing. This might take the form of a reception, or of a meal with some number of the faculty and students. The socializing is really just socializing. So tone down the intellectual intensity and socialize. It's still a test, of course, but it's a test of whether you can tone down the intensity. Use common sense. Do not drink alcohol. Do not talk about deep personal things. Do not assume that everybody is your close and trustworthy friend, just because they are being friendly and

polite. In fact, do not confide in any of your professional acquaintances, ever. That's not how it works. Do not say anything bad about anyone. Do not get wild and crazy like it's a party. Do not try to engage in politics, because you won't be any good at it. Just socialize. Get people to talk about themselves. If you have kids, then by all means ask the people about their kids. Find out about daycare and rent and culture if that's what you need to know.

A common mistake during a job interview is to focus your attention on the faculty and ignore everyone else. You need to listen to the students. Are they smart? Mature? Demoralized? Excited about their work? Engaged in a rebellion? Just punching the clock until they get their credential? What are their complaints? What agendas do they bring to the hiring process? Are you only hearing from the activists and complainers, or are you hearing representative views? Try to talk with a group of students without any faculty present. Very often the most vocal segment of students, who may or may not represent a majority, have definite ideas about what sort of faculty are needed -- basically, faculty who can teach the things that they want to learn and that the current faculty can't teach. If you can teach those things then by all means get conversation going on that topic. If not then elicit a broader range of issues and concerns to discover whether that particular topic is the only important one. In addition, graduate students will often have elaborate views about the politics of their department. You can listen to these views as anthropological data, but in practice students' political analyses are wildly uneven in quality; some are very astute -- these are smart people, after all -- but in other cases they just don't have enough information to develop informed ideas. So listen to them, but don't automatically believe or act on what you hear from them.

Big picture

Those are the mechanics; now back to the big picture. Being a job candidate is inherently strange. In one sense it is flattering: all of these interesting and busy people are focusing their attention on you and your work. It is an important way to get feedback and thus build your professional voice. It is an important way to get a sense of proportion about the professional world. To really understand it, look at it from the point of view of the people who are interviewing you. By far the most valuable commodity that any academic department possesses is job slots. Things like money and office space (which is the second most valuable commodity) are relatively fixed, or else they are in the control of deans and provosts. But who gets hired is almost totally under the control of the faculty, and it is absolutely fundamental to the future workings of the department. It stands to reason that people might fight about it, or that they will be looking for allies or compromises or least worst alternatives. All of this political action will be going on under the surface, and you will be oblivious to most of it. Of course, if you have a friend in the department then you will have learned some of it. But most of it will be too complicated or subtle or taboo for anyone to explain to you.

So here is the paradox: while you are in town for your interview, you are the most important person in the whole world, and yet you cannot know just *how* you are important. It's like being an anthropologist: you sail ashore on an island somewhere, with

maybe a couple of names of contacts and a year spent studying the language from tapes. You really don't know the culture that well, and yet suddenly there you are. You are fascinating to them, and they are fascinating to you, but the substance of this fascination is hazy. You are *meaningful* to them -- that is, the culture and politics of the place has assigned you a meaning -- but you don't know what your meaning is. You might be seen as a savior, or an invader, or as a source of cargo from the First World, or as so-and-so's candidate, or as a snooty person from the Big School on the east coast. Most likely different people will perceive you differently, and their perceptions will be shaped by their relationships to one another. On the whole, however, the good news is that nobody will expect you to understand the culture and politics. Don't go around saying things that could trample on land mines and you'll be fine. Listen both intellectually and intuitively to the people as they talk. Carefully get them to talk about their history of relations with one another. When they tell you something about that history, listen to their vocabulary and use their words to ask them more questions. Smile and nod and don't get drawn into topics that you don't know anything about. Go ahead and express your own concerns, e.g., "from what you're saying, should I worry that maybe I, given my background as such-and-such and my interest in such-and-such, will be treated as a outsider and not a full member of the group?". That works fine. What won't work is expressing opinions about this strange culture, when you just washed up on the shore this morning.

Here is another way to think about the politics of the academic job interview. Think about the faculty members in the department where you are interviewing, and arrange them along a spectrum. At one end are the people whose research interests are closest to yours, and at the other end are the people whose research interests are furthest away from yours. As a broad generalization, faculty want to hire people whose interests are closer to their own. And the faculty decide who to hire by majority vote. These facts define your task. With the faculty whose interests are closest to yours, your job is to develop a deep bond of professional solidarity. Once they hire you, they may not be able to hire any more friends for a long time, so they need to be persuaded that you will be a good collaborator. With the people whose interests are furthest from yours, your job is simply not to get them mad at you. Find a single point of contact with them, establish friendly relations, and leave it at that. The most crucial people are the ones in the middle -- the faculty whose research areas are somewhat related to yours. These are the swing votes, and you must win them over. Read their work. Ask your contacts what they care about. Then, when you're on the airplane, think deeply about the values and directions that you share with each of them, and develop a sense that you are intellectually on the same team. Of course, in the end people will vote for you because you are the best candidate for the job; no amount of politicking will change that, and your basic approach to the interview should not be political. Even so, the best way to help people appreciate the quality of your work is to converse with them in their own language.

A topic that often preoccupies job candidates is the "culture" of the department they are joining. Junior people are often afraid that they will be isolated in their departments, or that they will have to contend with a general atmosphere of nastiness. These concerns can be valid, but they are often overblown. First of all, in looking at a department you should try not to reify an abstraction called "the culture". The department is made of individuals,

and you will have dealings with them individually. Departments do often have customs and practices, but those things do not define life in the department in general. You should also get fears of intellectual isolation in perspective. It is better, of course, if you find yourself working in a department with other people who share your intellectual worldview. But you should also be investing considerable effort in building an intellectual network outside of your department. If you don't have a network, then isolation is a valid fear. If you do have a network, though, then you can draw on your network for intellectual rapport, comments on draft papers, and things like that. And over the long haul, as you become more prominent through your publishing and networking, you can look for an opportunity to move into a job where you fit more perfectly.

Negotiating

The point of all this, of course, is to get job offers. Know that you do not have a legally binding job offer until you have a paper letter in your hand that offers you the job and states the title, salary, and starting date. Do not tell anybody that you have a job, do not reject any options elsewhere, and do not resign from the job that you currently have until you have this letter in your hand. A letter that says "this offer is contingent upon final approval by the Provost, the Academic Council, and the President" is not a legally binding job offer until you get written or e-mailed word of that approval.

The official job offer letter, however, is only one step in a complicated process whose details vary a lot depending on the field and on the personalities of the people involved. The first and most momentous step is that the department votes to recommend you for the job. When this happens you will receive an informal message from someone in the department, and there will be much rejoicing. This is *not* a legally binding job offer. When you receive this message, the correct answer is not "yes" but rather "it's a great honor that you want to offer me the job, thank you; let's explore the details". This is called negotiation, and the results of the negotiation will go into the job offer. Negotiating a job offer is a serious matter. The intuition is that you will rarely have as much power as you do right now. Use it, because once you are hired you can be ordered to teach courses you don't want to teach, serve on committees that you don't want to serve on, conduct your research in lab space that you don't like, and so forth. So long as your negotiations with the department remain open, you will have their undivided attention. Be polite. Be business-like. And be prompt, because if you turn down the job then they will want to offer it to someone else. But do take the opportunity to think carefully and get yourself the best offer you can.

Before you get into the details of the negotiation, you should take a moment and exhale. If you're like most people, you've been worrying about whether you would have a job at all. Maybe you're going to be on the street, maybe your children are going to be malnourished, maybe you will have wasted years of your life, etc. Now that a department has announced an interest in hiring you, those anxieties are not going to vanish in an instant. Have a party. Decompress. Tell yourself that the worst case scenario, while not perfect, has just gotten a lot better. A lot of people would give their teeth to have your problems now.

You should also talk with the department chair at an early point to find out their process. Is the formal job-offer letter normally sent before or after the negotiation? What kind of word does the department need from you before they send your file up the hierarchy? For example, your file might not go to the dean until you say that you would accept the terms if offered. What approvals are needed from that point, and what precedents are there for files being rejected? Does the chair have to get the file to a committee by a certain date? Does this mean that you have to complete the negotiation by a certain date? At some point you might have to force the chair to walk your file through the hierarchy, but don't mention that possibility now. Instead, work together to avoid that sort of crisis, as well as the sorts of misunderstanding that get reported as "I busted a gut to get the terms s/he wanted and now s/he's making extra demands".

Prepare for the negotiation by talking to the three or four members of the department with whom you established the best rapport, hopefully including the most politically astute. Call them on the phone and say, "you're probably aware that the department wants to offer me this job, and I'm hoping to continue our conversation a little bit; is this a good moment?". They've interviewed you; now it's your turn to interview them. Be polite and low-key. Don't be arrogant. Don't get caught digging up dirt, and don't grill anyone like a police detective. Don't waste their time. Stick to the point. But do get your questions answered. If you have practical questions about things like housing costs and community life, ask them -- one of the norms of collegiality is that colleagues help one another out with this sort of practical information. Ask semi-directive questions about the topics that concern you. "What should I know?" "How does tenure work there?" "What is the tenure rate? Can you tell me about cases where people didn't get tenure?" "What is the culture like?" "How does everyone get along?" Then listen to what they say and don't say, and how real they sound.

You should also get advice from your thesis committee members, anyone else who wrote a letter on your behalf, and your friends inside the department that wants to hire you. You should also keep those people fully informed at each step in the negotiating process. When talking to your insider friends, it would be especially helpful to ask them about local practices. What sorts of things have previous new hires negotiated for?

When you proceed to actually negotiate the details of the offer, you should understand what flexibility the department does and does not have. A department in a private university will probably have some flexibility about salary. The key intuition is that you will only get the salary that someone else is willing to offer you. So if you have other offers (and they'll know if you have other offers) then you can explore the issue. A public university will probably have little flexibility about salary. (On the other hand, salaries at public universities are matters of public record, and are sometimes available on the Web if you look hard.) The only common way for an entry-level faculty member in a public university to negotiate about salary is to consider getting hired at one notch in the promotion scale above the bottom. So ask the question, "how does the promotion ladder work there?". Oftentimes they will have Assistant Professor I, II, III, and IV, or whatever. So maybe you want to be Assistant Professor II instead of I. But then maybe you don't, because an Assistant Professor II might come up for tenure a couple of years earlier than

an Assistant Professor I, and you probably want to delay your tenure case as long as possible so that you can amass a publication record. So salary is probably not a major negotiation issue. If you do want to negotiate salary, the gist of the problem is for you and your prospective chair to formulate arguments that will persuade the dean, whose decision it is. If nothing else, this is good practice: once you start work, you will spend a lot of your time working with your colleagues to formulate arguments that will persuade the dean.

As to the other issues, distinguish in your mind between items that cost money and items that do not cost money but that make the chair's life harder. As far as the money is concerned, you should figure that the chair has a "pot" of somewhere less than $10,000 to spend on extras for you during your first year. (That's for a research university. I don't know about industry or more teaching-centered schools. The amount also depends a lot on the field. Scientists need a lot of capital to work, but entry-level historians aren't in a position to negotiate for much of anything.) So you are effectively deciding how to allocate that money. First find out what comes with the offer for free. That might sound like, "I assume the offer comes with basics like an office with a computer in it". This is a smart thing to say, because you don't want your computer to trade off against other items. Do the same with technical support for your computer, and then do it with library access and moving expenses. Then figure out what else you want for your first year, such as a laboratory space, a lighter teaching load while you get your research started, or an assistant. You might also get someone on your thesis committee to explain the concept of "summer salary" to you. You need to get a research program started, and you should ask the chair for whatever you will need to hit the ground running. Much of your first year will be spent writing grant proposals, and you need the resources up-front that will let you start doing research and win the research grants you will need. It is in the department's interest for you to succeed in this, but the department will not necessarily know what your needs are. So figure them out and negotiate for them. As an entry level faculty member you should not invest your ego in getting a huge amount of stuff from the negotiation. Just find the optimum trade-off.

Your other area of negotiation does not cost money, but it does make the chair's life harder. I'm talking about teaching and committee assignments. Much of the chair's job is to fit together a whole batch of puzzle pieces so that courses get taught and committee work gets done, among other things, and you are a puzzle piece. You want to get assigned to teach courses that you will be good at teaching. You also want to be confident that you will be assigned the same course for several years, so that the massive effort of preparing the course will be amortized, and so that you can focus more on research in the crucial few years after you get your research program under way. So try to negotiate at least some of your first year's courses. This may not be possible at all if it violates local customs, but you can ask. Consider being assigned to teach a graduate seminar in your research area, ideally toward the end of your first year, so that you can recruit graduate students to your projects. (Your seminar should be defined *not* in terms of your specific research topic, but in terms of the scope, hopefully much wider, of dissertation projects that you would be willing and able to supervise.) You should also negotiate your first-year committee assignments. Some departments kill their junior faculty's careers by

assigning them difficult administrative responsibilities. Find out whether you're dealing with a department that has a history of this. You can't negotiate your courses or committee assignments beyond the first year, but you can at least get yourself positioned. The key intuition for committee work is to define an area of committee work that you really care about, and get assigned to that. That area might not even have a name yet. Avoid the undergraduate and graduate program committees, which involve heavy lifting. Organizing the department seminar is a very good idea. It is usually not a popular job, but it will give you a public role and help with your networking.

One last item. While you're negotiating your job offer(s), you need to ask yourself a hard question: will my dissertation really be done (and that means completely done, printed, signed, and into the library) by the start date of the job? The reason I ask is that not having your dissertation done when you start a new job is a bad idea. For one thing, the job itself might be contingent on your having a PhD. But even if they let you start the job without the dissertation finished, you will probably regret it. You'll tell yourself, "I'll get back to the dissertation once I overcome the enormous blast of work at the beginning of the new job", but then reality will hit. That initial blast of work will never end. And even if it does end, you'll have lost your current immersion in the dissertation, and it'll take you months to get back up to speed. Meanwhile, the tenure clock is ticking, and all the time you've spent on your dissertation is time that you're not spending on grant proposals, research projects, and refereed journal articles. My point is that you must be realistic about when your dissertation will be done. It has already taken longer than you thought, and the rest of it will take longer than you thought as well. You've got a committee of professors looking for problems with it, you've got trips to the library ahead of you, and you've got details to pin down. It's an issue.

If you do worry that you might not finish the dissertation on time, the job negotiation is the right time to face the problem. You can say this: "Let's talk for a moment about my dissertation. It's coming along very well and I'm pretty confident that it'll be done on time. But if something bad happens and it's not done on July 1st (or whatever the official start date of the job is), what happens?". Your interlocutor's tone of voice will immediately drop into that troubled-and-worried range that you have been trying to avoid during the cheerful interview process, and you will have a scary conversation about rules and contingencies. Don't panic. Remember that these people have just gotten done persuading themselves that you are the best person for the job. They aren't going to blow you off just because you asked the question. But they have students that need teaching, committee work that needs doing, and all the rest of it, and their lives will become measurably harder if you blow it. The best outcome is if you can get an option, written into your offer, to postpone your start date by a semester. Or, if you're especially lucky, they might bring you on as a postdoc for a year with the job offer still in effect afterwards on the condition that you finish the dissertation. Or you might get an ultimatum to finish it or else. In any case you'll know where you stand. You certainly don't want them telling people, "There's a chance that the dissertation won't be done", so do emphasize that the conversation is hypothetical. But if things drag on, don't kid yourself about the reality of the situation.

Once you finish negotiating with the department, your job offer will probably need to be approved by the university's internal hierarchy. Actually, these approvals might happen before the negotiation; the point is that the department itself does not have the authority to offer you a job. The hierarchy's approval process does sometimes go wrong: either the so-called Committee on Academic Personnel doesn't think you have enough publications, or they are overloaded with other people's cases, or the department failed to get your file to them on time. This is why you shouldn't abandon any other options until you have an offer letter in your hand. It is also why you should ensure that your department has everything it could possibly need to defend the idea of hiring you: publications, recommendation letters, chapters of your half-finished book, a copy of your book contract with the publisher, teaching evaluations, everything. If you wrote more papers after the interview (and you should have), definitely send them along. Unpublished papers count too, provided they're ready to circulate. And make sure the department has exhaustive and up-to-date contact information for you, in case a bureaucratic emergency arises.

Finally you will get written job offers, hopefully including ones that you want. The really hard part comes when you have more than one. If the offers all arrive at the same time then you are lucky -- you just have to pick one. But if the job offers arrive at different times then you will find yourself under a great deal of pressure. You might get an offer from your fifth-choice department, and they might give you three weeks to decide, and then two weeks along your first-choice department is still dawdling. What do you do? Well, first you communicate with everyone. Tell your first-choice school that you have another offer that comes with time pressure. If they want you then they will speed it up. Even worse is when your fifth-choice job offer is about to time out, and you have no other job offers in hand, but your first choice department says that they can 99% guarantee you a job offer if you can just wait another week. This is a tough one, because if that first-choice job doesn't come through then you're on the street. So what do you do? Well, hopefully you have prepared for this amazingly common situation by having a one-year postdoc or visiting position in your pocket as a fall-back. But let's say you haven't. Then you should try to delay the fifth-choice people another week, and if you can't delay them then you should take their job, figuring that maybe you'll move somewhere else once you become established. Why? Because that so-called 99% guarantee from your first-choice department is probably more like 50%. It's in their interest to delude themselves about how likely they are to offer you a job because they lose nothing if they're wrong.

Getting advice

When looking for a job, and especially when negotiating a job offer, you will probably be asking for a great deal of advice -- maybe more serious advice than you have ever gotten in your life. It will therefore be helpful to think about the general problem of getting advice. You should get advice from a wide variety of people. The reason for this is straightforward: in giving advice, people tend to overgeneralize from their own experience. Few people are excellent advice-givers; the real distinction is between people who can get a little distance on their own experience and people who can't. You should

try to determine each person's strengths and weaknesses as an advice-giver, and try to adjust accordingly.

One way to interpret various advice-givers' strengths and weaknesses is in terms of their structural location. Relying only on your thesis committee will give you advice-givers who are steeped in one culture. They will probably advise you as if where you are going resembles the culture in which you've been trained. The advice you will get from assistant professors is almost always useless; very junior people are often unable to attend the most important meetings, and they are generally too anxious about their own positions to help you much. People are generalizing from their experience. But practices vary from one field to another, and so the advice you get will also vary depending on the advice-giver's field. For example, a field that is oversupplied with well-qualified job candidates will probably have different practices than one where qualified candidates are rare. Most people are unaware of the degree of variation among fields, and so they may not realize that their experience doesn't generalize.

It's especially important to attend to the distinctions between junior and senior people. For junior people, the experience of negotiating an offer is still fresh in mind. As such, their advice is more likely to reflect current practice. Senior people, by contrast, probably travel and network a great deal, so they can be useful as sources of intelligence, but they may not have negotiated an offer for decades. Things have generally gotten more competitive since the 1970's, and so it is common for senior people to have an excessively sunny outlook. At the same time, junior people often have an excessively cynical outlook. Some people take these polar attitudes to an extreme, and you should ignore any advice you get from people (mostly senior) who think academe is all about the disinterested pursuit of truth, as well as from people (mostly junior) who think it's all politics. People with mature outlooks fall into the realistic middle between these extremes, and you should consciously identify those mature individuals and make professional friends with them.

Conclusion

That, then, is how to get a job. If you are reading this as a new graduate student, it probably sounds completely foreign. "How could I ever do all of that, when right now I'm just focused on the insane reading list I have to study for my qualifying exams?" It's a good question, but the answer is that everything comes in its time. Read this article again when you are writing your first conference paper on your research, and then read it again once a year. You will be impressed with how different it seems from year to year, and how much more sense the institutions will make once you start to become part of them.

SECTION 7. Advising Others

Once you get a job, and probably long before, your status in the community will quietly shift: you'll no longer be the disoriented student at the bottom of the totem pole, and

others will be coming to you for advice. That's particularly true if you've been building a network, organizing professional activities, and projecting a sense of purpose in your career. Perhaps you are not yet anyone's official dissertation advisor, but you are an advisor in an informal sense, with a chance to do good and a risk of doing harm. You need to see the situation coming, because being in a position to give advice can evoke strange reactions. If you have any latent tendencies to be an empire-builder, power freak, meddler, or know-it-all, now is when they will come out. It will take a little time before you get comfortable with the role, so in the meantime here are some concepts and rules.

* Figure out whether you are being asked for advice at all. Often people who have troubling situations just want to talk about them, either to sort out the situation emotionally or just to rant. Maybe you're just supposed to sit there and say nothing, which if you're like me will be good for you. It is very common to hallucinate that you are being asked for advice when you are not. Giving unwanted advice is a serious and widespread character defect. It is a good practice, therefore, to ask "do you want advice?" or "are you asking for advice?". Don't make it sound like you are bursting with advice that you can't wait to spill out. If the answer is "no", shrug and say "okay" and be done with it. Regardless of the answer, the situation will be clarified in both of your minds.

* Decide in advance whether you are qualified to give people advice about personal matters, or just about professional matters. Most people are terrible at the former. In either case, be clear in your own mind whether the matter is personal, professional, or a combination of both. People's situations usually have both aspects, especially early in their careers before they have themselves all established and compartmentalized, so you may have to say things like, "well, that's a personal aspect of the situation that I can't really help with".

* Understand the different structural situations that might cause the person to need advice. The hardest and most important case is when the person is just entering into a new institutional setting (such as the early years of graduate school) or else making the transition to a very different location within the institution (such as when starting their first faculty job). In that case, what's really needed is a general orientation to an unfamiliar landscape. You're inside and they're outside, and they're still clueless. Your major obstacle is that you've forgotten what that clueless feeling is like. Try to remember, though, because your job is to provide the person with a way of looking at things. Try to explain, concisely and in plain language, the logic of the world they're entering, so they can see what's going on around them. Provide a sense of proportion. "Is this situation normal?" "Can this be done?" Another possibility, very different and much easier, is that the person understands the unwritten rules of the institution just fine, and needs advice simply because you know particular facts. Perhaps you are acquainted with particular individuals and can provide advice about dealing with them. Explain what those individuals care about, what concerns they are likely to have, what misperceptions are liable to set them off, what agendas they have going on, and so forth. Yet another possibility is that you're being asked for guidance, either step-by-step instructions or an intuitive sense of proportion, on a specific process that you have been through, such as

organizing a workshop. Figure out what kind of advice you are being asked for, confirm your understanding with the person, and then advise accordingly.

* Realize the limits of your expertise. Learn how to say "I don't know" without feeling insecure. Practice phrases like "I'm at the edge of my expertise here, and you might want to talk to X or Y who has done more of this than I have". Learn to detect the feeling inside yourself when you cease knowing what you're talking about and start making things up instead. Notice how good it feels to know what you're talking about, and how good it feels to refrain from making things up.

* Clarify the situation. Make sure you've got the facts before you start issuing directions. The person you're advising may not even be clear as to the nature of the situation, and you may well find yourself turning up important facts that completely change the picture. This is particularly true when you're being asked to help impose order on chaos, as for example when the question is "What should I do with my life?". Understand whether the crucial facts are about the person asking for help, about some public situation such as a bureaucratic process, about third parties, about technical machinery, or whatever. Some situations are clearer than others, and when the situation is unclear you should settle down to extended elicitation of facts. Decide whether you should be asking directive questions (that is, questions that presuppose that you know what the real issue is) or semi-directive questions (that is, questions that are fairly vague and are really aimed at getting the person talking so that you can listen to their language and the way they're talking). An example of a directive question is, "have you registered for the course?"; an example of a semi-directive question is, "how did you decide to take the course?". Sometimes it's useful for the person to wander around exploring different aspects of the situation, and sometimes it's not. It's up to you to discern the difference.

* Find out what's behind the question. People often don't know how to ask their question, or because they don't understand their situation they are asking the wrong question. If a graduate student asks you how to start a journal, for example, you can probably guess that the question is wrong. Even when the question is right, you usually want to know what motivated it. So unless the question is really clear-cut, don't launch into an answer until you have elicited the broader background that motivated it. Maybe your advice will be to ask other questions.

* If the person is having trouble with a decision, find out if they know what they want to do with their life. I've mentioned that "what should I do with my life?" involves imposing order on chaos, and you can hardly believe how true this is until you start talking to people about it. Some people tolerate the chaos perfectly well, and they are happy pursuing what interests them from day to day or year to year. Other people, however, live in a constant state of distress because of it, and those people need help. When people can't decide what to write their term papers about, for example, I find that they are actually uncertain what their life is about. Just ask them: "what do you want to do with your life?". They will probably shrug and giggle. They have no idea. I believe that someone who is living in that kind of chaos is incapable of learning, and so I regularly turn conversations about term paper topics into conversations about career plans. I don't

require anyone to make any irreversible commitments, but I do urge them to come up with a tentative plan that they can explore through their term paper. The same principle applies to many other decisions. Now, some people don't want a plan for their lives, and insist on living in state of permanent chaos. That's their right, but it's also my right to tell those people nicely that I don't know how to help them.

* Cultivate your powers of finding things interesting. If you are like most of us, you will need to learn how to distinguish your own interests from other people's. If someone is looking for direction, the worst thing you can do is to foist your own direction on them. Most such foisting is unconscious: you may not intend to manipulate anyone into following your own path rather than theirs, but if you have sewn yourself into the narrow world of your dissertation then you may not even recognize that other paths exists. Get used to the fact that some people want to make money, and that other people are interested in research methodologies that are quite different from your own, and that still other people are much more interested in theory than you are, or much less. Most people couldn't care less about the research literatures that fascinate you, and that's okay. In advising others, you have an opportunity to expand yourself by searching out and articulating a vision of greatness for someone else's life. You have to start by believing that everyone, including the person you are advising, is capable of making a tremendous contribution to the world. That tremendous contribution is inside them somewhere, it's trying to get out, and if you are advising someone who is looking for direction then your job is to identify that tremendous contribution and get excited about it. Figure out what the person is interested in. Elicit bits and pieces of their interests, then offer various alternative directions that they could pursue, and ask them which alternatives strike a chord. The process is like tuning a radio: you are going to fiddle with the dial until the person's tremendous-contribution-in-the-making comes through loud and clear. Share that person's excitement, and enthusiastically preach the importance of their vision. Their path won't always be easy, and your articulate and persuasive confidence will help keep them on track. In particular, you can help them by acting as a translator between their world and the professional world that they want to join, explaining their vision to them in professional-sounding language. Sell them their own lives. And whatever you do, don't go around discouraging people, or telling them that they can't cut it. Your question should be "what does this person down-deep care about?", because that is where their greatest contribution will lie. It's not your job to go around trashing people's dreams, because you're not that smart.

* Don't try to tell people what to work on. If someone is looking for help identifying a research topic, your advice should remain on the level of process, not substance. Research topics are extremely personal, and a topic that interests you is not likely to interest anyone else. You can mirror back someone's topic in an interesting way, but you can't devise a topic from scratch. What you can do, however, is to offer a few potential topics as probes into the person's interests. You can say, "okay, just to help me get a sense of your interests, let me just make up a few topics off the top of my head, and you can tell me which ones are more and less interesting, and why". Note that you are deliberately downplaying your own investment in the topics you suggest.

* Try not to offer evaluations. Only rarely will anyone ever ask you, "how good is my writing" or "how good is my research". If you think you are being asked for an objective evaluation like this, stop and think. Either you are really being asked, "should I change careers?", in which case you should explore that question in the thorough way that it deserves, or you are being asked, "what are some specific ways in which I can improve my writing/research?", in which case you can treat the question very narrowly and positively without offering any kind of overall assessment.

* It's not about you. In offering advice to someone else, you may be tempted to use your own experiences as examples. Don't. Stories about your life will not communicate anything useful. If you have learned any lessons from your experiences, then that's great; you can explore how (and whether) those lessons apply to the particulars of the other person's life. But leave your life out of it. This rule has only one exception. Often someone will be distressed because they're going through a crisis that lots of people go through. You can help them feel better by saying, "yeah, I know, I went through that; lots of people do", and leaving it at that -- just a few words.

* Don't be a jerk. Many people use "frank advice" as an excuse to be obnoxious. Have a caring purpose. This means saying things because they are going to help someone get a clear understanding and their own direction, not just because they are true.

* Understand which words belong to you and which belong to the person you're advising. For example, if you are serving as a bureaucratic authority (e.g., an instructor in a course) then it is your job to understand and adjudicate the meanings of the relevant bureaucratic words. On the other hand, if the person is telling you about their life, or about a world that you are not a part of, they will often introduce words that you do not control, and whose full meaning you can probably never know. I'm not just talking about five-syllable jargon words, but ordinary simple words that might or might not carry special connotations for particular people. Don't try to take control of such words. Don't presuppose that you know what they mean, and do not try to impose your own meaning upon them. Nothing kills communication faster. Instead, incorporate those words into questions aimed at eliciting a fuller picture of the situation. For example, if the person says, "I want a meaningful job", you have no idea what "meaningful" means to them. But you can ask a question like, "what would a meaningful job be like?", or "who comes to mind that has a job that's meaningful in the way you'd like?". This can get condescending if you do it wrong, but once you have the concept of not legislating what "meaningful" means you'll figure it out.

* Be a mirror. Make clear what you know and don't know. Check your understanding by saying, "let me check my understanding by trying to explain that back to you in my own words", doing so, and saying, "is that right?". This is called active listening, and it accomplishes many things, such as preventing you from saying dumb things, eliciting any further information you might need, and tactfully showing the person how well they are expressing themselves. Own your perceptions and feelings by saying things like, "my sense is ..." and "I perceive you as being unclear on ...". Emphasize the evidentiary basis of your comments by saying things like, "I hardly know you, so what I'm saying is based

only on what you've told me and on the impressions I'm getting here". It may sound like a platitude, but it's not. It makes clear that you do not have a magical ability to read anybody's mind, and that you understand your limitations.

* Know your feelings. Let's say that you're listening to someone's problems and you start feeling angry (or sad, or confused, or itching to get out of there). Although I don't want you to engage in psychoanalysis or start talking about your feelings in a way that would take the focus off the person you're advising, it will be useful if you can notice the feeling and start to identify it. The first step, which is harder than it sounds, is actually becoming aware of the feeling. If you're feeling angry and you start yelling, then that's a good sign that you're acting on the feeling rather than consciously observing it. Once you become consciously aware of the feeling, try to locate where in your body you are feeling it. Is it in your stomach? Your jaw? Take a moment to feel the feeling, and ask yourself whether the feeling is familiar. Is this something you commonly feel? Once you get a fix on the feeling, you can ask yourself some questions about it:

(1) Whose feeling is it? When giving someone advice, it's common to feel that person's feelings instead of your own. Either you are feeling a natural empathy, or else the person is unconsciously trying to shift their own feelings onto you. This is especially common with feelings of confusion, and if you become confused while giving someone advice then you should definitely stop and consider whether it's your own confusion or theirs.

(2) Is the feeling rational? That is, are you angry (sad, frightened, confused, etc) about the actual, real situation that's happening there in the room, or has something about that situation poked an emotional wound that you're carrying around from an unrelated situation? For example, if you are advising someone who is being oppressed, you might start to get angry (or whatever) because you're unconsciously calling up memories of your own unresolved experiences of being oppressed. Feelings from unrelated situations are rarely useful, and you should try to file them and return to the business at hand. Deal with them later on your own time.

(3) Who is the feeling directed toward? You might be angry (or sad, frightened, confused, etc) toward the person you are advising, for example because the person's actual agenda is not to get advice but to manipulate you. If so then you'll have to decide whether to proceed, and how. Or you might be angry (etc) toward some third party that the person is telling you about. In that case you need to file that feeling for later and proceed in a rational, analytical way, since your job is to be useful, not angry.

Once you have identified the feeling in these ways, you will have to decide what to do about it. The point, again, is not to launch into extended psychological discussions. You probably don't have the training for that. You could simply explain that you're having the feeling and what you think is causing it. You can even say that you're mentioning this precisely because you want to stick to rational analysis of the situation. Or you can simply use the feeling as a source of data as you decide how to proceed with the conversation. In any case, the simple act of identifying the feeling will make you less likely to act irrationally on it.

* Take a different approach when advising someone who is distraught. A person who is acutely emotionally upset (failed an exam, might get thrown out of school, whatever) is temporarily incapable of rational thought. That's not their fault, and you shouldn't blame them for it. To the contrary, you should accommodate their situation by not doing or saying anything that demands rational thought from them. Don't try to explain things or solve problems. Don't say "I know how you feel". Just listen for a while. See if you can make yourself into a container where they can put all the junk until they are in a position to process it. When the time comes to put the pieces back together, have them walk through the facts of the situation. Simply saying the facts, without any attempt to evaluate or change them, is the first step to reestablishing rational thought. Concreteness is important. Watch for any tendencies to blur the facts with hazy language, or to speak in abstractions. Watch for attempts to conflate logically unrelated situations into a big ball of distressing emotions. These are defenses against dealing with the reality. Also watch for attempts to conflate simple statements of the facts with extra, additional judgements about what those facts imply -- such conflations are a very important sign that the person is not dealing with reality yet. Of course, maybe it's not time to deal with reality yet, and that's not for you to decide. But if it's time to reason about the situation, then you can do a service by keeping things on a rational track. Prioritize. Ask questions that will let you distinguish between issues that really need to be decided right now and issues that can wait. Don't get sidetracked worrying about facts that have no bearing on the issues that need to be decided first. Once you've reestablished the rhythms of rational discussion, you can resume applying the rest of the strategies I've presented here.

* Be clear whether the situation calls for you to offer specific instructions. Usually it does not. Everyone has their own path, and you probably can't have enough information to know what course is actually best, given the full context of their life. It is important to understand this, because otherwise you are likely to get yourself too committed to the solution that happens to occur to you. Some people just want reactions, perspectives, options, issues, and reassurance that they're not crazy. They can figure the rest out for themselves. Other people want detailed instructions. You'll have to figure out who wants what.

* If you start to suspect a hidden agenda, stop, and don't continue until you have clarified the situation. Some people want advice so they can blame you if your advice, which they plan on following in only the most narrow way, doesn't work. Some people pretend to want advice so they can resist it. Some people are really there to get you to say that they are right and someone else is wrong. Most people with agendas will never admit them, and it probably won't do any good for you to accuse them of anything. But if you determine that your time is not being used in good faith, simply say that you don't know how to help them. And let it go.

* If you find yourself pressuring, manipulating, or arguing, then something has gone wrong. You can state your views, but let go of your desire to control anyone. Other people are responsible for their actions and have to make their own decisions. You can give them factual information and state your own opinions (e.g., by saying "my opinion is ..."), but trying to control them won't help and will probably cloud their thinking. If their

decision affects you then you are not giving advice but negotiating, which is extremely different. If you are actually negotiating then this must be made clear all around. Recruiting someone to join your research group or department, for example, is a kind of negotiation. Likewise, you should realize if you have any conflicts of interest, for example when the topic is whether the student ought to be working for you. Sometimes the conflicts are not obvious, and in that case you should obviously disclose them. But if your interests really aren't affected, then realize that and let go of needing to fix the outcome.

* Giving advice is often iterative. You'll offer advice, but your advice will cause other facts and issues to surface, such as the reasons why your advice won't work. That's fine. Just start another round of clarifying the situation. And once you understand that advice is iterative, you'll be more likely to frame your advice in a conditional way, like "okay, how about if you ..., would that work?".

* Talk in usefully medium-sized units. Don't give long speeches. If your advisee is filling up with comments or resistance as you talk then your talking isn't doing any good anyway. If they seem to want to talk, stop talking, because they aren't listening. By the same token, if your head fills up with things to say while the person is talking, make notes. Then just say the one that's most important. It's okay to say "hang on, I need to keep notes to keep track of this". If you can't get around to saying everything that you want to say, you can always follow up with an e-mail letter if necessary. Or you can just forget it. You don't need to present a complete, seamless picture. Just say enough to get the person thinking on their own again, then stop. You can check understanding with something like "is this making any sense?". This is better than "do you understand?", since it puts the blame on you and doesn't presuppose that you *are* making sense. An even better question is, "do I understand?", since that's a more common problem anyway.

* Get to the point. Don't start into a philosophical speech whose connection to the issue at hand is not going to be revealed until it's almost done. If you do have to explain an abstract concept, say so first: "I guess to explain this I have to introduce an abstract concept, okay?". The person you're advising is focused on their problem, and they don't have the attention span for anything whose relation to the problem has not been made clear. Concisely explain your thought processes.

* Don't ask questions unless you want to know the answers. Don't ask "quiz questions" whose answers you already know. Making someone read your mind teaches all the wrong lessons.

* Practice explaining things. When you see someone pursuing their career in an admirably effective way, stop and figure out what they are doing. The concepts in "Networking on the Network" should help. Then pretend that you are explaining the admirably effective strategies you are seeing. Rehearse the actual words that you would use to make these strategies comprehensible to someone who still feels clueless. If you do this consistently then your rehearsals will come back to you automatically some day when it's your turn to give advice. You will also start to notice analogies and patterns

among the various admirable strategies you observe, and this will help you to develop your own concepts.

* If you find yourself giving the same advice over and over, write it down. This happens a lot when you're dealing with lots of people who are all in basically the same situation, such as students in your class. Most of them will never ask you for advice, even though most of them need it. By writing your advice down, you save everyone's time and spread the benefits of your wisdom to more people. Then keep adding to your emerging how-to every time a new issue comes up. That's where this article came from. Not only that: every time I see a student feeling bad or getting into trouble, I ask myself whether the necessary advice is in this article, and if it isn't I add another sentence, paragraph, or section.

SECTION 8. How to Get Tenure

A professor once told me that getting tenure is like not getting hit by a train. What she meant is that what matters psychologically is the prospect of being denied tenure. Coming up for tenure is generally stressful, and this stress causes many people to distort their lives and their research in an attempt to second-guess a tenure process that they do not experience as rational. My goal here is to explain the process of getting tenure in a way that relieves the stress and makes such distortions unnecessary.

Deep tenure

People who are starting out in their first job as a professor often misunderstand their relationships with the other faculty in their department. They are looking for some kind of community among equals, and they are often surprised to find their colleagues investing most of their attention in the outside world. The junior faculty feel that they need to work closely with the senior faculty who will decide their tenure cases, or at least they will invest effort in politicking those senior faculty in an attempt to influence the eventual decision. Much of this effort is misdirected. Of course, senior faculty do exist who ignore junior faculty or treat them callously. But you should understand that a department of a research university is not the sort of village that Tocqueville idealized. Instead, it is more like an alliance of entrepreneurs, each of them moving and shaking in the larger world as well as within their departments.

Once you understand your department in those terms, the question of tenure changes. Getting tenure in your department is good, but more important is getting deep tenure: a thoroughgoing integration of yourself and your career into your field as a whole. I have already explained most of the process, which is nothing but publishing, articulating commonalities, networking, identifying emerging themes, organizing activities, and so on. Once you obtain deep tenure, your university would be foolish to lose you. And if your university does in fact fumble your tenure case, deep tenure means that you are nearly certain to have another good job waiting for you somewhere else. If you put

enough effort into networking, and if you shift your psychology away from your department and toward your field as a whole, then the process of getting tenure will be much less distressing. You will be less likely to waste valuable time in excess politicking of your immediate colleagues. And you will be able to relate to your colleagues as fellow movers and shakers rather than as neighbors in an idealized village. In particular, your independent standing in the field, because of your widespread network, will increase your autonomy and make you less open to manipulation by others.

The best news of all is that getting tenure and getting deep tenure are more or less the same process. Here is how it works. When you come up for tenure, or for any other career review, your tenure case will be decided by people who lack deep knowledge of your research area. Therefore -- and this is a basic mechanism of the university on all levels -- they will necessarily seek out evidence of your research accomplishments other than your own estimate or theirs. One common measure is where and how much you have published in peer reviewed venues such as refereed journals and scholarly publishers. So of course you should publish a lot, with your main emphasis on those kinds of outlets as opposed to nonacademic publications and unrefereed chapters in edited books.

More important than publication, though, will be the letters that your department will get from senior people in your research area. For that reason, your tenure campaign should be very much organized around those people. This means networking, very much as I have described it above, but with a more systematic approach. It couldn't be simpler. Make a list of the twenty people from whom your department is most likely to get letters. These will be senior people whose work is widely known, and who are known themselves as the leading figures in particular areas. Make sure that every important aspect of your work is covered by this list. Then set out to build strong professional relationships with every one of those people in the ways that I have been describing in previous sections. This is easier than it sounds. By the time you come up for tenure, you may have had three or four conversations with each person on your list. That may not sound like much. But if you have been working the process in the right way then that will be plenty. When your tenure case approaches, your university will probably ask you for a list of suggested referees, and you should discuss with your colleagues which names would work best on your list. You can also ask the individuals involved whether they would be willing to write a letter if they are asked. (You don't *have* to ask them, though. They understand perfectly well how the institution works.) The specifics can be complicated here, depending on how your university's tenure process works. For example, your department might be obligated to write to several people who are not on your list, in which case you might want to restrict your list to the people whom your department finds less obvious. But the relationships with likely letter-writers will be the most important element of your tenure case in any event. And as you do develop relationships with the twenty people on your list, make sure to explain those people to the people in your department who do not know your field well.

Getting a distinct identity

Closely related to deep tenure is a second element, which is getting a clear and distinct professional identity. When your university is deciding whether to give you tenure, they want to make sure that they are evaluating you, as opposed to evaluating your thesis advisor or the people you have collaborated with. If you have worked closely with your advisor, or if your dissertation and related work will sound similar to your advisor's work, then you will need to get a distinct identity. Start research projects in different areas from your advisor, explain your work in different language than your advisor uses, and find ways to clearly mark off your work from your advisor's, for example by explaining your new work as a clear step beyond the work that the two of you published together. You don't just want to have different research results than your advisor -- you want a clearly distinct research agenda.

Establishing a distinct professional identity also means limiting the amount of work that you coauthor with your peers and with other people who are more senior than you. This is unfortunate, of course, but the institution needs to evaluate you as an individual. Work that you coauthor with your students is not a problem, since the committees will assume that you were the intellectual leader in the project, and you can coauthor some work with senior members of your department, since they will be able to explain your distinct role to the people who review your file.

To have a clear and distinct identity, finally, you need to be able to explain your research agenda. Your explanation should not sound like anyone else's, and it should convey a clear sense that a great deal of useful research can be done by following that agenda in the future. To explain your agenda in a clear and distinct way does not mean that you should devalue the work of others before you. To the contrary, you should articulate a historical narrative of the research that you are building on, so that everyone can understand precisely how your work is different from what has come before. Giving credit to others should not detract from your own identity.

Organizing around an emerging theme

The most basic way of getting a distinct identity is to articulate an emerging theme in your field. In other words, you don't just want to set an agenda for your own research -- you want to catalyze a social movement within your field by organizing activities among the people whose research fits the theme. I have already discussed the basics of this process in Section 3. Now, however, organizing around emerging themes has become crucial to your career. So let me explain the process in more detail.

When you are conducting and writing about your research, and especially when you are writing about how your work complements that of others, you should continually brainstorm emerging themes. Work them out in your notebook, and in your conversations with others in your field, until you find one that works. Let us consider an example. Suppose that you are conducting research on a group of biologists who use the Internet to collaborate in new ways. If you are not thinking clearly, you might assume that the particular group you are studying is unique, and that none of the themes you are identifying in your research are relevant to the research of others. After all, the people

you are studying probably *are* unique in many ways. If you have developed the custom of searching for emerging themes, though, and if you are networking and reading other people's work, then you will notice that other researchers are also studying groups who collaborate over the Internet. You might then coin a phrase such as "distributed collective practice" to describe the larger category that your own project shares with these others. More precisely, you might fill your notebook with dozens of phrases, one of which, in this case "distributed collective practice", will sound especially felicitous.

"Distributed collective practice" happens to be a real example of an emerging theme, and you can find the proceedings of a workshop on distributed collective practice by searching the Web with Google. As emerging themes go, "distributed collective practice" is especially well-designed. It has several properties. First of all, it sounds good. It has a nice poetic gallop to it. Just as importantly, each of its words -- "distributed", "collective", and "practice" -- has a meaning for the researchers, so that grouping the three words together combines things that are deeply familiar in a way that is striking and new. The phrase is also quite general. It brings together the community you want -- that is, a community whose members, while diverse, share a substantial number of ideas and values. For example, you may have been studying biologists in your research, but in devising your emerging theme you have chosen to reach out toward all collective practices, not just biology and not just science. Likewise, you may have have been studying people who collaborate on the Internet, but you have chosen to generalize your emerging theme so that it applies to all distributed activities, not just ones that happen on the Internet. And so on.

Of course, you could have articulated your emerging theme differently. You could have said "Internet knowledge production" or "information technology in science" or "social networks and institutional change". Each of these formulations could very well identify an emerging theme around which a new research community could coalesce. But you chose the formulation that identified the particular community that you found congenial and that was ready to be identified. How did you know that a community was ready to be identified using that particular phrase? Because you know many of the people individually. You have conversed with them, read their work, perhaps participated in joint activities with them. You have worked to articulate commonalities with them, some of which may have grown directly into potential emerging themes for a larger group. You have internalized their thinking to some degree, and you can anticipate to some degree how they will perceive things. Having articulated your best guess at the theme that is emerging in their work, you have also consulted with them in the manner that I described in Section 3.

You should try to generalize your emerging theme as much as possible -- "distributed collective practice" as opposed to "biologists working together on the Internet". This is crucial. In articulating an emerging theme, you are claiming a certain territory, and you might as well claim as much territory as possible. I have already mentioned that your research papers resemble patent applications, and the same thing goes for your emerging themes, whose claims should stretch out in every direction until they collide with the claims that have already been made by others. The point is not that you actually own all

of the resesarch in that territory. You are not claiming intellectual property in any official sense. Other people will get credit for the results of their own research within that territory. You are, however, claiming credit for noticing the general theme, articulating its significance, mapping its issues, organizing the people who are working within it, and setting the agenda for future research within it. Having done this, you will be identified as a leader. And being a leader is the best, most reliable way to get deep tenure.

Organizing activities around emerging themes teaches you a deep lesson about the profession of research: research means doing something new, and the research community, when it is functioning at all, is thoroughly dynamic, always changing, always fluid. In getting tenure, your job is not to break into an existing network. If some existing institution tries to exclude you, ignore it. Your job is to build the new institutions that will organize the research community for a new generation of researchers. It's not hard. You just have to do it.

Your department's tenure process

Having discussed deep tenure on the level of your field as a whole, it is now possible to think clearly about the tenure process within your own department. It is entirely reasonable for you to ask your departmental colleagues what are the criteria for tenure. Go ahead and ask several of them, preferably ones who are both closest to you and central to the department's social networks. When you do this, you will discover the phenomenon of folk theories about tenure. For example, you might be told that you need to publish two books, or that you need to place an article in such-and-such journal, or that writing for nonacademic publications actually counts negatively at tenure time rather than counting as zero or as a slight positive under the heading of service to the community. You might get well-meaning advice to postpone this, that, or the other aspect of your professional life until after you have gotten tenure. You will be torn: half of you will find these folk theories to be ridiculous, which of course they are, and the other half of you will start frantically rearranging your whole career to conform to them. Once you gather these theories and start pondering them, ask around about whether, when, and how they are applied in practice. You may find that every one of your senior colleagues has a different folk theory in mind. Or you may learn that faculty meetings to discuss tenure cases are actually organized around one or more of these folk theories, so that they have become institutionalized. In my view, you should only change your plans slightly to accommodate the folk theories. The most important thing is to publish high-quality research in refereed journals and book series, the second is to get deep tenure in your field, the third is to build professional relationships with the faculty in your department, the fourth is to teach reasonably well, and the fifth is not to stress out about it. That's it.

Whatever you do, ignore the folk theories that you hear from untenured faculty members. Untenured faculty members simply do not have the information that they would need to theorize the process. Don't get into any alcohol-fueled sessions of mutual sharing of uninformed theorizing about tenure. Don't discuss tenure with people who say things like, "there is a hierarchy, and you need to recognize it and be deferent toward it". Don't validate anyone else's negativity. Don't overinterpret stories about the reasons why other

people failed to get tenure -- you will probably not be hearing the whole story. And don't take sides in factional politics. Just calmly articulate commonalities with everyone and have pity on people who project their psychological dramas onto the professional world around them. If powerful people in your department try to force you to join their clique rather than someone else's, your answer is always the same: articulate commonalities. They more they lean on you, the more you should work with them to articulate commonalities. Articulating commonalities is always a useful activity. It builds your intellect, and it builds relationships. It cements political alliances without precluding equally strong political alliances with everyone else. And it is perfectly honest.

If you are going about it right, then, the process of getting tenure is basically the same process as building a community for yourself by networking and organizing activities. You should be able to explain clearly to yourself how every action you perform in your daily work life is part of the process of getting tenure, in addition to the more direct and immediate benefits that it provides to you and others. As a faculty member, you will find that your life has more moving parts than it did when you were in graduate school. You will laugh as you look back on all the times you complained about not having enough time to read. The key to managing all of your diverse involvements as a faculty member is to make every action serve multiple purposes. Get assigned to committee work that helps you with your teaching. Do your teaching in a way that helps you get necessary reading done. Organize workshops that help you to write grant proposals. Supervise student projects in ways that fill in pieces of your own research agenda. Travel to meetings where you can do several kinds of business, as well as letting you advertise your work in the field. Don't automatically say yes to everyone who wants you to do work, and don't jump at every opportunity that comes along. Get used to the idea that your networking and organizing activities will cause numerous opportunities to arise, and get used to the feeling of calmly declining opportunities that don't fit with your long-haul plan. This may all sound self-serving, but it's not. If you define your intellectual agenda in an expansive way then lots of people -- students, colleagues, other people in the field -- will be happy to work with you in ways that directly benefit your career. Once you do establish this positive pattern, you will be able to work with everyone on the basis of mutual benefit.

Departmental politics

In giving you all of this positive-sounding advice, I do not mean to imply that the tenure process is entirely apolitical. Nothing that involves human beings is apolitical, for the simple reason that politics is the practical art by which people get along. So, for example, remember to consult with your colleagues on everything you do. I have already introduced this concept of consultation back in Section 3, in the context of how to organize a workshop. The principle generalizes, and much of your time as a junior faculty member will be spent consulting with people whose plans may be affected by your plans.

Let us consider a commonplace example. You decide that you are going to be a hero by organizing a seminar series. You do a lot of work to invite speakers, publicize their talks, show them around campus, introduce them to people in your department, tell them about

all of the excellent research that you and your colleagues are doing, and so on. From your perpective, you are helping the department by bringing in all of these first-rate people. But other people do not share your understanding. They are not aware of your plans or the reasons behind them. What they see is not a good citizen helping everyone to be better networked in the field. What they see, instead, is an endless, random series of requests for money, room bookings, claims on people's calendars, logistical details, A/V equipment, and so on. They will try to explain this randomness as best they can, most likely by imagining you to be a selfish taker. Instead of being a hero, you have become a goat.

What happened? The answer is that you did not consult. At the very beginning of the process you should have made a list of the people who were affected by your plans, and then you should have run your plans past each of them individually. Get their ideas, concerns, relevant information, good and bad precedents from the time before you arrived, and so on. At a minimum these conversations will cause others to be informed about your plans. More likely you will also find your plans changing as your colleagues raise good points that you hadn't thought of or heard about. You may even find that your plan is a bad idea, or that someone else is already doing something closely related to it. By consulting with people, you will get more career benefit from the activity than you would have simply by organizing it on your own. Furthermore, nearly all of the potential downsides of the activity will go away.

The principle of consultation generalizes much more widely. For example, you should never raise an issue at a faculty meeting, much less bring a major conference to your campus, without having consulted about it beforehand. With whom? With the people who are most affected by it, and with the people whose central location in social networks will enable them to anticipate responses you will get and what buttons you should avoid pushing. You should not think of consultation as a kind of arbitrary homework, or as an obstacle you are required to jump before you can get the things you want. Consultation is itself the most direct way to get what you want, and its relationship-building benefits are often more important than the benefits of the activities you are trying to organize. It is one more way that you are knitting yourself into the community.

In my opinion, consultation and articulating commonalities are the only two principles you need to participate effectively in the politics of your department. Consult and articulate commonalities with everyone in your department and you will be fine. It will be helpful, though, if you understand some of the pathological patterns that people get into. One of these is mistakenly called "loyalty". It is quite strange. The faculty in a department are basically stuck together on an island. Most of them have tenure, and relatively few of them will ever change jobs. So they have to get along. The right way to get along, as you know by now, is to work continually at articulating commonalities. But some people don't know how to do this, or else they choose to invest their effort in other things. So instead they create a kind of false solidarity. Let us say that one faculty member holds a strong opinion that a certain technology is ineffective. The other members of the department may not care very much about the matter, and so for the sake of "loyalty" they will adopt that strong opinion as well. Through this process, the

department will evolve a peculiar belief system that consists of the idiosyncratic beliefs of its members. The effect will be especially striking when a new senior faculty member is hired: everyone will adopt a strange new opinion overnight, corresponding to the idiosyncracies of their new colleague. Please do not join in to such dynamics. Just articulate commonalities with everyone involved. Say "we" and "us" when you explain those commonalities to others, and perhaps your colleagues will develop more constructive ways of signaling their solidarity to one another.

Enough about departmental politics -- what about campus politics? If you want to get tenure at your university, doesn't it make sense to cultivate a widespread network in other departments, and especially among senior administrators? Probably not. The process of getting deep tenure might lead you to network with people who happen to reside in other departments on your campus. Certainly those people might be easier to reach, face-to-face anyway, other things being equal, than people who live on different continents. But if people in other departments don't fit into your campaign for deep tenure then, almost by definition, you have little reason to contact them. The same thing goes doubly for senior administrators. If you are involved in university governance activities then you will probably want to choose specific governance issues that concern you, network around them, identify emerging themes that pertain to governance of the university, organize activities around those themes, and so on. Those activities certainly will bring you into contact with senior administrators. If you really want to be involved in university governance before you get tenure, go ahead. But most people wait until after they get tenure, for obvious reasons.

If you do want to build intellectual networks around campus, here is a very straightforward way to do it: organize panel discussions. The process should make perfect sense to you by now. First, find a few people in other departments whose work relates to yours in some way. You can identify those people by asking your colleagues. Articulate commonalities. Choose one of those commonalities to be the topic of a panel discussion. Consult with everyone involved about both the theme and the logistical details such as time and place. Sign up a half-dozen speakers including yourself, three per panel plus a discussant. Consult about who the best discussants might be. Confirm everyone's participation. Prepare a neat, legible, plain-text e-mail announcement. Put a phrase like "please forward this to everyone who might be interested" at the top. Send the announcement to your department's general-interest mailing list. Ask the other speakers to do the same. Rehearse the daylights out of a simple, low-key fifteen minute presentation of your work. None of this is hard, and yet most campuses have a shortage of people who are willing to do it. It's probably not crucial to your tenure case, though.

SECTION 9. Your Career

Once you get your dissertation finished and start on a tenure-track job, you probably have forty years ahead of you before retirement, maybe less if you've had an earlier career. That might seem like a long time. But plenty of people get themselves stuck in negative

career patterns that prevent them from making good use of the time. This section sketches several theories of your career. I didn't invent any of these theories; I have heard them all repeated many times, in many forms, to where I am not certain who invented them. I don't necessarily endorse them, but they are all useful in some cases. (If you begin your research career late in life then you will have to adjust each theory accordingly.) At the end of this section, I will present my own theory of your career, which I call iterative alignment.

Types of creativity

Creative people, it is said, go through a characteristic trajectory. When they are young, their work reflects an intense, labor-intensive type of energy. They do not have much accumulated knowledge to build on, so their work expresses pure genius instead. Later in life, though, they change gears. They have built up a great deal of momentum, and they use it for larger, longer-term projects.

The structural theory

When you are young, you are located on the periphery of the research community. As you go along, however, you build a community around yourself. As the previous generation retires, you find yourself at the center. This gives you an ability to set agendas that you didn't have when you were more peripheral. Of course, if you have a fixed belief that you are peripheral then you will probably never acquire that ability. But if your beliefs are positive and you act on them, then you have a better chance.

The constraint theory

This theory is concerned with ratios of risk and reward. When you are a junior faculty member, it says, you should follow fashion, choosing topics whose importance is already well-understood. That way you will get the maximum reward with the minimum risk. When you are in the middle of your career, you should build new institutions, thereby legitimizing the research fashions that the next generation of junior faculty can follow. Instead of catching a wave, you are making waves. And when you are toward the end of your career, you should work on blue-sky topics that will eventually coalesce into new institutions through the work of the mid-career faculty behind you. That is the theory, anyway.

Formulas for a research program

Study how various successful researchers evolve their research programs. You will notice patterns. One such pattern pertains to famous researchers' relationships to their advisors. Often an advisor will write an important paper that sketches a new research area in a programmatic way, without developing the full-blown theoretical machinery that is required to generate a large number of results. One of that person's students, however, will perceive the significance of the new idea, and will draw together all of the literature

and social networks required to generate the results, thus leading to large numbers of well-cited papers and a successful career.

The university's theory

The university as in institution is fueled by the peer review process. You are always being reviewed, and you are always reviewing others in turn. From the university's way of thinking, junior faculty members should be relieved of most reviewing duties. They will probably be drafted to referee journal papers and the like, but it is only after you receive tenure that the most onerous reviewing duties begin. The higher you ascend in the promotion ladder, the more likely you are to end up on committees to review tenure candidates, research programs, teaching programs, and whole departments, laboratories, and universities. Many senior faculty members complain about these burdens, and you should avoid this complaint by actively volunteering yourself for the duties that most interest you. That way you can decline the others.

The senior faculty's theory

When you are a new faculty member, senior faculty members often perceive you as raw material for their institution-building activities. You will find yourself being recruited into one activity or another. I have already advised you not to be recruited into anyone else's agenda; go ahead and participate in workshops and other activities if they help you build relationships, but confine your political clique-joining to articulating commonalities with everyone.

In mid-career, senior people will evaluate you in terms of your leadership qualities instead of their own narrow agendas. So it's a good idea that you didn't join any cliques but organized new research communities instead. The strongest leaders will also be those with the broadest, most capacious intellectual reach, and it is toward the end of your mid-career phase when this breadth will be tested.

Finally, senior people evaluate one another based on their ability to network beyond their own field. It is one thing for a biologist, for example, to network among other biologists. But to have a real effect on the largest institutions (the university, the funding agencies, the corporate world, the public sphere, and so on), a biologist also needs to network with humanists, artists, engineers, social scientists, and administrators of many sorts. And networking, once again, means choosing people strategically, articulating commonalities with them, articulating emerging themes, organizing events, and so on.

Iterative alignment

The theories of your career that I have described so far are useful enough. In my experience, however, a more useful theory is the one that I call iterative alignment. To understand it, suppose that you are someone who feels that your current position in the institutions of research doesn't fit with your own intellectual agenda -- "my work isn't welcome", you hear yourself say. Perhaps you are a graduate student whose department's

faculty don't care about your research topic. Perhaps you are a new faculty member whose colleagues don't care about your research topic. Perhaps you are a mid-career faculty member in a field whose senior members don't care about your research topic. In each case, the problem is a misalignment between you and the institution. You haven't yet had the opportunity to choose your colleagues and build the institutions that you need to realize fully the potential of your work. Many people overgeneralize from this situation. They say, "it's all about connections, and the insiders have the whole situation rigged to their advantage". This kind of overgeneralization is a big mistake. It wrongly pretends that a temporary situation is permanent, and in so doing it tends to *make* the situation permanent.

How do you fix a problem of misalignment? By this point, it will not surprise you to hear that the solution lies in networking. One purpose of networking, so far as your career is concerned, is to manufacture a closer alignment between you and the institutions around you. If you are a student whose faculty don't care about your research, then indeed you will have to meet them halfway for a while. If you are a junior faculty member in a department where they don't know or care about half of the twenty people in your field who ought to be writing letters for you, make a list of thirty people that includes both your twenty and theirs. In the meantime, build networks. Get lots of interviews and lots of good job offers. Then get a job that is better aligned with your research interests. Notice that it is a two-way street: the process of alignment doesn't just mean forcing the world to fit with your pre-existing research interests. Rather, the process of dialogue, articulating commonalities, and internalizing the ideas of others will change your research agenda, and your networking, organizing, and institution-building activities will help create an institutional niche within which you can be supported in conducting research within that agenda. By iterative alignment, I mean that each step forward in your career improves the alignment by an incremental degree. One step might get you more sympathetic colleagues. Another might create a journal for you to publish your research in. Another might ensure a flow of research funding. Another might build a widespread network of researchers who consider you a leader in their overall movement. And so on. Each increment of alignment, though, happens in the same basic way: networking, articulation of commonalities and emerging themes, and organizing of activities. That is the basic cycle.

A common misunderstanding is that iterative alignment, or the research community generally, requires you to give up your dreams, conforming to someone else's agenda in order to get along. That is not true. Iterative alignment is a two-way street, that is true. You will change, even as you build and rebuild the institution to fit with yourself. But the fact that you are changing does not itself imply that you are conforming to some alien agenda. If you are doing it right then you are changing simply because you are growing, having better and better ideas, and realizing more and more of your potential. This is a critically important intuition: every time you spontaneously notice an emerging theme -- that is, every time that you go through the cycle of reading people's research, networking with them, articulating commonalities with them, and noticing a theme emerging from all of those conversations -- you are also noticing an aspect of yourself. Someone else who went through the same cycle would probably notice something different -- not because

the situation is arbitrary, but because the situation is filled with potentially valuable research directions. When you notice an emerging theme and then organize activities around it, you are knitting yourself into the community. This process of knitting is what iterative alignment is all about. You align yourself and the institution by iteratively, incrementally knitting yourself into it. You should do work that is aligned with who you really are. Why? Because that way you are more likely to notice the entrepreneurial opportunity that the institutions are presenting to you. If you simply conformed to some arbitrary agenda, then you wouldn't have the same intuitive grasp of the ideas. You would probably get stuck in a low orbit that corresponds to the first, least aligned setting in which you happened to have a job. In this sense, the institutions of research are calling forth a certain honesty from you, and you need to have the courage to approach the cycle of iterative alignment in that spirit.

The theory of iterative alignment generalizes everything that I have said already in this article. In producing your dissertation, for example, I argued that you were really producing yourself as a member of the research community. That is an example of iterative alignment: aligning yourself with others by knitting your research topic into the existing literature and the people who wrote it. Articulating an emerging theme and organizing a workshop around it is also an example of iterative alignment. And so is the process of getting deep tenure with your research community. In each case you are choosing carefully the people you want to associate with, and you are using language creatively to articulate commonalities with those people and internalize their ideas. Iterative alignment, then, is a cycle whose details vary depending on where exactly you are located in the institutions at a given moment. And when you achieve perfect alignment, there's a sense in which your career is complete. You have knitted yourself fully into the institutions and communities around you. Your personal agendas align perfectly with the agendas that have been institutionalized for the benefit of others. Your own innovations and accomplishments have been fully incorporated into those others' work. The good you've done is now distributed throughout the people who have come after you. And you can now retire, knowing that you have made your fullest possible contribution to the field.

SECTION 10. Understanding the Research World

I want to assume now that you have built a network, internalized most of the lessons that I have outlined above, and generally gotten yourself established in your field, and that you now want to understand the dynamics of the research world in a deeper way. Everybody that you work with has been building their own network in more or less the same way that you have been, and the institutions of research create tremendous incentives for everyone to keep on doing so. Beyond that, however, the institutions create new incentives for people who have reached the plateau that you have -- providing yourself with a functioning network -- and who want to move on to higher levels of accomplishment in their field. To understand these higher-level career strategies and their

implications, another round of basic concepts will be required. This section lays out these concepts seriatim, and the next section agonizes over their moral consequences.

I should warn you that some of these concepts concern the more dysfunctional aspects of research institutions. My purpose in explaining these concepts is not to demoralize you, but quite the contrary to help you notice them, avoid them, if necessary defend or even cure yourself from them, and ultimately adopt a bemused distance from them as you go about the daily work of positive community-building.

(1) The invisible college

When most people look at the university, they see a physical campus with buildings and people. Even if they went to college themselves, they probably have little understanding of the institutions of research. Accordingly, as you are socialized into those institutions yourself, you will probably acquire a different awareness of them. You will develop a professional network that includes researchers at several universities, and you will learn about the people and activities at those other universities. As a result, you will acquire a mental map of numerous universities and their associated orientations, reputations, and histories. This map will be very real to you, and you will probably know more about your counterparts in a university on another continent than you know about the people in the building next door to you. The interconnected global research network is largely invisible to outsiders, and for that reason it is called the "invisible college", a term that derives from Diana Crane's book "Invisible Colleges: Diffusion of Knowledge in Scientific Communities" (University of Chicago Press, 1972).

The concept of an invisible college is useful for several reasons. First of all, it helps to explain some of the institutional tensions that universities face: individual researchers generally identify more strongly with their invisible college than they do with the organization that employs them. After all, it is principally the invisible college that evaluates the researcher's work by writing letters and refereeing articles. Universities are always threatening to be pulled apart by these centrifugal forces. Industrial labs, likewise, often have trouble persuading researchers to focus on the issues that affect customers, because the researcher's long-term career success depends on staying current with research agendas in the invisible college.

Invisible colleges also help explain the emerging uses of technology in research. "Collaboratories", for example, are on-line research community environments that cause invisible colleges to become, so to speak, more real. Most invisible colleges already have conferences, journals, and the like. They may even have Web sites and mailing lists. In each case the pressure is toward ever-greater integration of the different research groups within an invisible college. As the collaboratories become more technically feasible, these pressures will become even more intense. Ongoing real-time collaborations between researchers at different sites will become more common, and seminars might even be held at several sites simultaneously over video links. The details will depend on the needs and finances of each field, of course, but the general direction of the pressure toward integration will be largely the same. It is worth wondering, then, whether too

much integration can be a bad thing. It is useful for each university to have its own distinctive approach to a field. Diversity is good, and the institution only supports diversity if a new approaches can colonize a small number of universities without excessive pressures to be interlocked with their opposite numbers at other universities. This may be an important issue in the future.

Finally, the concept of an invisible college helps keep you human. You can become so immersed in your own particular invisible college that you become oblivious to your environment -- the neighborhood where you work. Think, for example, about the other universities in your region. Are they on your map at all? Do you feel bad about that?

(2) Networked individualism

Let us take the concept of an invisible college a step further. Imagine a vast diagram of all the professional networks in the world of research. In this diagram, everyone will be connected to everyone they know. Abstract as it sounds, such a diagram can actually be drawn with reasonable accuracy by following the citations in the researchers' published work. The analysis of these citation links is called "bibliometrics", and is a scholarly industry in itself. Throughout this article, I have been painting a picture of the structure of these relationships. When two researchers have become members of one another's professional networks, they maintain a sort of surveillance of one another. They read one another's work, monitor one another's career progress, hear reports on one another through common acquaintances, update one another in periodic conversations at conferences, and so on. Their relationship has an architecture -- a structure and logic that are dictated largely by the workings of research as an institution.

On one level, the architecture of relationships in the research world has not changed much since the Renaissance. Scholars have always read each other's work, corresponded, traveled to visit one another, cooperated and competed, and so on. So what has been changing in the world of the Internet, not to mention cellular telephones, cheap air travel, and other technological advances? Those new technologies do not change anything on their own, but they do provide tools that people use to do more of the things that they already want to do. The institutions of research create tremendous incentives to keep in touch with the other members of your professional network, and that's what's happened: people are in much denser and more continuous contact with their professional contacts than ever before. It is only a slight exaggeration to say that we're heading toward a world in which everyone is a constant presence for everyone else. Technologies that are currently under development will propel this trend even further. Digital libraries, for example, will allow everyone to monitor everyone else's publications in real time, and cheap, high-quality video links will make it possible to organize seminars at a distance. While they will not eliminate face-to-face interaction altogether, these technologies will allow researchers to maintain even more continual contact than they do today.

This development is striking, and it counts as a new chapter in the history of the human person. Barry Wellman calls it "networked individualism". Networked individuals (such as yourself) are like air traffic controllers who, by using a video display and audio

communications, constantly maintain a mental map of all the planes in their airspace. This effect can be quite tangible when you are reading your daily e-mail, and it can be especially tangible when you are working on a large-scale professional project, like organizing a conference, that requires you to keep track of the status of dozens or hundreds of individuals, or to reach out selectively into the space of individuals in your field to identify the best speakers, authors, referees, or meeting participants for a given purpose. As the world becomes networked, you will have to decide consciously how to manage the blizzard of communications that your network will entail.

(3) The expanding universe

So far I've been making it sound as though all networks are equally good. Start with what you care about, get some research going, and build a professional community for yourself around that research topic. And that is still my advice. Nonetheless, the problem of building a network takes on another dimension when you adopt a longer-term view. If you are entering the research community at the usual age, just out of college or a few years afterward, then you have a whole career ahead of you. To really prosper, and to really be part of something exciting, you want to join a field that is growing -- what I call an "expanding universe". A field that is shrinking is generally an unhappy place to be; at best it spends its time negotiating mergers and acquisitions with other shrinking fields, hoping to maintain the critical mass that is necessary to be a viable political force. People find themselves fighting over fewer resources, and they have a much harder time attracting new blood. A growing field, by contrast, easily attracts new people. And resources are multiplying, so people don't need to fight one another. Instead they can join together in the collective enterprise of laying claim to the new territory that is opening up.

Smart students have a powerful instinct for expanding universes, and often spot them before the famous people do. How the smart students work this trick is one of the deeper mysteries of the professional world: after all, they are just students, and thus lack the extensive networks that are normally required to see big patterns. Part of the answer is simply that they are young. The way that ideas change is that the people who believed the old ideas die (Planck said this), and in that sense intellectual trends are driven by the interests of the young. This is one reason why it is okay for you to pursue the research that you personally find exciting: despite all of your unique individuality, you are also a product of a place and time, and even before you start networking you can be confident that plenty of other people will develop research interests that are more or less on the same wavelength as yours. You will network with those people, and when the old people die you and your cohort will inherit the world. At the same time, you can frame your topic in a lot of different ways, and it's helpful to frame your topic in a way that other people can relate to. That is part of what I mean by "articulating an emerging theme". In trying to articulate the theme that unifies the research of your peers, and that puts a name on what they find exciting about their research, you will be intuiting -- indeed, creating -- the expanding universe of your generation of researchers.

(4) Positive feedback

You are probably familiar with the general idea. Negative feedback is when forces operate to keep a system in equilibrium, pushing it back toward its nominal value whenever it drifts away. Positive feedback, by contrast, amplifies small disturbances so that they feed upon themselves and become ever greater. Complex real-world situations generally combine kinds of feedback, but it is useful to consider some of the positive feedbacks that promote successful careers. Let us say that you happen to mention topic X in a speech, and a reporter calls you to comment on it. You may not be an absolute authority on X, but if you are the first person to be quoted on X then you need to start studying. Why? Because reporters often decide who to call for quotes by looking in Nexis and seeing who has been quoted in earlier articles. Having been the first to be quoted, you will also be the second, third, and fourth. Soon you will be closely identified with the issue; nobody else will have a chance. The same thing can happen in many other contexts, including speaking engagements, consulting jobs, referrals, and (to a lesser degree) citations. (Of course, once your position has become entrenched in this way, it's not positive feedback any more. Now it's negative feedback, as institutional forces operate to reinforce the status quo in your favor.)

Another type of positive feedback is learning: if you learn about an activity (such as a certain experimental procedure), then you are more likely to get further chances to engage in the activity, thereby learning some more, so that you eventually become a leading expert. Yet another type is networking: if everyone knows that you have a big professional network, then they are more likely to want to meet you, thus expanding your network. People often stumble into careers because these types of positive feedback get started by accident, and good career strategies always encourage positive feedback. Pick an emerging issue and stake it out as your own: become publicly identified with it, learn the details of it from practical experience, and build professional networks around it. If you pick a good issue then the universe around it will expand, and your career will expand along with it. Picking an emerging issue is like placing a bet; your own intellectual intuition is the best guide to the best issue, but internalizing the views of others through networking is a good way to deepen your intuition.

Positive feedback also applies to departments, universities, and industrial labs. People want to work with the best people in their field, and so whichever organization first gets a critical mass of strong people can hire the best, thus locking in its position over the long term. This fact helps explain the hiring strategies of deans. As a general matter, it is in the dean's interest to build specific areas of strength that correspond to expanding disciplinary universes. That is, the dean's job is to build a group of researchers in a field whose prominence and resource base is likely to grow in the coming years. Choosing a research area that represents an expanding universe is obviously a good strategy, because an investment in that area will pay off as the field becomes more prominent. But it is a good strategy for another reason, which is that existing, established research areas have already become dominated by other organizations. Those organizations benefit from positive feedback, and so it is little use to compete with them. Instead, the dean seeks to get positive feedback working from scratch in a new area.

(5) Arbitrage

Arbitrage is a concept from finance. An arbitrageur monitors two or more markets, looking for gaps in prices. If apples are selling for $1 uptown and $2 downtown, the arbitrageur will swoop in, buy some apples uptown, and sell them downtown. The resulting profit will depend on communication and transportation technologies, and the magnitude of the price gaps that open up in practice will be limited by the number of competing arbitrageurs. Fully arbitraged markets have uniform prices. To remain profitable, therefore, an arbitrageur must innovate technologically or search for markets that are not yet well arbitraged.

Something similar happens in the research world. A researcher might notice that a concept that is well-developed in one field can be applied to problems of wide interest in another field. If the concept is still unknown in that other field, then an arbitrage opportunity exists. This is how management consultants work: they work with one company, learning that company's organizational and technological skills, and then they sell their enhanced skills to other companies. It is also the way that many careers are made in research: either by shifting a steady stream of concepts from field A to field B, or by taking a particular concept from field A and looking for many different fields where it can be applied, or by moving from one field to another, picking up concepts in each and then looking for another field where they can be applied. These are entirely honorable ways to make a living, and they provide the intellectual cross-fertilization that keeps fields healthy.

The position of the arbitrageur can be understood in terms of social networks. In some cases an arbitrageur can learn new concepts, or contribute to new fields, simply by reading books. More commonly, however, the arbitrageur builds a network in each field, consisting of those researchers whose work is relevant to the arbitrageur's own interests in that particular field. Of course, the very idea that the arbitrageur builds two different networks is somewhat artificial: the whole research world is one single network that is more highly connected in some regions than in others. "Fields" can be identified by their ideas and methods, but they also correspond to regions of high interconnectivity in the sprawling network of the whole research world. Arbitrageurs are effectively taking advantage of regions where the networks are relatively thin, importing and exporting useful goods (ideas, concepts, methods, tools) based on a strong understanding of supply on one side and demand on the other.

The opportunities for arbitrage are one reason why I have encouraged you to ignore disciplinary boundaries as you build your professional network. By looking for professional friends who are related to your research interests in several different ways, I suggested, you would create a network that looks like spokes in a wheel, of which you are the hub. If some of these people have nothing in common with one another then that's a good thing. It means that you will be able to establish a "trading zone" through which good ideas can transfer between fields that are not otherwise connected. By spanning several research communities, you will have more intellectual resources and career options than if you simply tried to join an existing group.

(6) Disciplinary narratives

As a scholar, you are certainly aware of your responsibility to cite relevant work by other people, especially when your own work builds on it. Your papers, like most people's, probably contain sections that are largely devoted to citing past work, and you probably distribute citations through the rest of your paper as well. This is good; it is part of the process of knitting yourself and your work into the web of relationships in your community. But you can also look at these citations another way: as a narrative of the history of the field. These narratives may not be great literature, but they are narratives nonetheless. They have characters, events, and a chronological story line. They recount the creation myths of the field, its stages of development, its conflicts, its heroes and villains, and so on. The narratives in your paper will be shaped by your reading and relationships, but they will also be influenced by the narratives that you have heard or read from others. It is fairly unusual, for example, for a scholar to come along and tell the history of a field in completely different terms, recognizing different founders or different heroes, or giving a central place to different innovations and departures than the ones that normally form the backbone of the field's narratives of itself.

Where do these narratives come from? At one level, everyone fashions their own narrative, connecting the dots among the various prominent works that relate to their own. Having laboriously rehearsed their personal version of the field's narrative in their dissertations, they keep it up to date as their own work evolves, and as new work appears. At another level, however, the narratives are constructed collectively. People who do related work will probably have related narratives, and people who work in the same field will probably derive much of the outline of their narrative from whoever founded it. When someone founds a field, they are usually very concerned to give the field a proper history. This might involve identifying precursors, marking out the differences between the new field and older fields, making clear which work the new field defines itself against, and so on. Later on, other people in the field will be sure to cite the people who have most influenced them. Peer pressure will grow to cite particular works that are thought especially important.

Over time, a more or less conventional narrative will take form. This conventional narrative is not a simple thing. It may settle disputes over who should get credit for a given innovation. It may embody a collective judgement that certain works represented side branches or cul-de-sacs, and that certain other works represented the main line of development. Ideas from certain works will become part of the routinized story that people tell about their field, and those works will be heavily cited accordingly. Or a work may introduce an idea that seems revolutionary at first but then starts to seem so obvious that people forget that it needs to be cited any more. Some authors may make a special point of insisting that their work be cited, where other authors may not care as much, or may not be around to check up. In short, the conventional narrative emerges as a sort of collective negotiation among the field's members. And as new scholars encounter the conventional narrative in their readings and lectures, it settles into place and becomes practically irreversible.

I mention these disciplinary narratives for several reasons. First of all, I don't want you to be imprisoned by them. Look at them *as* narratives, as stories that are told according to

certain conventions, and that could have been told differently. See their political character -- not necessarily as a sign of bad faith, simply as a sign of their having been created by human beings through their dealings with one another. As you read the literature, consider whether the conventional narrative of your discipline should be rewritten. Declare independence by quietly citing works that have been unjustly neglected by others (such as works by people who haven't done their networking). Ask yourself if the field's founder constructed a creation myth that exaggerates its differences from what came before, or that emphasized a single moment of invention when in fact (as often happens) the basic ideas emerged in several places more or less at once. Maybe you want to rewrite the narrative a little bit in your next paper. And think about how your own work deserves to fit into the narrative. Describe your work accordingly in your papers, and do make sure that the people who should be citing you feel a bit of peer pressure. You don't have to be a jerk about it, but you don't have to get trampled either.

There is an aspect of disciplinary narratives that I want to emphasize in particular. When your field was originally founded, the founders probably overcame opposition from an existing establishment. As a result, the rhetoric that they developed and taught to their students was probably preoccupied with that particular fight. For example, artificial intelligence (in which I was trained, and whose story I will tell in more detail in a moment) began as a counterrevolution against behaviorism in psychology. Because of this the rhetoric of AI is saturated with turns of phrase that are designed to do two things: (1) set up a cleanly defined opposition between AI and behaviorism, and (2) portray AI as right and behaviorism as wrong. The AI people won their fight with behaviorism, which hardly exists any more. And yet the fight goes on. The rhetoric of the field is still aimed at defeating behaviorism, and this causes AI people to interpret nearly any criticism as a resurgence of behaviorism, even when it clearly is not. It also causes dissidents within the field to reinvent behaviorism under one guise or another, simply because that is what's thinkable within the vocabulary of the field.

This is the sad irony: even though AI won its fight with behaviorism, it did so by making itself much more similar to behaviorism than it should have. The problem is not so much with goal (2), portraying AI as right and behaviorism as wrong, as with goal (1), setting up a cleanly defined opposition between AI and behaviorism. In order to set up this clean opposition, it was necessary for the AI founders to commit themselves to many of behaviorism's foundational assumptions, such as the idea that cognition takes the form of an input (stimulus) which causes something-or-other (a blank zone for the behaviorists, a cognitive process for the AI people), which then causes an output (response). This framework has not served AI especially well, for example because it distracts attention from the ways in which people and robots engage in complex activities that are embedded in complex environments. Yet this complaint is hard to express in the language of AI, whose organizing question is still, "is this behaviorism, and if not then what's the problem?". You can accomplish a great deal by spotting this sort of out-of-date controversy and deciding not to participate in it. Even in cases where the "enemy" establishment is still very much in force, you will accomplish much more by honestly digging into the strengths and weaknesses of the two polarized sides, looking for a synthesis rather than a fight, than you will by joining someone else's ancient struggle.

(7) Advisors' incentives to stifle creativity

The next concept that you need is not so fun. This is the incentive that thesis advisors have to stifle the creativity of their students. It's an insidious phenomenon, and it is not entirely the advisors' fault. Here is how it works. Your advisor will organize seminars, or otherwise recommend reading, and the reading lists that result will derive from the advisor's own voice -- from an intellectual map of the world that reflects the advisor's own effort to define a research program and situate it within an existing network of professional relationships. If you confine your reading to your thesis advisor's recommendations -- or, even worse, if you feel so overwhelmed with work that you accept your advisor's interpretations of those readings rather than engaging with them afresh yourself -- then your thinking will be organized and bounded by your advisor's thinking. You will talk the way your advisor talks, cite the same work, address the same audience, and so on. Of course, this needn't be a disaster. If you are smart, and if your advisor has chosen an expanding disciplinary universe, then you will write a good dissertation within that universe. You will get a good job, and you will take your place in a hierarchy. When the people in your advisor's cohort finally retire, then you will be in charge. It is not such a bad life. But it is not the life that you were meant to live -- the life that you would create for yourself if you complemented your advisor's teaching with some autonomous learning of your own, driven by your own sense of intellectual excitement and your own intuition for the expanding universe that is taking form on completely different ground from your advisor's.

So is your advisor deliberately brainwashing you in order to build an empire of clones and acolytes? Perhaps. Some advisors do this consciously, I am sad to say. It's their way of proving to themselves (and, they think, to others) that they are a success. After all, they are evaluated on their "impact" in their fields, and one way to create the illusion of impact is to program your students so that they are forever citing your work. Perhaps they just want to make sure that they do not die forgotten. Or perhaps they simply get locked into a fixed idea about your thesis topic and try to "help" you graduate on time by keeping you narrowly focused on that topic. Of course they rationalize it in various ways. But with other advisors it happens inadvertently. Your advisor is not God, cannot read everything, and inevitably sees the world in particular ways. Your advisor lives in a world that seems very big, and if your field is expanding then you could perfectly well construct a world within that world that itself seems very big. The alternative is not to renounce your advisor, but simply to reach out and take a broader view.

(8) Turf

I spoke of a growing field as an "expanding universe", but what exactly does it mean to say that a field is growing? Of course, on one level a field grows when more people join it. But that doesn't explain much. Nor does it explain much to say that a field grows when more money becomes available to fund its research, though money is surely not a trivial matter. At a more fundamental level, the size of a field is determined by the turf that it has staked out. My choice of the word "turf" is a little misleading, in that actual literal turf -- geographic territory with grass on it -- exists in a fixed quantity, so that the phrase

"turf war" connotes a bloody, petty, zero-sum game. But that's not what I mean here. In the research community, turf arises when an intellectual leader defines a research agenda -- that is, provides a rhetoric for articulating research topics, arguing their importance, and defending their legitimacy. Having been made researchable, those topics can now be turned into refereed journal papers, and thus into grant proposals, promotions, and careers.

Here are some examples. When Herbert Simon and his cohorts founded artificial intelligence in the 1950s, they created turf. In fact they created a huge amount of turf, since the general formula of using computational structures in analyzing human mental life can be applied in thousands of ways. Just pick a phenomenon of human mental life (remembering, planning, improvising, etc), select or devise a computational structure that seems generally analogous to it, build a computer program, and talk about the program in ways that make it seem similar to what people do. Other examples of research programs that create turf include Richard Posner's revival in the 1970s of the economic analysis of law (pick a legal issue and apply the language of supply and demand to it) and Noam Chomsky's founding in the 1950s of the modern study of syntactic analysis by means of formal language theory.

What's really striking about the case of Chomsky is that his actual territory of research concerned some extremely narrow questions about the formal relationships between certain kinds of grammatical structures, for example when assertions ("John took a six-pack to the party") become questions ("What did John take to the party?"). Even though these questions are tiny footnotes in the big picture of linguistics, Chomsky nonetheless managed to found an enormous research enterprise, one which many linguists have been brought up to regard as nearly the whole of the field. Chomsky was successful in founding such a large research program for a simple reason: formal language theory provides the intellectual tools to manufacture researchable topics. Accordingly, every paper in Chomskyan linguistics -- including several subfields of linguistics that broke off from Chomsky's own projects while retaining nearly all of the intellectual foundations that Chomsky created -- is written according to a sort of grammar that Chomsky defined and institutionalized.

These examples point to the actual nature of turf. In order to do research, and in order to publish your research, you need a research topic. Turf is, in part, a method of manufacturing research topics, a formula for producing the raw material from which people make their careers. But turf must be defended. On a small scale, you can only publish your research if you can defend it to the satisfaction of the journal's referees. And on a large scale, a research program depends for its funding and other resources on its reputation in the larger research community. It is important to distinguish here between two kinds of legitimacy that research needs. In a narrow sense, the claimed results must be seen to follow from the premises. But in a broad sense, the research topic itself must be seen as legitimate: that is, as novel, conceptually coherent, defensible in its working assumptions, intrinsically important, likely to lead to practical applications, likely to lead to more productive research, and so on. The precise criteria will depend to some degree on the field (engineering is evaluated differently from history), but every field needs

someone to put up a fight when the legitimacy of the field's research topics comes into question. And many topics require a great deal of defending, given that the many idealized assumptions, unmotivated choices, and unredeemed IOU's they entail. That is what a visionary founder like Simon, Posner, or Chomsky does. These guys don't just publish technical papers within their field -- what Aristotle would call "esoteric" work, that is, work that is directed to the community of like-minded researchers within the field. They also publish "exoteric" work, that is, work written for a broad audience that explicates the field and defends it against critics, either explicitly, by answering the critics' charges one after another, or implicitly, by providing the field with conceptual and rhetorical foundations that are meant to be understood by insiders and outsiders alike.

These sorts of exoteric apologetics for a field's turf are one more important way in which people become dependent on their thesis advisors (or, indeed, on their advisors' advisors). If you grow up intellectually within the small world of a particular field, you will never be called on to defend the legitimacy of your research topic. You will probably read the founder's exoteric texts, and you will learn to talk the field's rhetoric, but you will probably not have occasion to really internalize the arguments of the field's opponents. Many people reach mid-career in this position, and I believe that it induces in them a kind of vertigo: they have staked their careers on the continued viability of a chunk of turf that they did not create and cannot defend, and if that turf loses its legitimacy then their careers will evaporate. It takes a lot of reading and networking to establish yourself in a different research community than the one you were trained in, and it's especially hard if your training has not encouraged you to develop a robust intellectual life outside the fine details of your particular lab's research program.

This is, in my opinion, a major cause of some of the less fortunate cultural phenomena of research world, including us-and-them stereotyping of other research communities and a tendency to make a virtue of narrowness or to overinflate the real scope and potential of the field as it stands. I believe it also explains the fury with which many researchers respond to any criticism of the foundations of their research enterprise. On one level, the organizing ideology of the turf routinely caricatures opponents as irrational, unscientific, etc, so that critics are heard to be saying things that are literally crazy. After all, most people's fields seem like whole universes to them, and their networking is often confined to people who share the same ideology. On another level, the researchers themselves are unconsciously terrified that their careers will explode if the criticism succeeds. As a result, they are motivated to exaggerate the extent to which the real concrete results of the research program have established the truth of the intellectual school within which they work. These pathologies are not universal, of course, and they vary greatly in their intensity. By describing them, I want to help you identify them and avoid falling into them. People in the research world are too often honored in proportion to the amount of turf they created, and not in proportion to their intelligence and goodness. If you can shake off this bad habit then you can start honoring the right people, and honoring them in the right way.

(9) Institutionalization

When you are a student, you tend to take for granted the whole institutional framework that you are being socialized into. You might complain about it, and you might even spin conspiracy theories about it, but you do not have the information that would be necessary to understand what the institution really is and how it really works. This article is intended as part of the solution to that problem. Having explained how research institutions work on a micro level, then, I want to explain where they come from. Let's take a simple case: a workshop. You could start a workshop yourself; I explained the procedure back in Section 3 under the heading of "intellectual leadership". If you can round up a critical mass of attendees, then you just do it. Your workshop meets, everyone is happy, and the idea circulates of maybe doing it again next year. Maybe someone else takes the lead, hosts it in their own seminar room, and so on. If enough people keep on feeling like the workshop is worth their time, then maybe it takes on a life of its own. If your emerging theme happens to define an expanding universe, then your workshop will grow. Twenty people might attend the first year's meeting, forty people the next year, a hundred the year after that, five hundred the year after that, and so on. At that point you probably call it a "conference", and maybe you and the other central ringleaders organize yourself into some sort of standing committee. Maybe you start an organization, a mailing list, or whatever you build consensus around. Your emerging theme has been institutionalized.

Notice something important: at no point did you have to ask anybody for permission. You just did it. It's a free country, so you used your freedom of association to associate with other researchers who share your interests. You can accomplish a great deal this way. But this is just the beginning of the story. The next step comes when you start a refereed journal. This is something else that you just do, although now you need to persuade a publisher that a critical mass of interest exists to make the journal work as a business. You start a journal in exactly the same way that you organize a workshop: having already built a network, organized some workshops or conferences, etc, you circulate a draft proposal to the ten people whose names everyone would most expect to see on the journal's board of editors, and if you feel like the proposal has some energy behind it then you go ahead. The people in your network will welcome the new journal because they don't feel their papers are being refereed fairly by the existing journals; your journal will ensure that the referees, while presumably maintaining high standards, will at least comprehend the papers and thus be able to judge them fairly.

Above all, a journal gathers up and organizes a community of people who share a complex of research problems, so that everyone can at least anticipate that the referees will regard their problems as legitimate, even if they do not agree with the details of the research itself. That is the service a journal provides to its contributors. In this way, a journal frees its contributors to write the papers that they really want to write, and it ensures that their vitae will now fill up with bona fide refereed journal articles. Of course, the value of those vita entries will depend on the larger community's evaluation of the quality of research in the journal, and for that purpose it will still be necessary for the emerging field's founders to engage in the exoteric apologetics that I explained above. Even so, a journal does a tremendous service to a community by enabling its members to be the judges of one another's work.

A journal is a step on the road to institutionalization, but it still does not explain where resources come from. Let us consider one type of resource, probably the most important of all: job positions at universities and other research organizations. (These job positions are often regrettably called FTE's, for "full-time equivalents", since it is somewhat common for someone to be appointed half-time in each of two different departments.) Where do job positions come from? In the case of universities, they come proximally from deans. When resources become available at the overall university level, the deans engage in politely savage warfare to lay claim to some new positions, and then they allocate the new positions among the departments in their domain. Meanwhile, each department tries to help the dean by describing in compelling terms the turf that is opening up at the cutting edge of their field. As your research area becomes institutionalized, your collective job is to define the emerging turf you see ahead of you, to make the case for this turf seem compelling to your dean, and to help your dean make the turf seem compelling to the university hierarchy. That is where job positions come from. The process is not always sweetness and light, because much of it takes place in committees, different subsets of whose participants are angling to define their own research area as the Next Big Thing for the allocation of job slots. An ascendant field can find itself laying claim to literally dozens of job slots in a period of a few years, and at each step the field's members will be working their networks furiously to produce a steady stream of high-quality candidates for the jobs. Maybe this is how you got your own job.

(10) Routinization of charisma

Now that I've explained how to institutionalize the new research area you've founded, notice something important about institutions: they arise through individual initiative. This fact has many consequences. When you begin your career in research, you will encounter a landscape of already-established institutions -- they will be called "fields", "journals", "conferences", "agencies", and so on -- and every one of those institutions will have arisen through exactly the same kinds of individual initiative that I am recommending to you. Someone built a network, articulated an emerging theme, organized people around it, connected the emerging constituency with a supply of resources, and created new organizations. Those new organizations then settled down and took on a life of their own.

Institutionalization thus entails a process of maturation: from the initiative of a founder to the more anonymous settled patterns of the long term. Max Weber called this process "the routinization of charisma". The founder acts as a kind of enterpreneur, articulating a discourse for the field and creating turf within which others can pursue their careers. As a result, institutions often retain the fingerprints of their founders. If the founder's overwhelming imperative was to defeat an existing establishment, that imperative will probably continue to structure the field below the surface. If the founder's overwhelming imperative was to secure the patronage of military funding agencies, then research problems will probably continue to be framed in that way after the founder is gone -- even if nobody realizes it. If the founder was a poor organizer or had a personal preference for a chaotic institutional style, then that style may persist for decades

afterward. Nothing is inevitable, of course, but institutional patterns do tend to persist once they are put in place. And these patterns originate with the founder, and with the opportunities and challenges that the founder originally confronted.

What does the routinization of charisma mean for your own career? Several things. (1) Don't be fooled by the sense of permanence that every institution projects. Your field's founder -- and especially the founder's students -- codified a fragmentary mess of ideas into survey papers, syllabi, and textbooks, all of which are supposed to look seamless. They're not seamless, though, and you should assume that everything is much less stable and coherent than it appears. (2) To find the seams, you should study the history of your field. Go back to the founding documents, and get old-timers talking on social occasions. Understand the context in which the field was founded, and look for left-over patterns that are no longer relevant in the present day. It's alright to have respect for founders, but realize that they are mere human beings, products of the times and places in which they lived. (3) When you do discover these obsolete patterns, deprogram yourself. You will inevitably have ingested a sprawling network of unarticulated assumptions into your own thought patterns, and if you can liberate your mind then you can improve your research. (4) When you start creating institutions yourself, be responsible. You don't want your personal quirks -- or your short-term opportunism, rivalries, and greed -- to be transformed into settled canons that get taught to generations of unsuspecting students.

(11) Imperialism

In order to grow, a research community must create more turf -- that is, broader and broader territories of legitimately researchable topics that the community's members can publish on. Because turf is not a fixed quantity, it is often possible to create new turf within the existing boundaries of the field. In this sense, turf is "nested", meaning that people build their careers and reputations by mapping out territories of researchable research topics within the broader continent that the field's founder(s) had already mapped. Thus, for example, the turf of artificial intelligence, having been mapped out in a general way by Herbert Simon and others of his cohort, subsequently developed well-defined subterritories, such as AI subfields of "planning" and "machine learning". In each case, a student or student-of-a-student of one of the field's founders made their career by institutionalizing the new subfield: articulating an emerging theme, building a network around it, organizing meetings and journals for the network's members, and so on. There is nothing wrong with this, of course, if it's done well. I just want you to see the pattern. Similar things have happened in many other fields.

Of course, I do not mean to suggest that the process is mechanical, or that its success is guaranteed. The AI subfields of "vision" and "robotics" for example, ended up being institutionally outside the AI community, simply because the people who were doing well-regarded work in those areas were largely situated within other communities, such as neuroscience and mechanical engineering. So the boundaries between different research communities are variable.

And that brings me to the concept at hand: imperialism. One way that fields create new turf is by applying their organizing concepts and methods to subject matters that have historically been the "property" of other fields. Economists of the dominant neoclassical school, for example, have gone to great lengths to portray all phenomena of human life, from education to child-rearing to the fine details of individual cognition, as examples of neoclassical ideas about economic rationality and allocative efficiency. Scholars in the fields that they have invaded, sociologists for example, are often horrified by the strange and extreme violence that the economists' formalizations appear to inflict on their proprietary subject matters, and much gnashing of teeth has ensued, together with some genuine attempts to build bridges. Given the workings of the institutions, however, sniping at the invaders does little good. So long as they can institutionalize themselves, establishing organized research communities whose members are called upon to evaluate one another's work, external criticism must be taken to the larger and slower court of public debate and institutional review.

Economics is probably the most imperialistic of all research fields, but the process is nearly universal. Careers require turf, and they require coherent communities that can collectively defend their turf. Research communities therefore try continually to apply their overall "story" to new subject matters. These campaigns can lead to faction and warfare. Movements can develop pathological ideologies to justify their imperialism, in extreme cases labeling other work as "old-fashioned" or denigrating any allocation of resources to others as "lowering standards". Other cases are not pathological at all, and simply represent healthy competition. The dynamics are complicated, and they are hard to see, except from the standpoint of the highly-networked individuals who staff academic hierarchies and sophisticated funding agencies. To watch them happening, however, all you really need are some basic concepts (like the ones I am explaining here) and the disposition to build far-flung professional networks.

(12) Segmentary politics

As the last several paragraphs suggest, political life in the research world consists largely of contention for resources among various research communities. To get some perspective on these political processes, it helps to understand the phenomenon that anthropologists call segmentary politics. Let us imagine for the moment (simplifying greatly) that society is organized hierarchically: households belong to neighborhoods, which belong to towns, which belong to regions, which belong to nations, which belong to broad cultural groups. If you look carefully at a town, you might find that the people in adjacent neighborhoods are continually struggling with one another. But if one town attacks another, those conflicts might be cast aside as everyone rallies to the defense of their town. Rivalries among towns might likewise subside as tensions arise between regions, but these tensions might dissolve temporarily when war threatens between nations, and so on. Each element of this picture -- a household, neighborhood, town, region, nation, or broad cultural group -- is called a "segment", and segmentary politics consists of an endless negotiation of conflict and solidarity among adjacent segments. Of course, the picture can be more complicated when groupings cut across borders, for example in former colonial areas where national borders are randomly related to the

borders among cultural groups. But even the simple picture is useful as an antidote to the even simpler picture of undivided national loyalties.

As you start participating in the institutional life of your field, you will probably notice segmentary politics yourself. Individual members of a department may dislike one another, but they may find it in their interest to remain allies in the department's factional struggles. Those factional struggles may in turn be put aside when the department as a whole is threatened in some way, or when various departments are making their case for increased resources to the dean. Within the invisible college of a research community, likewise, segmentary politics might motivate opposed tendencies to pull together long enough to present a unified front to a funding agency that is thinking of starting a new program in their area. And the different schools of thought within a discipline might organize to fend off imperalistic assaults from other disciplines around them.

Segmentary politics is distasteful. In describing it, I certainly do not mean to praise it. You will probably find yourself engaging in it for self-defense if nothing else. But your real job, in the long term, is to transcend it. That is what networking is for. The broader and stronger your network, the less subject you are to the randomness of people's local rivalries. This is one reason why I have editorialized here against disciplinary bigotry: the too-common stereotyping of one discipline by another. The argument against bigotry can be generalized: the conflicts at every level of the segmentary hierarchy are usually organized by stereotypes that have arisen over years, if not decades. Some of these stereotypes may perhaps be justified: despite all of your own best efforts to identify shared values with people in various fields, there may remain certain intellectual orientations that seem completely worthless to you. But at least these will be considered opinions, or as considered as you can make them, and not the uncritical acceptance of other people's stereotypes. And you should remain open, looking for previously unsuspected points of intellectual or moral contact with fields that have previously seemed alien to me. By maintaining this attitude of openness, you can avoid mindlessly closing yourself off from potentially new and constructive directions of networking.

(13) The role of rational debate

I've been talking about "politics", but many people at the beginning of their careers wonder what "politics" means. After all, many people equate politics with corruption, and they feel as though engaging in politics means instant damnation. It is important, therefore, to get a positive conception of politics. A good place to begin is with the role of rational debate. To make the problem concrete, let us imagine a faculty meeting where decisions are being made about which candidate to hire for a job. Most such meetings are conducted according to a formal rulebook such as Robert's Rules of Order that gives everyone a chance to make motions, offer arguments, call for votes, and so on. In that sense everyone is formally equal. But we all know that other things are going on behind the scenes. People come into the meeting with their agendas, their coalitions, and so on. What, one may well ask, is the purpose of holding a rational-looking debate, when the fix is probably already in?

Implicit in this way of asking the question are two stories. On the first, naive story, everyone has an open mind and wants only the best for the school and its students. The naive story suggests that the meeting will be a shared, rational inquiry into the outcome that is best for everyone. On the second, cynical story, everyone is angling for power. The cynical story suggests that rational-looking debate is purely for show, and that the outcome is already set. In fact, the reality varies a great deal, and is almost always a mixture of the two stories. A healthy academic department will be somewhat fluid in its politics, neither strictly hierarchical nor rigidly factionalized, but consisting of a shifting map of different groupings who see things in different ways, and who need to remain on good terms with one another because future issues may require them to form unexpected alliances. In that environment, rational debate does serve a purpose: most issues will have their undecided swing votes, and whoever communicates best with those swing voters will win. Of course, not every department is perfectly healthy, and human beings will always have failings. If you are on the losing side of a harsh political division, then your goal should be to leave, and networking is the best way to go about that.

Whatever the case, you should understand that "politics", whether naive or cynical, always starts with the commonalities that people have established in their discussions with one another. If you don't want to become enmeshed in "politics", in the negative sense of that word, then you should cultivate the skill of identifying points of intellectual overlap with other people. Don't let your pride get in the way by defining your intellectual agenda in one inflexible way. I'm not asking you to compromise your values, or to pretend to believe things that you really don't. There are lots of ways of explaining various aspects of your intellectual interests, and you will navigate in political space much more readily if you decide to articulate the versions of your interests that establish points of contact with particular people. Once you do this, the dichotomy between the naive and cynical pictures of politics starts to break down: you will make common cause with people in an honest way, and they will understand that you are on their side. Political coalitions will emerge in a natural way, and you will be in the middle of them. I will discuss these articulation of commonalities further in the next section.

(14) Reverse engineering

I want to start the transition to the final section on ethical issues by making explicit a concept that has been implicit at many points along the way. In your new career as a researcher, you are entering a complicated set of institutions whose participants occupy a variety of different positions. You have to deal with these people, and you will get things done by building consensus with them around ideas and projects that you find important. Because these people have different positions than yours -- department chair, dean, funding agency program manager, PhD student, journal editor, etc -- communication with them will not be automatic.

Here is a way to think about it. Everyone has stuff going on in their heads -- questions, concerns, agendas, precedents, peer pressure, and so on -- and you can communicate with people better if you understand how they work. Partly this means understanding them as individuals, with their own backgrounds, histories, ideas, peculiarities, whatever. So if

you're going to talk to someone, and something important is at stake, you should try to talk to someone else who knows them first. That said, though, much of what's going on inside people depends not on their personalities but on their positions. Every dean has certain concerns, and so does every PhD student, every department chair, and so on. If you are talking to someone whose shoes you've walked in, a PhD student for example, then you have a small chance of empathizing with their concerns (assuming that you haven't forgotten entirely what it was like). But if you are talking to someone whose world you cannot imagine, such as a dean, then you are likely to make mistakes.

The concept you need is reverse engineering: figuring out what the people are likely to care about, and then speaking to that. I am not talking about manipulation, and I am not talking about telling people what they want to hear. The point, rather, is to anticipate what issues they people will have, and to make sure that what you're proposing takes those issues into account. Here is an example. In Section 6 on job-hunting above, I described one way to write a letter of recommendation: gather all the good things you can think to say about someone, and organize those good things into a coherent story. That's a pretty good formula. But a better formula is to start from the concerns of the people who are likely to be reading the letter. universities and other research institutions are full of evaluation processes, and central to all of them is a dilemma: people are made to prepare defensible evaluations of research in fields where they have little or no expertise. Everybody realizes that this is a problem, and almost everybody is responsible about reaching beyond their own knowledge. That is what letters of recommendation are for: they are evaluations from people who know the work. Yet those letters don't fully solve the problem. Someone has to interpret the letters and convert them into up-or-down decisions that they can justify. What to do?

The major idiom for these justifications, it turns out, is comparison. Is this person the best in their field? How do they compare to other people at similar levels of advancement in the field? How does this program stand in some magazine's reputational rankings? That is how people like CAP (the Committee on Academic Personnel that I mentioned above) will be thinking. A letter-writer, therefore, is well-advised to speak that same language. An expert recommendation letter will say things like, "In preparing this letter, I conducted an informal exercise in which I assembled a list of several other prominent scholars at this person's level of advancement, and in doing so I found that this person's work is clearly ahead of the pack in terms of this, that, or the other thing". That's reverse engineering.

The concept obviously generalizes. In various sections above, I have explained what various sorts of people are worried about. Department chairs, for example, have to get courses and committees staffed. PhD students on the sidelines of faculty hiring want to get faculty hired who can teach the courses they want to take. In each case, you can accomplish a great deal by showing that you are aware of these oncerns. You don't have to make them your responsibility, but you should not try to evade them or get around them. If someone has a valid concern, then you should get that concern on the table and cooperate in addressing it. The situation is harder, of course, when you're dealing with someone whose concerns are not valid, or who is presenting concerns as valid that are

actually disguises for other agendas. In those cases all you can do is put your own valid concerns on the table and negotiate. But don't get into the habit of acting like everyone else's concerns are just negotiating positions. That's not a healthy way to live.

(15) Demographic tidal waves

When we speak of the university as an "institution", the suggestion is that things stay pretty much the same. But the institution does change, and you need to understand how. One source of change is information technology, but a much more important source of change is demographics. Let me just consider the United States. After World War II, a huge number of soldiers came home from the war and went to college on the GI Bill. The university system expanded tremendously to accommodate this new wave of students. Those same students also had a tremendous number of children, the famous "Baby Boom", and when those children grew up, the university system kept expanding to accommodate them as well. The federal government's research establishment grew explosively at the same time, and much of this money went to universities. These generations -- the GI Bill and the Baby Boom -- took the concept of an expanding universe for granted. The job market was so strong that they could take chances with their careers. Beginning in the 1980s, however, that picture changed. Student numbers stopped growing dramatically, and the academic job market contracted accordingly. Qualified college teachers were so numerous that many colleges moved away from tenure-track faculty and toward exploited part-timers. Academia started getting a bad reputation as a career choice.

That situation is about to change, for two reasons: (1) the Baby Boom generation is going to retire, and (2) the Baby Boom's grandchildren are headed to college. The numbers in each case are overwhelming. The University of California, for example, plans to hire about 7,500 new faculty members in the next ten years -- which is more faculty than it employs right now. In fact, higher education planners assert that it will be physically impossible to accommodate all the students who will be ready for college over the next decade. Despite what you have heard, therefore, this is the best time in human history to be entering the research field. The networking skills that I have been presenting are crucial when the job market is scarce, because the Baby Boom generation's easygoing career strategies certainly don't suffice. But networking skills will also be useful during the good times ahead, when the university will be completely remade in a short period.

SECTION 11. Positive Leadership

The previous section has pointed toward the ambivalent nature of the research world, and as you become well-connected you will start to face the moral issues that the professional world inevitably brings. Before talking about those moral issues, though, I want to make sure that the bad dynamics I've been describing haven't tempted you to cast off the optimistic and constructive tone of my advice in favor of the negative stereotypes about networking that prevail in the culture. Don't become a cynic. It will make you a bad

person and a bad influence on others. You really must believe this: if you think that the whole universe is evil then you are evil yourself. I do realize that some people are out there selling their souls. And the expanding universe of an emerging discipline will always attract opportunists who are gung-ho about networking and whose research is simply a shallow excuse to keep their hand in the network-building game. That is not the way of life that I am recommending for you, and I want to make sure that you distinguish between this negative approach to networking and the positive and constructive approach that I have been describing. The main purpose of this section is to make the distinction between the negative and positive approaches to networking as clear as possible, in order to help you develop a clear ethical sense in an unfamiliar professional world.

Research institutions

Let us start with an aerial view. Imagine yourself in the sky looking down on millions of researchers, in every field, all continually building their networks, organizing their conferences, editing their journals, interviewing for jobs, and so on. I have described the process by which these people institutionalize their emerging fields, but the idea of an institution has a more fundamental meaning as well. Think, for example, of the institution of a journal. No laws anywhere explain how journals ought to run. Each journal sets its own rules, based on the sensibilities of the people involved and the precedents that are available from existing journals that the people are already familiar with. A journal editor might introduce small innovations such as double-blind refereeing (where the referees are not told who wrote the papers they review) or a department of the journal for short papers. A really energetic journal editor might even organize a more radical change, such as a shift to online publication. Nonetheless, the journal as an institution does not change much, for the simple reason that it is held steady in a force field of the intersecting incentives that other institutions create. The academic promotion process, for example, demands peer review as a formal method of evaluating a candidate's research, and so few researchers will submit their research papers to a journal whose procedures do not fit that model. A journal establishes its identity and credibility in large part through the list of prominent researchers who are willing to be identified with it, and so every journal will have a list of prominent people on its title page, whether an "editorial committee", "advisory board", or what-have-you. Authors expect one another to give credit where it is due, and peer review gives these expectations teeth, so the articles in journals are festooned with scholarly apparatus. Because these converging forces remain much the same over time, the institution of the research journal remains much the same as well.

The same goes for the other institutions that organize life in the research community, such as the conference, the job interview, the grant proposal, the advisor-student relationship, and so on. Over time, the participants in every institution accumulate and pass down a body of knowledge about how to pursue individual and collective goals within the framework that the institution provides, and the whole purpose of this article is to explain this body of knowledge in very explicit terms, so that you don't have to learn it by trial and error. Everybody in the research community, or at least the vast majority of people who are successful in it, learn and practice this knowledge to the point that it becomes second nature. If you study them from your aerial perspective, you will see them

building networks that you could easily imagine mapping -- and that some scholars actually do map as part of their own research. As publications and communications become increasingly electronic, you could imagine constructing these maps automatically.

It's important to understand how profoundly the buzzing activity of network-building that you observe is organized and supported by the institutions. Recall, for example, the role of the library as a sort of catalog of potential intellectual friends. Most people in the real world do not order their friends from catalogs, for the simple reason that they do not create the same sorts of elaborate public personae that scholars create when they publish their research in journals. In fact, most professions do create incentives to build professional networks, and many sorts of organizations and directories do exist to support networking in business and politics, for example. Even so, few professions provide the extraordinary level of institutional support for the process that the research community provides.

The dynamics of networking in the research community, however, do not remain the same over time. The Internet has certainly accelerated the process through electronic mail. In some fields the process has also been altered substantially by the Web, although I remain struck at how little effort the average researcher puts into building a Web presence. Since most researchers already know personally the finite world of individuals whose opinions of their work really matter, and since libraries already make their publications available to the few people who don't get them by exchanging drafts, researchers do not have strong incentives to create an elaborate home page. That's how powerful the existing institutions are: they bond people so tightly that even the Internet does not radically change the dynamics. The Internet makes it easier for people in outsider universities (such as the former students of people at the insider universities) to stay in the loop, and as I say it speeds everything up. But the fundamental phenomenon, the one that drives and shapes the research community's day-to-day practices, is the complex of institutions that rewards some activities and not others.

That said, I do think that the institutions of research have changed in one important way over time. From the aerial perspective, you could say that the temperature has gone up. The activity of forming and reforming networks is more frenetic than it used to be, and less predictable. In the old days, fields were stable and hierarchical, and they had strong boundaries. You were trained in a field, changing fields was almost impossible, and the concept of interdisciplinary research did not exist. Every field had two or three leading journals whose editors were kings, and they had one major conference, held once a year, where faculty introduced their students to the faculty of other departments in the patriarchal hiring system. That old world is hardly gone, but it is changing. You could say that we are moving from a world of conferences to a world of workshops. Where conferences are large and permanent, workshops are small and temporary. Some workshops are held year after year, but others are transient by design. A conference is an immutable fixture in its participants' lives, but workshops are organized more or less spontaneously whenever network-builders such as yourself manage to articulate emerging themes that motivate a critical mass of their peers to abandon their research for

a few days to participate. Workshops are indifferent to the boundaries of fields, and they allow people to join multiple research communities, and to migrate freely from one research community to another as they seek out new research topics that fit their interests and talents. Although it is not without dangers, I think that this shift toward a more dynamic research community is basically a good thing, not least because it calls on everyone to make their own fate by engaging with others.

Disagreement and pathology

That is the big picture, and I think it is a fairly hopeful one. Returning to earth, however, I do appreciate that you will have to deal with the negative and pathological aspects of the institutions as they actually exist. Take, for example, the simple fact that many of your fellow researchers will not share your research interests, and more importantly your values. Although networking is very much a process of picking your friends, nonetheless you will often find yourself sharing a committee or a department with people who you just plain disagree with. What to do? I have given part of the answer already: articulate commonalities. Find something -- anything -- that you agree with them about, and talk about that. Create a human bond on any basis at all, have a social conversation with them about just those topics, and the rest will follow much more easily.

The next step in dealing with people you disagree with is to learn their arguments. You don't know your own arguments until you can argue the other side. The history of philosophy makes clear that intellectual progress requires that evenly matched schools criticize one another in detail, so that each side feels compelled to overcome the criticisms that the other side has presented (see Randall Collins' book *Sociology of Philosophies*, mentioned above). You should live this deep truth in your own life by really learning the arguments of the people you disagree with. You should also search fearlessly for valid points that your opponents do make amidst their errors. Make sure that you aren't denying those valid points, just because your opponents make them. That sort of denial is dangerous, and you should make a big point of avoiding it. For example, if you're an economist you should admit that markets sometimes fail. If your work is situated on the political left then you should admit that crime is bad. And don't just admit these points: embrace them. Don't just treat them as nasty counterarguments that you immediately trounce with your brilliant come-backs. Rather, accept within yourself that the valid points are valid, and carefully disconnect them from the false ideas with which they have formerly been associated. By submitting yourself to these disciplines, you will accomplish many things. You will present a smaller target to people who disagree with you. You will confound their expectations and throw them off-guard. You will minimize unnecessary polarization and avoid foreclosing potential coalitions. And you will clean the junk out of your own arguments. People aren't stupid, and you need to believe that the people you care about respect intellectual honesty. The arguments that you can't explain away will compel you to invent new arguments, which after all is your job.

Of course, all of this talk about learning arguments requires people to fight fair. But many people, as we all know, do not fight fair. To deal with these pathological people, you need six ideas:

First, you should distinguish between people who are irrational in a general way and people who are irrational on specific topics. When people are irrational on specific topics, it means that they have been hurt in the past and are afraid that they are going to be hurt the same way again. Oftentimes, you will do something reasonable that superficially resembles a bad thing that some other crazy person did in some other situation. For example, you might propose a new course that falls somewhat outside the usual framework of the curriculum, not knowing that your department went through years of warfare over the framework of the curriculum before you got there. The extreme response you receive from otherwise rational people will be out of proportion to anything you actually did. When you do something reasonable and encounter an irrational response, therefore, one approach is to stop and figure out what bad experience the other person has had. Then you can assure them that you aren't going to do the same bad thing that the crazy person did earlier.

Second, you should never try to change or fix pathological people, and you should certainly never persuade yourself that your personal happiness or success depends on changing or fixing them. Fixing pathological people doesn't work in personal relationships, and it certainly doesn't work in professional relationships. Release the miserable people to their misery, refuse to let them into your space beyond the nice clean boundary that you establish by (only) articulating commonalities, and carry on with your life.

Third, understanding where the pathologies come from will make the pathological people easier to deal with. For example, you will find many assistant professors engaged in pre-tenure psychosis, in which the uncertainty of the tenure process causes them to become delusional, adopt self-destructive defenses, play maladaptive politics, spin conspiracy theories, and generally mess themselves up. Not having been admitted to the inner circles of the institution, they have not sufficiently internalized how the institution works, and so their imaginations fill the vacuum with whatever basic beliefs about the world they happen to have gotten from their childhoods.

Fourth, you need to tell yourself that pathological people behave in pathological ways because they do not share the positive and constructive view of the world that I am explaining in this article. Pathological people are pathological because they believe that the world is a fundamentally bad place, and whenever you feel the urge to send them to hell you should understand that they are already living in hell. Of course, when you are confronted with hard-core power freaks it can be hard to tell yourself this. If the power freaks have dug their claws into resources, if they have built an empire of cronies and serfs, if they have recruited others into their distorted view of the world, surely there is a real sense in which they have benefited, is there not? No, there is not, and this is what you have to tell yourself. When Jesus said that the world is corrupt, and when the Buddha said that the world is illusion, this is what they were talking about. Pathological power freaks think they are in control, but they are hallucinating. If you convince yourself that your success and happiness depend on wrestling control of those hallucinations yourself, then you have locked yourself into the same reality as they have. Let go of them. You will make your success and happiness through networking in ways that may or may not

have been revealed to you, and that have nothing to do with the illusory power that pathological people appear to hold.

Fifth, if a pathological individual happens to attack you emotionally, whether through shouting fits or sarcasm or accusations or whatever, you should learn the proper method for getting the toxins out of your system. The key is to revisit the specific details of the situation. You can do this with your notebook or with a trusted personal friend (preferably not a professional colleague). Simply recount the events in detail. By "detail" I mean the specific actions and words, step by step. Think of yourself as extracting venom from a snakebite, removing each bit of the venom by deliberately revisiting each element of the experience. If you were emotionally hurt, however slightly, you will find yourself tending to describe the events in a vague way, for example by giving paraphrases rather than the actual words or by skipping over details that don't seem important. This is a mistake. The purpose of emotional abuse is to subvert the victim's capacity for rational thought, and you will only regain your rational mind if you carefully extract the toxins from your system. If you find yourself howling for revenge, then you haven't gotten all the toxins out yet.

Sixth, one purpose of networking is to let you escape pathological people by building your own supportive community. The stronger and more extensive your community, the less power the pathological people will have over you. Your network is your personal intelligence system. Your conversations with other people in your network will help you understand how different organizations do things, and they will broaden your thinking by helping you internalize a wider range of perspectives on the institutions and the research. When a network is functioning properly, a kind of electricity runs through it: the excitement of the research, the affirmation that comes from sharing that excitement with others, and the confidence that comes from a continually updated affirmation that your research is finding a real audience. The electricity of a functioning network makes pathological personalities seem less important. And when you have a network that is just as big as the pathological person's, that person no longer has any power over you.

Leadership

Having declared your independence of pathological people and their established ways of doing things, how *will* you achieve the personal success and satisfaction that you seek in your career? The general outlines are probably clear enough from my advice so far: build a network, articulate an emerging theme, organize institutions around it, build another network, articulate another emerging theme, organize institutions around that theme, and so on. It's a cycle. With each pass through the cycle, you will ascend to a new plateau in the professional world, and in your career. You will then build networks and organize institutions by cooperating with other people who occupy similar plateaux, having built their own networks and organized their own institutions back in their home territories. And then you will use that plateau as a base from which to ascend once again.

The crucial intuition is that the emerging themes will become more abstract with each pass through the cycle. When you organize your first conference panel or journal issue,

you will probably choose an emerging theme that brings conceptual order to the work of a half-dozen people. That's fine; it gets you started. Once you gain the perspective that a round of professional organizing affords, however, you will find yourself articulating bigger and more encompassing themes, ones that bring order to the research programs of scores or hundreds of people. Examples of abstract themes that help large research movements to coalesce include "neuroscience", "cultural studies", "communications policy", and "human-computer interaction" -- in other words, the sorts of phrases you see as the titles of journals and conferences. This is where journals and conferences come from: every one of them started when someone followed the procedures that I am describing. The genius of research as an institution is that it supports this kind of incremental growth: as a new researcher it is impossible to engage with the voices of every researcher in the world, so the institutions are arranged to let you pick a few voices -- the ones that are closely related to your dissertation topic -- and engage with them. Then as your career progresses you can engage with broader and broader ranges of voices. The meritocracy of research starts with peer review, but its essence lies in the opportunity that it provides everyone to ascend in their careers by organizing networks around progressively larger themes. The justice of the system is that engaging with diverse voices makes you honest: you are compelled to reconsider your assumptions on ever deeper levels, and this makes your work more useful to everyone.

Of course, intellectual leadership isn't simply coming up with a name, but talking to everyone and developing a language that lets them all recognize themselves as members of an emerging community. This is leadership in its most general sense, and done honestly it is the best kind of leadership. A leader always has a couple of activities in the works that gather people around emerging themes -- and not just any people but the people whose work seems in the best sense to represent the future. At any given point, then, you will always be involved in organizing a conference, convening a committee, starting a journal, putting together a multi-site grant proposal, founding a research center, or whatever makes sense at a given time. If you're not involved in any such activities then you should figure out what the problem is. Reconnect with your network, articulate emerging themes, build consensus, and move forward.

Money

An especially important type of intellectual leadership concerns research funding. Every funding agency, whether the government or a company or a private foundation, maintains a dialogue with the research community to help articulate the research program that they want to fund. Your job as an intellectual leader is to mediate this dialogue by talking both with your network and with the funders about where everyone sees things going. When you talk to people in your network, you should constantly update your map of the community's collective research agenda. Elicit each individual's research agenda, and then put those research agendas together into orderly wholes. Keep lists of research topics that come up in conversation, sort the topics into outlines, and tell clear stories that give the outlines a unified sense. This is what emerging themes are for, and by continually working to articulate emerging themes you will evolve the language that the research community and the funders use to talk to one another.

This conversation can be organized in many different ways. The National Science Foundation, for example, is largely driven by the research community itself, and intellectual leaders who can organize workshops and assemble their findings into "white papers" play a pivotal role in the process. The incentives to organize such things are strong: if you write the white paper that NSF draws on in defining a funding program, then it is likely that your own proposal will fall squarely within the scope of the program once it gets defined. Other agencies, public and private, are directed more by their own agendas, or those of their patrons, but even in those cases your job is much the same: staying in the conversation and continually offering a compelling vision of the future direction of research, based on your honest sense of where the ideas are heading. Of course, a dialogue by definition goes both ways, and you also lead by articulating the genuine insights in the funders' agendas and synthesizing them with the bottom-up development of agendas in the research community.

This process may sound phony, and it can certainly become phony if it is done badly. But believe it or not, the leaders of funding agencies are usually very intelligent, and their opinions do usually reflect real insight. Of course, a failure of leadership can result in a situation where a powerful funding agency leads the research community around by the nose, imposing arbitrary agendas on it from the outside. But avoiding this kind of failure is precisely what powerful leadership is about. Powerful leadership is far-sighted enough that the relationship with funders is based on a shared vision of emerging directions for the research.

Now, many people do not get excited at the prospect of articulating research agendas and conversing with funding agencies. They do not see themselves as leaders, and they would rather stay in their labs and libraries doing their work. I say fine. It's a free country. Nonetheless, you have to understand how these things work. Money for your research does not materialize from the clouds, and you don't want to be stranded when the agenda-setting process strays away from the topics that interest you. Participating in the process, if only at a basic maintenance level, means that you retain a degree of control over your life, as well as an early-warning system that prevents you from getting stuck later on. But more fundamentally, as I have emphasized throughout, the networking process is good for your own thinking. Networking serves many functions, but the most important is as a process of collective cognition. When you talk to everyone and listen to their research agendas, and when you write all their agendas down in front of you and look for the emerging theme that brings order to them, you are stimulating the most crucial functionality of your mind: the largely unconscious ability to synthesize fragments into coherent wholes. Down deep, everyone has a drive toward wholeness. This is the force that makes you a more or less integrated human being and not a schizophrenic mess, and it is also the force by which like-minded individuals cohere their thinking and form movements that are intellectually and institutionally stronger than the separate individuals that make them up. In a sense, then, deliberately talking things through with everyone in your network simply amplifies a force toward wholeness that is already operating in everyone's personality. The difference is that it's now a force for the collective good, as well as your own.

Fame

If you have been following my advice, then you are likely to encounter two perplexing types of situations: meeting famous people and becoming famous yourself. Fame has a great power to make people irrational, and so it will help if you understand where this power comes from, and how to avoid it. Presented with an opportunity to meet someone who's famous, many people turn into idiots. They think that meeting this person is a rare opportunity not to be passed up, and they imagine in a very abstract way that something will come from it. The reason for this weirdness is subtle, and it has to do with networking. We want to associate with famous people because we imagine (usually correctly) that famous people have much more wide-ranging networks than we do. Either the person became famous by building a large network, or else they became famous in some other fashion and acquired a network as people started including them in things. In either case, the magnetic pull that celebrities exert derives from the idea that they can connect us to networks that currently lie beyond our reach. Yet for that very reason, meetings with famous people can be strange and pointless. What do you say to someone who (or so you imagine) already knows everyone and everything that you do? This question, happily, has a simple answer. Say this: "What are you working on?" Usually they're doing something that hasn't been publicized yet, and now maybe you'll learn about it. Then, when it's time to talk about yourself, simply explain your current project that involves gathering people together -- a workshop, a book, etc. If you are following my advice then you have such a project to talk about, and if you have a project that the famous person could be included in, choose that one.

Thinking about these issues in real, practical situations is helpful practice for the really hard part: becoming famous yourself. As you begin networking, you will learn some surprising facts about fame. One is that fame is relative. You can be famous -- that is, perceived and treated as famous -- in a community of a few hundred people. That means that, much sooner than you think, you will start meeting people who treat you as if you are famous. This can be a very strange experience. You will find people hero-worshipping you, or projecting various purely imaginary qualities (good or bad) onto you, or assuming that you know people and things that you've barely heard of, or treating you as some kind of political symbol. When this stuff happens, your number one temptation is to be a jerk. You may already have met your inner jerk back when people started coming to you for advice, but if not then you will certainly meet your inner jerk now. All I can say is, be ready.

So, should you become famous? If you wish to excel in a career in research, then you probably have little choice. Research requires you to publish your results, articulate emerging themes for your field, and build an extensive professional network, and all of these activities, if done well, lead directly to fame. You do have some choices to make about your participation in activities outside the research world, for example in cultivating a public voice along the lines that I discussed in Section 3. But for the most part, having a public persona is part of the job, and you should think hard ahead of time about what it means to you and what you want to do with it.

In particular, fame affects relationships. As you become famous, you may be distressed to find that you can no longer be friends with some people that you've known for years -- people who have been turned into idiots by the prospect of benefitting from their friendship with you. Then, if that weren't enough, you might also find that you can't seem to make any new friends either, since everyone new is too busy projecting things onto you. Some people will want to be friends with you because of your network, and not because of your personal qualities. Don't let these phenomena discourage you. Your professional networks, after all, are supplying you with large numbers of people who share your values and interests. You are effectively becoming a different person, at least so far as your public persona is concerned. You are knitting yourself into a different network of relationships, and if you have articulated commonalities and emerging themes that genuinely interest you, then your new relationships will be just the ones you want.

Beliefs

At several points in this article I have described the self-defeating beliefs that keep many people from having the careers they want. Dysfunctional beliefs can come from several sources:

* Messed-up ideas in the general culture, for example the idea that networking is necessarily greasy, dishonest, burdensome, "political", or a substitute for "real work".

* Political movements that have run off the rails and try to convince everyone that the world is infinitely and hopelessly oppressive.

* The dysfunctional cultures of particular occupations or workplaces, which claim that getting a job requires you to give up your integrity and commit yourself to work that you do not respect.

* Dysfunctional subcultures of the research world that arise because people in particular situations -- for example, graduate students or untenured faculty members -- lack the information they would need to distinguish between genuine oppression and random paranoia.

* Traumatic experiences, such as having your work plagiarized, that leave you forever worrying that the same bad thing will happen again, until that worry blows up into an all-consuming worldview.

* Child abuse, whose survivors often experience the world as an endless series of abusive situations which they cannot escape.

I want to focus particular attention on one mechanism through which people develop negative beliefs. Most people get socialized into institutions such as the research world without anyone ever explaining how the institutions work. For example, few PhD students ever get explicit lessons on the sorts of career strategies that I have been explaining in this article. What is more, the social world is filled with unspoken rules that

keep these things hidden, for example the taboo against boasting or the imperative of explaining one's motives in terms of the general good rather than in terms of self-interest. These unspoken rules help people to get along, but they also make it much harder for average PhD students in complex professional interactions to figure out what is really going on. Most students do acquire some insight from watching the experts, but they usually do not develop a complex theory like the one I have been explaining here. As a result, they often perceive their social environment in a relatively superficial way.

Let us consider a comparatively mild misconception that can arise from this sort of superficial perception of the professional world. Some students develop the idea that a professional network is an encumbrance. After all, the more people you know, the more you have to constrain your voice to avoid saying anything that will offend anyone. Isolation is painful, but at least it leaves you free to speak your mind; the alternative is a life of walking on eggshells. Right? Wrong. People who believe such things fail to understand how people change when they articulate shared values. Once you have created a bond with someone based on the values you share, you can go ahead and disagree with them. Having established what you both really care about, you can easily display your agreement on fundamentals before going on to explore your differences on details. If you have not articulated shared values, then indeed you are likely to step on some land mines. The simple fact that they don't know you will heighten the danger of misunderstanding. But once you internalize other people's thinking and allow it to influence your own, these dangers are much reduced. Actively engaging with other people is a way to discover and articulate your own beliefs.