

# Advice for Undergraduates Considering Graduate School

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This article contains informal advice for undergraduates who are thinking about graduate school. Graduate school comes in three varieties: professional schools (law, medicine, education, and so on), master's programs, and doctoral programs. I know little about either professional schools or master's programs, so I will concentrate on doctoral programs. In particular, I will use the term "graduate school" to refer to doctoral programs. Much of my advice, though, probably applies to the other options as well. Please note, too, that I originally wrote this document for students in my own field and department. Things might work differently where you are, particularly if you are not currently in college, or if the faculty in your college do not do much research in the area that most interests you. As with all advice, only trust these notes to the extent they correspond to your own experience.

For students interested in the humanities and social sciences I recommend the "Real Guide to Graduate School", by the editors of *Lingua Franca* magazine. You might also be interested in Robert L. Peters' book "Getting What You Came For" (Noonday Press, 1992), about the process of applying to and attending graduate school. You might also consider reading books about job-hunting, since that's often a good way to look at the process of applying to graduate school. I recommend Tom Jackson's "Guerrilla Tactics in the New Job Market" (second edition, New York: Bantam, 1991). You are also welcome to a copy of an annotated bibliography that I have prepared that describes some books about working in industry. Others have recommended the exercises in "What Color Is Your Parachute" (Ten Speed Press), though I haven't tried them myself.

## WHAT IS GRADUATE SCHOOL?

Graduate school is training in research. It is for people who love research, scholarship, and teaching for their own sake and for the difference they can sometimes make in the world. It is not for people who simply want more undergraduate courses. It is not for people who are in a hurry to get a real job. The eventual goal of many doctoral students is to get a job as a college professor, or perhaps in industrial or government research. Some in technical subjects go on to start companies. But many just do it because they like it.

More specifically, graduate school is typically a five to eight year program (in the US anyway; fewer years in most other countries) of study and research organized by a single department or interdisciplinary program of some university, culminating in a doctoral degree (usually a PhD). In

the United States, as a general rule, the term "university" refers to a college that grants doctoral degrees. Some individual departments in a university may not have graduate programs. But a research-oriented university will normally grant doctorates in dozens of different fields.

Graduate school, as I mentioned, generally takes five to eight years. That's a long time. The first year is often the worst. It usually consists of an overwhelming amount of structured reading, designed to give you a generalized background in the basic texts of the particular field. But the exact format of the first few years of graduate school varies widely. Typically one must pass a set of "comprehensive exams" (often called "comps") to continue in the program past a certain point. People do fail these exams. And the workload and the possibility of failure often cause a great deal of anxiety. I have elaborate ideas about the causes and cures of this situation, but I'll reserve them for another occasion. My point here is simply that this unhappy period passes, to be followed by more interesting periods. The next few years of graduate school are usually focused on finding a topic and advisor for one's dissertation, along with additional coursework and teaching assistantships. The best part of graduate school, the part that makes it worthwhile, comes toward the end, when you begin to present your research in public. Suddenly you will begin to join the community of scholars who work in your chosen area; they will take you seriously and you will begin to make numerous professional acquaintances, some of whom you will probably keep for the rest of your life. (I've written another article, similar to this one, about the role of electronic mail and the Web in professional networking:. It's available on the Web in both HTML and PDF at this address: <http://dlis.gseis.ucla.edu/people/pagre/network.html> .)

Graduate school, then, is quite different from undergraduate school. It takes longer, it requires more focused and sustained work, it involves more intensive relationships with faculty and other students, and it makes considerably greater demands on your personal identity. You can get through your undergraduate education, if you care to, without ever really thinking about who you are or what you want to accomplish in the world. In graduate school, though, your personal identity will almost certainly undergo great change. In particular, you will acquire a particular sort of professional identity: you will become known as the person who wrote such-and-such a paper, who did such-and-such research, who refuted such-and-such theory, or who initiated such-and-such line of inquiry. This process can be tremendously satisfying. But it's not for everyone.

## DO I WANT TO GO TO GRADUATE SCHOOL?

Your undergraduate education will not enable you to decide whether to go to graduate school. You will need to ask for advice. You should figure that the decision will take about a year to make, so ask for a lot of advice over a long period. Start toward the middle of your junior year, if not before. You should get advice from everyone you consider either knowledgeable or wise, but particularly from professors. Actively explore the possibility of graduate school even if you think your odds of actually going are relatively low; many people have discovered that they had misconceptions about graduate school and that it is more interesting than they thought.

Many people have difficulty asking for advice about such things, especially from professors, because they are embarrassed at not already knowing all the answers. But you should understand that a large part of what professors do all day is to give people advice. And professors know a

great deal about graduate school. In particular, a professor who does research in a given area will probably know a large proportion of the other people who do research in that area. Indeed, he or she will probably have visited most of the departments that have good graduate programs in the area. On the other hand, professors (like everyone else) see things from their own personal angle, so you should expect to get different advice from different people. That's life. You can also talk to the graduate students in your department, for example the ones who have served as teaching assistants in your classes.

The first step is the hardest. Start by making a guess at the field or topic that you might want to study in graduate school. Then pick a professor who seems approachable and might know something about that topic, perhaps because he or she teaches a course in that area. Show up in that person's office during scheduled office hours and say, "Hello. I'd like to ask your advice. I am thinking I might want to go to graduate school, but I'm still uncertain about where I would go or what exactly I would study. I do know that I'm pretty interested in such-and-such. How would I find out about graduate schools in that area?" Some common responses to this are as follows:

(1) "I don't actually know much about that area, but you should talk to so-and-so who is really the expert on that." Go talk to so-and-so.

(2) "I think you're going to have to define your interests a little better before I can help you." Ask for help in defining your interests better.

(3) The response you're looking for, namely a list of all the good graduate programs in that area, with as much detailed description of them as you can possibly digest.

What next? Well, let's back up and talk about research.

## RESEARCH

Graduate school, as I said, is training in research. When a graduate school looks at your application, their principal question is, "Is this person going to be good at research?" Indeed, that should be one of your own principal questions as well. How can you tell if you're going to be good at research? Getting good grades in your undergraduate classes is important, but it's not really the main thing. The main thing is this: if you want to go to graduate school, you should start getting involved in research as an undergraduate. This fact is usually kept secret, but it's true. And in retrospect it's obvious why. Graduate school is a big commitment, both for you and for the department that accepts you into its graduate program. You should try your hand at research first so that everyone can make a well-informed decision. (On the other hand, if you don't manage to get involved in research as an undergraduate, you should go ahead and apply to graduate school anyway, and consider including your best undergraduate term paper with your application.)

How can an undergraduate get involved in research? This question has two answers, the official answer and the real answer. The official answer will take the form of administrative mechanisms (independent study courses, faculty mentor programs, and so forth) that provide formal structures around a project that you might be involved in. Go talk to your department's undergraduate

coordinator, find out what these mechanisms are, and read the necessary paperwork. Then forget about them for a while, because the real answer to the question lies in your professional relationship to the faculty member who will supervise your research. But who will this person be? That's the hard part.

As with all professional relationships, you're looking for a match between your interests and abilities and those of a faculty member. Finding this match will take a little time, but like all hard projects it starts with asking advice. One way to start is by finding out which faculty members have supervised undergraduate research in the past. Teaching assistants are often a good source for this sort of information (and much other information as well, though you should realize that TA's, like everyone else, see the world from a particular angle and often have differing opinions). You can also start with someone whose course you liked and did well in. This approach has the advantage that the professor in question already knows you. Show up in that person's office hours and say, "I'd like to ask your advice. I liked your course on such-and-such and I'm thinking I might want to go to graduate school in that area. In particular I'd like to see if I can get involved in a research project in the area starting maybe next term. But I haven't got a precise idea of how to go about it, or about how to define a good project. What do you think I should do?" Maybe they'll just send you to someone else, or maybe they won't.

The ensuing conversation will be complicated but probably less painful than you think. Keep in mind that it is basically a negotiation. It is your first chance to practice a skill that you will need for the rest of your career as a scholar: formulating and reformulating your research interests in language that particular people can understand. Listen to their language. What do they think a research topic is like? How do they think a research project should be conducted? Do they see research as an individual activity or as a collective one? How enthusiastic do they really seem about the idea of supervising undergraduate research? Are you comfortable with the answers to these questions? No need to make a quick decision, though. Most likely your conversation will be inconclusive. That's normal. Sleep on it. Ask for research papers to read and then read them -- and then ask yourself if you want to learn to write papers like that. Have the same sort of conversation with other professors (don't forget other departments and even other universities in the same geographic area). Then compare and contrast the results.

Undergraduate research projects can take a wide variety of forms. Sometimes a professor will have a large research project that involves dozens of people. Such projects frequently have niches for undergraduates. This can be the best kind of undergraduate research experience because it will give you the opportunity to work with a group, observe the whole process of research, and feel like you're contributing to something. But maybe nobody has project of that type in your area.

Another possibility is simply to set up a project of your own, with regular meetings with a professor to discuss its progress. Projects like this work best if you have a good relationship with the professor and a strong feeling for the topic. Try to get to know other people with interests in that area, both because it's interesting and to keep from getting isolated or dependent on a particular professor. Your project will make a good conversation topic.

Yet another possibility is to become a professor's assistant on some project. This might involve anything: library work, data collection, putting together complex research papers, etc. The work

might be tedious (or it might not), but it can be a good way to learn about research through apprenticeship. All such deals are unique and should be weighed on their particular merits (e.g., whether you feel that you can work for this person), but you should always give them serious consideration because they don't happen every day.

And the world is full of other possibilities. Maybe you will become involved with an off-campus project of some sort -- a company, a community group, an alternative media project -- that you can integrate with a university research project. Maybe you can get a summer job in a research group. Maybe you will have an outside job that you want to use as a site for field research. Who knows. Few research opportunities are advertised (though many universities have offices that find undergraduates for research projects), so you'll have to ask around. Most likely you'll have to make the opportunity yourself by exploring options with various professors.

Once you have defined a project and found a supervisor, go ahead and figure out the paperwork. Maybe you'll arrange for independent study credit. Maybe you'll sign up for some official program in the university. Maybe you'll even get a research grant. (If you need some money for your research, perhaps to take a trip or operate a photocopier, ask. It may exist. Writing a grant proposal may be the single most valuable experience of your project. And if you're being paid for your involvement in the project, make sure you get a clear understanding of your responsibilities to avoid misunderstandings later.) Just keep in mind that professional relationships are the real substance of research. Administrative details are secondary. Maybe you won't even formalize the arrangement at all. The important things, after all, are the experience you'll get, the relationships you'll develop, and the research paper that you can include in graduate school applications.

In particular, it is not crucial how well your research project turns out. It will be okay in any event; and everyone understands that research is hard and that undergraduate projects regularly fail to work out completely for reasons that are not your fault. (The main pitfall for undergraduates and graduate students alike is attempting a project that's too big. Keep asking wise people to help you narrow your project.) If your project works out well enough to produce a publishable paper, go for it. But it's not necessary.

## APPLYING TO GRADUATE SCHOOL

If you have been getting advice and doing research then you will have figured out where the good graduate programs for your interests are. You might even have an idea of which professors you want to study with. (If you liked someone's book, maybe you should become that person's student. It's worth a try. Ask for good books to read with this in mind, and get advice about the potential advisability of writing this person a letter.) Apply to as many good graduate programs in your area as you can. When in doubt, apply. You can always turn down offers you don't want later on.

Applications for graduate school, at least in the United States, are typically due in December or January. You should start writing away for the application forms in September -- that is, September of your senior year, unless you are planning to take a year off. I want to make a special point of this because it is common to forget about next year until the spring, when it is too late. Getting the application forms is easy. Write a letter to "Graduate Program / Department of

Whatever / University of Whatever / City, State, ZIP" (you can get the addresses from the Web or from reference books; ask at the library reference desk) and say "I am interested in applying to graduate school in your department. Please send me some detailed information on the department, the necessary application forms, and information about financial aid. Thank you very much." (Some departments may have Web-only application procedures, so look for these on the Web before you write away for the forms.)

You should expect to apply to five or six schools and maybe more, depending on the level of competition in your area. Filling out the application forms is tedious, but it will get easier once you've done a couple. The most important part of the application form will be a blank page headed something like "Statement of Purpose". On this page you will be asked to explain why you want to go to graduate school, including some idea about what sort of research you would like to conduct. You need to take this seriously. Write about a page and a half on the subject, single-spaced, and take it to the professors you've been getting advice from. They will almost certainly tell you to rewrite it, and you should definitely do so. Don't be surprised if it takes three or four tries to get it right. If they just make a few suggestions around the edges, ask them specifically what the best approach would be in rewriting it from scratch.

Your statement should demonstrate that you know what research is, that you have had at least one idea in your life, and that you have an interesting and tractable idea about your research for the future. The problem, of course, is that you probably have only the sketchiest idea of what your research in graduate school will be about. That doesn't matter. You are not promising to do the research you describe in your statement (although I am told that this is changing in some areas of the hard sciences); you are only spelling out a single plausible scenario, one that fairly reflects your interests. Try to be concrete, but also include a few hedges such as "perhaps" and "these possibilities include". Good writing counts. Project sobriety and maturity. Avoid frivolity, boasting, and self-deprecation. Show that you've read the research literature, but go easy on academic jargon. Minimize adverbs. Eschew the words "interesting" and "important", which say little. Don't talk about your family or your non-professional interests. Don't say anything bad about anyone, including yourself. And make sure that you are not simply describing the year's most fashionable cliché of a research project -- ask for advice about this issue specifically. Put yourself in the shoes of the graduate admissions committee: they're looking at hundreds of applications and they're only going to take a second look at the ones that stand out. If you follow the above advice then your application will make the first cut and receive the serious consideration it deserves.

It is also a good idea, if you have the energy, to tailor your statement to fit the particular departments you're applying to. You might write a generic statement and then edit in some passages that fit each department, for example mentioning one of the professors there whose work is relevant to your interests, just to show that you know what you're doing. If you have your heart set on a particular department (say because you want to work with a particular professor whose work you admire) then write a customized statement for that department. Find people who are well acquainted with that department and ask their guidance. In short, show the admissions committee that you've done your homework. It makes a difference.

Make sure your graduate application includes the research papers you wrote as an undergraduate, and be sure that your statement explains the connection between these papers and the graduate research you are envisioning.

Meanwhile, apply for fellowships, that is, grants from foundations and other sources that pay your tuition and a small salary so that you can commit yourself full-time to studying. Don't wait till you're accepted somewhere to apply for outside funding! Deadlines typically fall between November and January in the United States and a few months later in many other countries. Ask someone in your department which are the major fellowships in your area and apply for them all. Also, at each university it is usually somebody's job to keep a list, maybe on the Web, of obscure graduate fellowships. It might be called the office of research development. You might also look in the acknowledgements sections of papers written by younger researchers in your field. Find such lists and write away for applications forms for all of the fellowships that seem relevant. Get advice about which ones are worth applying for. When in doubt, apply. Fellowships are good because they give you much more freedom to choose your own research topics. Without a fellowship, you will have to work for someone else as a teaching assistant or research assistant. Assistantships are often perfectly fine, but a fellowship is always better.

About grade point averages. Many people worry that their GPA will prevent them from getting into graduate school. Good grades are important, but they can be measured in different ways. For example, you might recompute your GPA without your freshman classes (many universities do this routinely), or your GPA for upper-division courses only, or only for courses in your major. If any of these numbers is significantly more impressive than your official GPA, you should mention it somewhere in your application.

About exams. Certain exams (eg. GRE, GMAT etc.) are necessary for many graduate programs, and you often need to apply to take these over a year before you apply, particularly if you don't want to take a general and a subject GRE on the same day. You can get details of what exams are needed from the course catalog or brochure from the graduate programs you might be interested in; this is one more reason to get the brochure well ahead of time, whether you're serious yet about applying or not.

You are probably appalled at how many applications you are filling out. Rest assured, though, that filling out applications is a major part of a career in research. Look on the bright side: applying for things is an opportunity to assess your career and to articulate it in the best and most sincere light for other people. You will be doing a great deal of this in the future.

## LETTERS OF RECOMMENDATION

Your application to graduate school will also involve some letters of recommendation, usually three or four. Most of these letters will probably (but not necessarily) be from professors in the department where you got your undergraduate degree. It helps, other things being equal, if you get letters from famous professors as opposed to junior ones. But the important thing is to get letters from people who know you and who can say things about you that make you sound like you belong in graduate school.

But there's a problem. Most letters that professors write for undergraduates are not very impressive because most professors do not know the undergraduates in their department very well. If you want good letters then you need to do something about this. The best thing is to get involved in research, as I've described above. The person who supervises your research will then be able to write you a helpful letter that doesn't sound like a computer wrote it.

The other way to get good letters of recommendation is to get to know the professors who teach the classes that you particularly like. This is a remarkably difficult matter. Doing really good work in the class definitely helps, but this in itself needn't entail any actual acquaintance with the professor who taught it. So how do you do this?

The wrong way to go about it is to show up in the professor's office to chat randomly, hoping that you'll make a good impression along the way. This strategy almost always makes a dreadful impression, for the simple reason that professors are busy people who hate it when you waste their time.

Think about it like this. Your relationship with a professor will be defined by a set of ideas -- the ideas that the professor is trying to teach in the classes you're taking. Either you find those ideas compelling and interesting or you don't. If you don't get a genuine thrill out of the ideas then you're better off investing your energies elsewhere in the first place. But if you actually do find the ideas interesting then you are going to have questions about them -- questions that go beyond the course. Maybe your term papers will address those questions. Or whatever. In any event, don't keep your questions a secret. Go ask them. There's no need for flattery or hints or hidden agendas. Simply ask the questions because you want to know the answers. Only a jerk considers it a waste of time to answer genuine questions. Letters of recommendation will take care of themselves when the time comes.

## GETTING ACCEPTED TO GRADUATE SCHOOL

In March or April you will start getting letters of acceptance or rejection from graduate schools. When you are accepted, the main thing you want to know is how much money they are offering you. Graduate school is expensive and you want to avoid paying the fees yourself. The most common arrangement is for you to be offered a teaching assistantship (TA), a nominally half-time teaching job, or a research assistantship (RA), which may involve prescribed work for some professor or may simply be support for your own work. A better arrangement, though, is to get a fellowship. Maybe you will win a fellowship through your own efforts. Another possibility is that the department that accepts you can provide its own fellowship money. Whatever you do, don't accept the department's offer right away. Reply to the offer with a polite acknowledgement and then stall them for a couple of weeks while you wait for other acceptances to arrive. Meanwhile, think much more seriously about the offer. Do you really want to move to that city? What is that university really like? What is that department really like?

The important thing here is that you are about to be treated with more respect than you might be accustomed to. Take advantage of this by getting more advice. The faculty in your department



will celebrate your acceptance to graduate school, and they will probably be happy to help you decide what to do. Ask them about reputations and rumors. Ask them if anybody else in town graduated from that same department or a closely related department at the same school. Find out if the people in that department care about their graduate students; some don't. Make lists of questions and then call the department on the phone and ask them. Try to get a course catalog (but be sure to ask whether it corresponds to reality; many don't). If you can visit the department, do so. Sometimes you can even get the department (or even your own) to pay for a trip. The department will be waiting anxiously for your decision; if you turn them down they will offer your space to someone else who seems promising. They may even try to pressure you into making a decision. If this happens, get more advice. If you can talk to the department's existing graduate students, go right ahead; graduate students don't always have all the facts, but they usually have blunt opinions.

Unless the department has offered you a good fellowship, one of your main goals will be to extract more money from them. Sound reasonable about this. Plead poverty. Explain that you find the offer exciting but that you still need to eat. If you have kids to feed, tell them that. If you have a good offer from another school, tell them that too (but don't tell them the details of that offer or make it sound like you're just after the money; just say that the other offer, taken as a whole, is attractive and more financially feasible). Your basic stance is that you simply need enough money to do your graduate work without having to take outside jobs, at least for the first few years. Often some additional money will materialize as other people turn down offers from the same place. After a couple of weeks, though, you will have to decide. Congratulations and good luck.

MORE NOTES, MAY 2001.

Many people have written me about "Advice for Undergraduates", and their comments and questions have made clear that I ought to throw it out and write it again. I don't have time for that, but perhaps these additional notes will be useful.

First, I need to re-emphasize that "Advice for Undergraduates" is written solely for people who are thinking of applying to PhD programs. I do not know much about master's and professional programs, and I do not have any advice to offer people who are thinking about applying to them. Throughout this article, both above and below, the phrase "graduate school" refers strictly to PhD programs, which are training in research.

Now some more substantive comments.

Most people who apply to graduate school understand the process by analogy to applying to undergraduate programs. The two processes are similar: they both involve paperwork, written statements, course transcripts, recommendation letters, and so on. Underneath, however, the processes could not be more different. Undergraduate admissions is handled entirely by professional admissions officers who evaluate large numbers of applications covering every field. Graduate admissions, by contrast, is handled by each department separately. You might send your application to a bureaucratic office, but that office exists only to handle the paperwork, putting together a file on each applicant. The applications are evaluated by a committee of faculty. This means that your application will be read by people who have a deep knowledge of the field that you

want to study. If you have knowledge of the field yourself, then you would be well-advised to tell them about it. Don't show off or pretend to knowledge that you don't really have, but do address your materials to the people who will become your professional peers once you finally get your PhD degree. Having your application evaluated by the faculty is also advantageous because superficial bureaucratic criteria are less important. It is in the faculty's interest to admit students who are likely to do well, and any faculty worth your time will consider whatever evidence of aptitude for research you can give them. The admissions process on the graduate level is therefore more human, with all of the positive and negative consequences that that implies.

I originally wrote "Advice for Undergraduates" in 1996, before the Web became an important factor in most academic fields. If I were to write it over again today, I would put the Web in the middle of the picture. The most important intuition, already hinted at in the previous paragraph, is that a PhD program, unlike most undergraduate programs, is about relationships with particular individuals. Therefore, I recommend the following rather aggressive-sounding procedure. Hit the library and identify a half-dozen professors in your intended field whose work you admire and identify with. You might be able to get these people's names from the professors that you talk to at your own school, but there is no substitute for the library. So take the time to read the books and journals that are relevant to your field. Once you have several names in hand, hit the Web. Look up those professors' home pages, which will hopefully provide you with a more complete map of their research interests and publications. Inform yourself more deeply about each individual's work. If you're still interested in exploring a relationship with them, proceed to their departments' home pages. Look at the other faculty in the department, and see if you can identify three or four other faculty whose research topics are at least in the basic ballpark of your own. It's dangerous to rely on one single individual.

Having done all this, you will have narrowed down your list of candidate departments. You are now in a position to establish contact with each of the professors who you are still strongly interested in. Send each one a customized e-mail message, no more than a few hundred words in length. This message should do four things: (1) demonstrate knowledge of their research, (2) explain that you are looking for the right PhD program, (3) explain the general research area you are interested in working in, and (4) ask them whether they are taking on new students. If you happen to be in the same geographic region, or if you can travel, ask if you can stop by. Never ask the professor or the department about financial aid until the department has accepted you to its program. (You should apply for fellowships on your own initiative at the same time that you apply to the departments, but you should also recognize that most departments at serious research universities have a lot of financial aid for their students, especially in their first couple of years.) And don't get hung up on the administrative details of the application process. Right now, the important thing is to establish an intellectual relationship. In the sciences and engineering, it is important to have a specific idea of your intended research topic, even though it will surely evolve later on, and you should work out a clear understanding of your topic with the professors at your home institution first. Other fields allow for more exploration, for the simple reason that less money is at stake. If you get no response from the professor, then that tells you something right there. The professor might say "no", either because their lab is already full or for lack of an intellectual match. The professor won't say "yes", because that's the admissions committee's job. But if it turns out that the two of you have something to talk about, then definitely apply to the department. Briefly mention your correspondence with the professor in your application letter.

Many people have asked me how to proceed if they have been out of school for several years. The basic answer is given in the last few paragraphs. It is not crucial to have been involved in research as an undergraduate, and you should only try to get letters from your undergraduate professors if there is a good chance that they will remember you. (Keep in mind, however, that if you did good work in their class, then a copy of your work is likely to refresh their memory. If you didn't do good work in their class then forget them.) Treat the process as a rational conversation among adults -- if it's not then walk away. You're basically looking for a job in a different industry, and you should do your homework and build networks accordingly. If you can attend the major annual conference in your intended field then gathering intelligence and talking to people there would be ideal. As I say, the faculty simply need evidence that you are likely to succeed in their program, and the ones you want to work with will be open to any kind of evidence that convinces them. If you don't have letters from faculty whose reputations they know, and if you haven't been involved in research, then they are going to need other kinds of evidence. You might think about, or even explore with them, ways that you can move stepwise back into graduate school. Maybe you can get involved with the research on some other basis first. Maybe you can write something on your own. Maybe you can get into a master's program first, and use the faculty that become available to explore the transition to a PhD program. (Many PhD programs include a master's degree as a halfway point, but most programs will not recognize a terminal master's degree as a substitute for this halfway master's. This is because the first couple of years of a PhD program, having been designed as socialization into a research discipline, are very different from a terminal master's program in both content and style. So if you get a terminal master's then it will probably not shorten the amount of time it takes to get a PhD.)

Other people have asked me how foreign students should apply to American PhD programs. Foreign students often assume that they lack "inside information" that American students enjoy, and they sometimes respond by trying to divine this information from statistics about what kinds of test scores got someone into one school or another. I'd like to suggest a different approach. First of all, you should not assume that American students are insiders who have secret knowledge that you lack. The great majority of American students just take their classes and follow the rules without ever becoming part of the research institutions around them. I hope to change this by encouraging more undergraduates to become more involved in research, but undergraduate involvement in research is not yet the norm. The central point is that a PhD program allows you to integrate yourself into the research community, and you are more likely to be accepted into a PhD program if you have already begun the process. The research community is global, so if you are attending a research university then the starting place is with your professors. If you are not attending a university that is part of the global research community, or if your professors cannot help you, then you need a research library. A research library is a library that has a large collection of current research literature -- books and journals -- in your field. In most scientific and technical fields this means a large collection in English; in the humanities a large collection in a major world language will suffice. You need to spend a month, full-time, in a research library. Read extensively in the literature of your field. Determine which research topics you find most interesting, and then judge which research groups are doing the best work. Take extensive notes. Then your application letter will be based on what you read in the journals. Demonstrate that you are familiar with the literature and that you understand the concepts by using the vocabulary of the literature to explain very clearly what topics you want to conduct research on. If you do not have a research library

near your home, you will need to travel. Talk to the librarians at your university and figure out which library in your region is best-suited to your needs. Then find out if you can get permission to use the library. It is usually easier to get into the library of a public university than a private university, and libraries in English-speaking countries tend to be more liberal, as a broad generalization, than libraries in other countries. In extreme cases you might even have to fly to a country such as Australia and sleep on the floor somewhere. It's difficult and expensive, I understand, but it will dramatically increase your chances of being accepted to a PhD program.

A final comment. Many people have written me with questions about their own particular situation. I am happy to help if I can, but please understand that many questions depend on the policies of particular schools or the customs of particular fields, and in these areas I am afraid I can't help. I know about the intellectual and relationship aspects of getting accepted to graduate school, but I know nothing about the more bureaucratic aspects. Each school makes its own decisions about what examinations to require, how to establish English-language proficiency for foreign students, how to set fees, where to obtain application forms and where to send them, whether students are allowed to attend school part-time, what kinds of grades and test scores they require, and so on. For answers to these types of questions, you should the individual department's Web site. Likewise, I do not have any kind of directory of graduate programs or fellowship opportunities, even in my own field. I do not even know if such directories exist. It doesn't matter, in my opinion, since I believe that the right way to select a graduate program is based on the kinds of social networking and library homework that I described above. So, bottom line, if you have questions about intellectual and relationship aspects of getting into graduate school that I have not addressed above, you are most welcome to write. Otherwise please talk to the experts in your own field.

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