如何成为一名优秀的研究生

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Abstract摘要

This paper attempts to raise some issues that are important for graduate students to be successful and to get as much out of the process as possible, and for advisors who wish to help their students be successful. The intent is not to provide prescriptive advice -- no formulas for finishing a thesis or twelve-step programs for becoming a better advisor are given -- but to raise awareness on both sides of the advisor-student relationship as to what the expectations are and should be for this relationship, what a graduate student should expect to accomplish, common problems, and where to go if the advisor is not forthcoming.

本文讨论了决定研究生教育阶段成功与否的若干话题，这些话题对于如何从这段教育经历中获得尽可能多的收获，以及那些希望帮助自己学生的导师来说都很有意义。本文的目的不是为了提供说明性的建议—没有为论文写作设定的公式，也没有给出成为一名更好的导师所要的12步程序—而是为了导师和学生两者提供重要的信息，使他们了解师生关系应该如何定位，一名研究生应该在什么方面有所建树，在研究生阶段的常见问题，以及当导师还没有安排时应该怎么办。

目录

Introduction引言

This article originated with a discussion I had with several women professors about the problems women face in graduate school, and how more women could be encouraged to go to graduate school in computer science. Eventually, the conversation turned to the question of what these women could do in their interactions with women students to support and encourage them. I volunteered that over the course of my graduate career I had collected a variety of papers and e-mail discussions about how to be a good advisor, how to get through graduate school, and issues facing women. They were eager to get this material, and I told them I would sort through it when I got a chance.

本文源于笔者与几位女教授的一次关于女生在研究所会遇到的问题、以及如果鼓励更多的女生进入计算机科学研究所的讨论。后来，话题转为在与这些女学生的交往中，她们究竟可以做什么来帮助和鼓励这些学生。我提到我在研究生工作中搜集了大量的关于如何做个好导师、如何攻读学位及怎样面对女生等问题的论文和电子邮件。她们都迫切的想得到这些资料，我告诉她们有机会我会把它整理出来。

After mentioning this project to a number of people, both graduate students and faculty -- all of whom expressed an interest in anything I could give them -- I realized two things: first, the issues that we were talking about really were not just women's issues but were of interest to all graduate students, and to all caring advisors. Second, in order to disseminate the information I had collected (and was starting to collect from others) it seemed to make more sense to compile a bibliography, and write a paper that would summarize the most useful advice and suggestions I had collected.

在得知我的这个计划后，很多人，包括研究生和教职工都对我的想法产生兴趣—我意识到了两件事：第一，我们讨论过的话题其实不仅针对女性，而且对所有研究生，以及所有关心学生的导师都有借鉴的意义。二，为了传播我所搜集到的信息（我从收集其他人的资料开始），编制一个参考书目并写一篇论文来总结我搜集到的最有用的忠告和建议会更有意义。

I solicited inputs from friends and colleagues via mailing lists and Internet bulletin boards, and collected almost an overwhelming amount of information. Sorting through it and attempting to distill the collective wisdom of dozens of articles and hundreds of e-mail messages has not been an easy task, but I hope that the results provide a useful resource for graduate students and advisors alike. The advice I give here is directed towards Ph.D. students in computer science and their advisors, since that is my background, but I believe that much of it applies to graduate students in other areas as well.

我恳请我的朋友和同僚们通过信件及网上的公告板等方式给我这方面的资料，从而搜集到了几乎不能再多的信息。整理这些资料并尝试着萃取出数十篇论文及数以百计的电子邮件中的集体智慧并不是件容易的工作，但我希望我的成果可以给研究生及导师们提供一些有用的资源。我这里提出的建议是直接面向计算机科学的博士研究生及其导师的，因为这是我熟悉的领域，但我认为其中很多建议对其他专业的研究生仍然适用。

In my experience, the two main things that make graduate school hard are the unstructured nature of the process, and the lack of information about what you should spend your time on. I hope that this article will provide information for both graduate students and advisors that will help make the process less painful.

以我的经验，在研究生学习中的两大难题是研究过程的无组织性和关于如何分配时间的信息的缺乏。希望本文可以为研究生及导师们提供一些帮助，以减少他们研究过程中的痛苦。

I owe a debt of gratitude to David Chapman, whose paper (*[chapman]*) was an invaluable reference for me not only during the writing of this article, but during graduate school as well.

十分感谢David Chapman，不论是本文的撰写过程中，还是在我的研究生涯中，他的论文(*[chapman]*)都提供了很有价值的参考。

The goals of this article are to raise awareness of the need for a healthy and interactive graduate student-advisor relationship, to provide pointers and guidance for both advisors and graduate students in navigating the maze of a doctoral degree, and to give references and resources for those who hope to learn more.

本文的主要目标是：使更多人意识到建立健康的交互式的研究生-导师关系的必要性，为导师以及在通往博士学位的远航中的研究生指点迷津，及为想要得到更多信息的人提供参考资源。

Before You Start学习前的准备

Many headaches can be avoided by doing some advance planning. First, why go to graduate school at all? The usual reasons given are that a Ph.D. is required or preferred for some jobs, especially research and academic positions; that it gives you a chance to learn a great deal about a specific area; and that it provides an opportunity to develop ideas and perform original research. Wanting to delay your job hunt is probably not a good enough reason. Graduate school is a lot of work and requires strong motivation and focus. You have to really want to be there to make it through.

通过制定计划可以避免掉许多的苦恼。首先，你为什么要上研究生呢？经常出现的原因有：某些工作要求或首选拥有博士学位者，尤其是一些研究或学院职位；它提供了在某一领域学习更多知识的机会；它提供了发展已有理论和进行原创性研究的机会。如果只是为了推迟找工作而读研则不是个太好的的理由。研究生学位攻读是要多大量的工作，需要很强的动力和注意力。你必须确实是想要进一步的学习并获得学位。

It helps to have a good idea of what area you want to specialize in, and preferably a couple of particular research projects you might like to work on. Look for books and current journals and conference proceedings in your area, and read through them to get an idea of who's doing what where. (You'll be doing a *lot* of reading once you start graduate school, so you might as well get used to it.) This is where advisors first enter the scene: faculty members ought to be willing to talk to undergraduates and help them find out more about research areas and graduate schools. Try to get involved in research: ask professors and TAs whether they need someone to work on an ongoing project, or start an independent research project, with guidance from a faculty member.

弄清楚自己想要攻读哪个专业甚至该专业的哪几个研究课题对你将很有帮助。通过通读你所在专业的书籍、最新的期刊和会议论文，弄清楚谁在哪做什么。（一旦开始研究课题，你将不停的进行大量的阅读，所以还是习惯这种状态吧。）这就是导师第一次起到作用的时候：教师应该乐于与这些刚毕业的本科生们讨论，并帮助他们获得更多的关于本研究领域及研究方法的信息。尝试着进入研究过程：问问教授或助教们，看他们的课题是否还需要人加入，或者在教师的指导下开始一个独立的研究课题。

Contact faculty members and graduate students at the schools you're interested in. Tell them about your background and interests and ask them what research projects they're working on. A good way to do this is via electronic mail if possible -- e-mail is much easier and quicker to respond to than a paper letter. A good advisor will be willing to answer these kinds of inquiries (although if they're busy they may give you only a brief answer or point you towards a graduate student -- you'll have to use your intuition to decide whether they're brushing you off or just busy). If you can't get any answer at all, consider that that individual might not end up being a very accessible advisor. Asking these questions will help you narrow down your choices and may increase your chances of admission if the professors you contact become interested in working with you.

联系你感兴趣的院系里的教职人员和研究生。告诉他们你的背景以及你的兴趣，问问他们在做哪个方面的研究工作。一种方便的方式是通过电子邮件，如果可能的话。电子邮件比纸质信件更简便更快捷。一名好导师会愿意回答你的问题（如果他们很忙碌以至于给你一个

简略的回答，或者推荐你去找一名研究生—你必须用直觉来决定他们是否是敷衍了事还是真的忙碌。）如果你不能获得任何答案，可能你请教的那个人不是一位比较好打交道的老师。询问这些问题可以帮助你缩小你的选择范围，如果你所联系的教授对和你一起工作比较感兴趣，则会增加你申请成功的几率。

Your best bet is to find a school where there are at least two faculty members you'd be interested in working with. That way, if one doesn't work out, or is too busy to take on a new student, you have a fallback position. It's also important to most people to feel comfortable with the community of graduate students. It pays to talk to some of the graduate students (both junior and senior) to find out how they like it, which advisors are good, and what kinds of support (financial and psychological) are available. Because there are so many students applying to each school, even highly qualified applicants are often rejected. You should apply to a range of programs -- and don't take it personally if you do get rejected by some of them.

你最好找一所拥有至少两位你感兴趣的教授的学校。这样的话，如果在一个老师那里不成功，或者他太忙而不能带新学生，你还有退路。融入研究生的团体对大部分想要上研究生的学生都同样重要。跟一些研究生（包括低年级和高年级的学生）交谈，来得知他们对这个团队的看法、哪些导师比较好、以及这里可以获得的支持（经济支持和心理支持）等信息是很有益处的。由于有很多的学生申请同一所学校，所有即使是条件很好的申请者同样经常被拒绝。你应该申请一系列方向—并且不要把被拒绝看作是个人偏见的结果。

You can increase your chances of getting into graduate school by getting good grades, especially in upper division classes in your area of interest, having a broad background in your field and in related fields (for example, psychology classes are useful for AI students), getting a high score on the GRE if required, developing good relationships with your professors and work managers (this is very important for getting good recommendations), working on a research project, and having a clear sense of what you want to work on (although it's always all right to change your mind later). Also, it's a good idea to start thinking early about sources of funding: apply for an NSF fellowship and ask your advisor or department office about other fellowships.

以下几个方面可以提高你被研究生院录取的可能性：成绩比较好（尤其是你感兴趣的专业的专业课的成绩），拥有在你的专业或相关专业领域有广泛的背景知识（比如对人工智能专业的学生来说，心理学的课程就很有用），有较高的 **GRE** 成绩（如果必要），和你的教授及工作管理人员关系不错（要想得到推荐这一点很重要），进行理论研究，及对你想要从事的研究工作认识清晰（虽然以后你可能会改变想法）。另外，早点开始考虑经费来源也是个不错的主意：你可以申请国家科学基金会奖学金，还可以询问你的导师或相关部门是否有其他的奖学金。

Doing Research 做研究

For many new graduate students, graduate school is unlike anything else they've done. Sometimes it's hard to know exactly what it is you're supposed to be learning. Yes, you have to complete a dissertation, but how do you start? What should you spend your time doing?

对很多研究生新生来讲，研究生院不像其他任何他们所经历的。有时很难确切的知道你希望学到的是什么。是的，你得完成论文答辩，但是你怎么开始呢？你怎么安排你的时间呢？

Graduate school is a very unstructured environment in most cases. Graduate students typically take nine hours or less of coursework per semester, especially after the second year. For many, the third year --after coursework is largely finished and preliminary exams have been completed -- is a very difficult and stressful period. This is when you're supposed to find a thesis topic, if you're not one of the lucky few who has already found one. Once you do find a topic, you can expect two or more years until completion, with very few landmarks or milestones in sight.

研究生的学习在大部分情况下处于组织松散的环境中。研究生通常每学期上9小时或者更少的课程，特别是在第二年以后。对于很多人，第三年—在大部分课程结束，基础考试完成的时候—是非常艰难和压抑的时期。这时候你就应该选择一个论文题目，如果你不是少数已经找到题目的幸运者。一旦你确定了课题，你需要用两年或者更多的时间来完成它，这期间只能看到很小的里程性的进展。

The following sections talk about the day-to-day process of doing research, criticism and feedback, working on the thesis, and financial support for research.

下一部分讨论做研究中的日常工作，批评与反馈，课题的研究和研究的经费支持问题。

The Daily Grind 日常工作

Being a good researcher involves more than ``merely'' coming up with brilliant ideas and implementing them. Most researchers spend the majority of their time reading papers, discussing ideas with colleagues, writing and revising papers, staring blankly into space -- and, of course, having brilliant ideas and implementing them.

作为一个好的研究者不仅要提出优秀的想法并实现它们。大部分研究者花大量的时间来阅读论文，与同事讨论他的想法，撰写并修改论文，茫然的看着空中，当然，还有提出优秀的想法并实现它们。

A later section discusses the process and importance of becoming part of a larger research

community, which is a critical aspect of being a successful researcher. This section contains ideas on keeping track of where you're going, and where you've been, with your research, staying motivated, and how to spend your time wisely.

下一部分讨论融入一个大的研究集群的过程及其重要性，这是成为一个成功的研究者的一个重要方面。这部分包括关于明了如下几个方面的一些方法：你未来的研究方向，之前的研究成果，保持积极进取，及如何高效的分配自己的时间。

Keeping a journal of your research activities and ideas is very useful. Write down speculations, interesting problems, possible solutions, random ideas, references to look up, notes on papers you've read, outlines of papers to write, and interesting quotes. Read back through it periodically. You'll notice that the bits of random thoughts start to come together and form a pattern, often turning into a research project or even a thesis topic. I was surprised, looking back through my journal as I was finishing up my thesis, how early and often similar ideas had cropped up in my thinking, and how they gradually evolved into a dissertation.

对自己的研究活动及想法做一个日志是很有用的。记录自己的思考过程，有趣的问题，可能的解决方案，头脑中闪过的想法，可供查找的参考资料，读论文时的笔记，要写的文章的框架，及一些有趣的引用。定期回味一下这些日志。你会发现这些随意的思维碎片开始聚合，形成一个模式，它往往会转化成一个研究项目甚至一个理论主题。我很惊讶的发现，当我完成了我的论文回顾我的日志时，相似的想法突然出现在我的脑海中是如此的早而频繁，而他们又是如何逐渐形成一篇论文的啊。

You'll have to read a lot of technical papers to become familiar with any field, and to stay current once you've caught up. You may find yourself spending over half of your time reading, especially at the beginning. This is normal. It's also normal to be overwhelmed by the amount of reading you think you ``should'' do. Try to remember that it's impossible to read everything that might be relevant: instead, read selectively. When you first start reading up on a new field, ask your advisor or a fellow student what the most useful journals and conference proceedings are in your field, and ask for a list of seminal or ``classic'' papers that you should definitely read. For AI researchers, a useful (if slightly outdated) starting point is Agre's (see [agre]) summary of basic AI references. Similar documents may exist for other research areas -- ask around. Start with these papers and the last few years of journals and proceedings.

你必须阅读大量的技术文章以便熟悉相关领域，并保证你在赶上当前的研究思潮后不再落后。你会发现在开始的时候你有超过一半的时间在阅读文章。这是正常的。你认为的"应该"阅读的文章总数，远远超出你的预料，这也是正常的。记住，将全部相关文章阅读一遍是不可能的；相反，要做到选择性阅读。当你刚涉及某个领域时，应该先请教指导老师或者同伴，在这个领域最有影响力的期刊和会议学报有哪些，并将这个领域中你必须要阅读的"经典"的文章列出来。例如对于从事人工智能方面研究的人员来说（可能有些过时），一个好的起点是从阅读Agre的关于基础人工智能的参考文献摘要开始（参见[agre]）.在其他领域也可能存在类似的文献，可以询问周围人。最好先阅读这些文献以及最近几年的期刊和会议文章。

Before bothering to read *any* paper, make sure it's worth it. Scan the title, then the abstract, then -- if you haven't completely lost interest already -- glance at the introduction and conclusions. (Of course, if your advisor tells you that this is an important paper, skip this preliminary step and jump right in!) Before you try to get all of the nitty-gritty details of the paper, skim the whole thing, and try to get a feel for the most important points. If it still seems worthwhile and relevant, go back and read the whole thing. Many people find it useful to take notes while they read. Even if you don't go back later and reread them, it helps to focus your attention and forces you to summarize as you read. And if you do need to refresh your memory later, rereading your notes is much easier and faster than reading the whole paper.

在你为阅读"某篇"文章而烦恼之前，应该先确认这是值得的。先浏览标题，然后是文章摘要，如果你还没有完全失去兴趣的话，再匆匆看一下文章的绪论和结论。（当然，如果导师已经告诉你这是一篇重要的文章，可以跳过以上预备步骤，直接阅读正文）。在你想要得到这篇文章的全部信息之前，先跳过细节部分，试着得到几个关键信息。如果认定这篇文章与我们的需求相关，是值得阅读的，再回过头来进行整篇文章的阅读。人们发现在阅读的同时做笔记很有好处，即使以后不会再阅读它们，它也可以帮助你集中注意力，对读过的内容进行总结。当你确实需要回忆读过什么内容时，重读笔记要比重读整篇文章要简单和快速的多。

A few other points to keep in mind as you read and evaluate papers:

在你阅读和评价文章的时候，还应该注意以下一些方面：

1. Make sure the ideas described really worked (as opposed to just being theoretically valid, or tested on a few toy examples). 确定文章提出的观点真实可行（例如违背理论知识或者只对少量的玩具模型有效）.

2. Try to get past buzzwords: they may sound good, but not mean much. Is there substance and an I interesting idea underneath the jargon? 跳过那些所谓的"术语"：它们或许听起来不错，但是却没有什么实际内容。在这些词汇的背后有实质而有趣的内容么？

3. To really understand a paper, you have to understand the motivations for the problem posed, the choices made in finding a solution, the assumptions behind the solution, whether the assumptions are realistic and whether they can be removed without invalidating the approach, future directions for research, what was actually accomplished or implemented, the validity (or lack thereof) of the theoretical justifications or empirical demonstrations, and the potential for extending and scaling the algorithm up. 为了真正理解一篇文章，必须弄清楚这个问题的提出动机；为解决该问题的各种候选方法；解决方法的各种假设条件，这些假设是否现实，去掉这些假设，该方法是否依旧有效；未来的研究方向，其中哪些已经实现、完成；理论论据或经验实例的有效性；以及算法的扩充与完善的可能性。

Keep the papers you read filed away so you can find them again later, and set up an online bibliography (BibTeX is a popular format, but anything consistent will do). I find it useful to add extra fields for keywords, the location of the paper (if you borrowed the reference from the library or a friend), and a short summary of particularly interesting papers. This bibliography will be useful for later reference, for writing your dissertation, and for sharing with other graduate

students (and eventually, perhaps, advisees).

　　将读过的文献资料存档保管，可以方便日后查找，同时也可以建立一个在线参考书目（BibTeX是一个流行的版式，但是其他相近的都可以）。另外在其中增加一些特殊的条目也会很有帮助，例如关键字，文章的出处（文章是从图书馆或朋友借来的）以及对感兴趣文章所作的简短摘要。这样的参考书目会对我们工作提供很大的帮助，例如日后文献的查阅、论文的写作以及和其他研究生进行分享（或许是你的学生）。

Staying Motivated 保持积极心态

At times, particularly in the ``middle years,'' it can be very hard to maintain a positive attitude and stay motivated. Many graduate students suffer from insecurity, anxiety, and even boredom. First of all, realize that these are normal feelings. Try to find a sympathetic ear -- another graduate student, your advisor, or a friend outside of school. Next, try to identify why you're having trouble and identify concrete steps that you can take to improve the situation. To stay focused and motivated, it often helps to have organized activities to force you to manage your time and to do something every day. Setting up regular meetings with your advisor, attending seminars, or even extracurricular activities such as sports or music can help you to maintain a regular schedule.

　　在研究生阶段，特别是中间的几年，保持积极的态度和工作动力并不容易。很多研究生感到缺乏安全感，焦虑甚至厌倦。首先，我们应该意识到这些都是正常的情绪。尝试找一个同情的倾听者—另外一位研究生，你的导师或者校外的朋友。其次，试着弄清楚遇到困难的原因，以及改善当前状态的所应采取的具体步骤。保持动力可以让我们每天有效的安排时间和工作。定期和导师见面，参加研讨会，甚至运动、听音乐这样的课外活动都可以让你保持一个规律的日程安排。

Chapman (see *[chapman]*) enumerates a number of ``immobilizing shoulds'' that can make you feel so guilty and unworthy that you stop making progress. Telling yourself that you *should* have a great topic, that you *should* finish in n years, that you *should* work 4, or 8, or 12 hours a day isn't helpful for most people. Be realistic about what you can accomplish, and try to concentrate on giving yourself positive feedback for tasks you do complete, instead of negative feedback for those you don't.

　　Chapman（参见*[chapman]*）列举了许多"固定应该做的事"，这些事会因为让人感到心虚、不值得而使得工作停滞不前。例如告诉自己，"应该"选一个好的课题，"应该"在哪个时间段内完成，每天"应该"工作4、8或12个小时等，这对许多人来说是没有好处的。应该正视自己，哪些是可以实现的，并且有意识的将注意力集中在你所完成的任务上，这样可以起到积极反馈的作用，而不是在那些你没有完成的任务上。

Setting daily, weekly, and monthly goals is a good idea, and works even better if you use a ``buddy system'' where you and another student meet at regular intervals to review your progress. Try to find people to work with: doing research is much easier if you have someone to

bounce ideas off of and to give you feedback.

设定每天，每周以及每月的目标是一个好主意，如果你利用相互督促的方法，保证你与另外一位研究生定期见面回顾你的进展，你的工作同样会得以改善。尝试找到能够一起工作的人：如果你身边有人与你讨论并给你反馈，那么做研究将会变得更容易。

Breaking down any project into smaller pieces is always a good tactic when things seem unmanageable. At the highest level, doing a master's project before diving into a Ph.D. dissertation is generally a good idea (and is mandatory at some schools). A master's gives you a chance to learn more about an area, do a smaller research project, and establish working relationships with your advisor and fellow students.

当遇到的问题难以解决时，一个好的策略是将其分解成若干小问题来解决。在最高层面，在做博士论文之前做硕士研究是一个好主意（在一些学校，这是必须的）。硕士阶段给你获得更多知识，参与小型的研究项目，建立与导师和研究生的工作关系的机会。

The divide-and-conquer strategy works on a day-to-day level as well. Instead of writing an entire thesis, focus on the goal of writing a chapter, section, or outline. Instead of implementing a large system, break off pieces and implement one module at a time. Identify tasks that you can do in an hour or less; then you can come up with a realistic daily schedule. If you have doubts, don't let them stop you from accomplishing something -- take it one day at a time. Remember, every task you complete gets you closer to finishing.

每天进行这种"分解-实现"的策略对我们的研究工作来说是行之有效的。它让我们改变了一些错误的观点，例如，不应该想着写成一篇完整的论文，而应该以章节、部分、大纲代替为目标；不应该想着完成一个大型系统，而应该分解成各个部分，一次只完成一个模块。确定你能在一个小时或更短的时间内能完成的任务，这样才能有一个现实可行的日工作计划。如果你在进行的过程中对某些问题怀有疑问，不要让它们阻碍你的进度，每天都要坚持不懈。记住，你完成的每个任务都会让你更接近成功。

Getting to the Thesis 准备论文

The hardest part of getting a Ph.D. is, of course, writing the dissertation. The process of finding a thesis topic, doing the research, and writing the thesis is different from anything most students have done before. If you have a good advisor and support network, you'll be able to get advice and help in setting directions and goals. If not, you may need to be more independent. If this is the case, don't just isolate yourself from the world: try to go out and find the resources and support you need from professors, other graduate students, mailing lists, friends, family, and publications like this one.

当然，在获得博士学位的过程中最难的部分就是写学位论文。对许多同学来说，寻找论文题目，作相关研究，写论文这一过程都是从未有过的。如果你有一个好的导师和支持你的

协作网络，你将会在选择方向和目标方面得到他们的建议和帮助。如果没有，你则更需要独立自主的能力。面对这种情况，不要使自己孤立起来：试着走出去，在教授、其他同学、邮件表、朋友、家庭以及像这篇文章一样的出版物中得到灵感和支持。

Finding an Advisor 确定导师

Finding the right advisor can help you immeasurably in successfully completing a thesis. You should ideally have selected the schools you applied to by identifying faculty members you'd like to work with. If not, start looking around as early as possible. Of course, the ideal advisor will be in the area you're interested in working in, and will actively be doing high-quality research and be involved in and respected by the research community.

　　找到一个合适的导师可以在极大程度上帮助你顺利完成论文。最理想的方法是先确定你愿意合作的教学人员，再向其所在的学校提出申请。如果还没有，应尽早地开始寻找。当然，理想的导师所研究的领域应该是你感兴趣的，并会积极地进行更高层次的研究，而且是这一研究领域中被人尊敬的。

Read research summaries by faculty members (which are usually published by the department), go to talks they give, and attend or audit courses given by professors you might be interested in working with. Talk to other graduate students and recent graduates. Ask them how their relationships with their advisors are/were, how quickly the advisor's students graduate, and how successful (well recognized, high-quality) their research is. What kinds of relationships do they have -- frequent interactions, collaborative work, encouraging independence? handing out topics or helping students to create individual research areas, or a more hands-off style?

　　对经常发表文章的教员，要阅读他们的研究摘要，听他们做的演讲；对那些你愿意与其合作的教授，要参加或旁听他们的课程。多和导师门下的其他同学以及刚毕业的师兄师姐谈谈，了解他们和导师的关系怎么样，毕业时间的快慢，以及他们研究的程度和认知度如何。搞清楚他们的相互关系是哪种类型——经常交流、互相协作还是鼓励独立完成？给出可选的主题、帮助学生独创自己的研究领域还是放手不管型？

　　Other things to find out about potential advisors: 关于合适导师人选的其他方面：

1　　What is the average time their Ph.D. students take to finish their degrees? What is the dropout rate for their students? 导师门下学生完成博士学位的平均时间是多少？中途退学的学生比率是多少？

2　　How long have they been on the faculty? There are advantages and disadvantages to being one of the first members of a new research group. On the positive side, you often have more freedom to choose your research topic and to influence the direction of the group's research. On the negative side, you may be more isolated (since there won't be older graduate students in the group), and your advisor won't have as much experience.导师任教的时间有多长？作为新科研团队的首批成员既有优势也有劣势。积极的方面是可以自由选择研究的题目，可以影响整个团队的研

究方向。消极的一方面是会感到孤立无援（因为这个团队没有比你更年长的学生），以及导师没有过多的经验。

A good advisor will serve as a mentor as well as a source of technical assistance. A mentor should provide, or help you to find, the resources you need (financial, equipment, and psychological support); introduce you and promote your work to important people in your field; encourage your own interests, rather than promoting their own; be available to give you advice on the direction of your thesis and your career; and help you to find a job when you finish. They should help you to set and achieve long-term and short-term goals.

　　一位合格的导师应该既是你获得技术帮助的渠道也是给你多方面指导帮助的人。一位导师应该提供或者帮助你找到你需要的资源（经济上，设备，以及心理支持）；把你介绍给你所在领域中的重要学者，提高你的工作水平；鼓励你发展自己的兴趣而不是他们的兴趣，在你的文章方向上和就业上可以给你建议；在你毕业后帮助你找到一份工作。他们应该帮助你确定和实现长期和短期的目标。

Once you identify one or more potential advisors, get to know them. Introduce yourself and describe the area you're interested in. Attend their research group meetings if they hold them regularly. Give them a copy of a research proposal if you have a good idea of what you want to work on, and ask for comments. Ask whether they have any TA or RA positions available, or if there are any ongoing research projects that you could get involved with. Read their published papers, and the work of their students. Drop by during office hours and ask questions or make comments. Offer to read drafts of papers -- and do more than just proofread (see the section on feedback).

　　当你确认一名或多名合适的人选，就开始了解他们。介绍自己并描述你所感兴趣的领域。如果他们有定期的组会那么你应该去参加。如果你有一个关于自己做什么研究的好想法，写一份研究建议给他们并请求他们给你评估一下。询问他们是否需要助教或者助研，有没有你能加入的研究课题。阅读他们发表的文章，了解他们学生的工作。在工作时间去拜访他们，询问或者提出看法。主动提出阅读论文的草稿—不要光做校正阅读的工作（阅读反馈的章节）。

The type of relationship that each student needs with an advisor will be different. Some students prefer to be given more direction, to have frequent contact, and to be ``checked up on.'' Others are more independent. Some may need contact but be self-conscious about asking for it. Other things that vary include what kinds of feedback is preferred (lots of ``random'' ideas vs. very directed feedback (pointers)), working individually vs. in groups, working on an established research project vs. a new, independent effort; working in the same area as your advisor or doing an ``outside'' thesis.

　　每一名学生与导师的关系可能各不相同。有些学生希望获得更多的指导，与导师经常交流，接受导师检查。其他人则更为独立。有些学生有与导师交流的需求，但是自己并没有意

识到要主动争取这样的机会。其他情况还包括更喜欢什么样的反馈（很多发散思维还是方向明确的反馈（指导）），独立工作还是团队合作，在一个有基础框架的课题上工作还是开始一个新的独立课题，从事导师领域的研究还是做导师领域外的工作。

You may find that your thesis advisor doesn't always give you all of the mentoring that you need. Multiple mentors are common and useful; they may include other faculty members in your department or elsewhere, senior graduate students, or other colleagues (see the section on networking). You may want to seriously consider changing thesis advisors if your advisor is inaccessible or disinterested, gives you only negative feedback, doesn't have the technical background to advise you on your thesis, or harasses you (see the section on women).

你可能发现你的导师不能给你所有你需要的指导。多位导师的情况更常见和有效；他们包括你所在系里或者别处的其他老师，高年级的研究生，或者其他同事（参考网络的章节）。如果你的导师不够关注你，只给你负面的反馈，没有相关技术背景给你论文上的建议，或者对你造成骚扰（参考女性话题的章节），你可能需要认真考虑换一位导师。

The most important thing is to ask for (i.e., demand politely) what you need.

最重要的是提出（礼貌地）你的需要。

Finding a Thesis Topic 确定论文题目

Doing a master's project is often a good idea (and is required by some schools). Although choosing an appropriately scaled-down topic may be difficult, having the ideal topic is also less important, since you will have the chance to move on after only a year or so. If you have a good idea of what you want to do your Ph.D. dissertation on, choosing a master's project that will lead into the dissertation is wise: you will get a head start on the Ph.D., or may decide that you're not interested in pursuing the topic after all (saving yourself a lot of work and grief farther down the road).

进行硕士工程设计是一个好的方法（一些学校要求这样），虽然选择一个尺度合适的主题不容易，但拥有一个理想的主题也不是那么重要，因为在一年后你有机会进入新的方向。如果你对博士论文有了好的想法，明智的做法是在硕士阶段选择一个与其相关的工程项目，这样你可以提前开始博士研究，或者决定不再继续这个主题的研究工作（这样可以节省许多工作以及烦恼）。

A good source of ideas for master's projects (and sometimes for dissertation topics) is the future work section of papers you're interested in. Try developing and implementing an extension to an existing system or technique.

一个关于硕士课题（有些时候也是博士论文的题目）的好想法的来源是你感兴趣论文所要完成的展望内容。尝试从已有系统或者成熟技术中提出并实现扩展的内容。

Generally speaking, a good Ph.D. thesis topic is interesting to you, to your advisor, and to the

research community. As with many aspects of graduate school, the balance you find will depend at least in part on the relationship you have with your advisor. Some professors have well defined long-term research programs and expect their students to contribute directly to this program. Others have much looser, but still related ongoing projects. Still others will take on anyone with an interesting idea, and may have a broad range of interesting ideas to offer their students. Be wary of the advisor who seems willing to let you pursue any research direction at all. You probably won't get the technical support you need, and they may lose interest in you when the next graduate student with a neat idea comes along.

通常说来，好的博士论文题目应该是你和你的导师，以及你所在的研究团体感兴趣的。如何权衡这之间的关系，其中一部分是依赖于你和导师之间的关系。有些教授已经制定了一个长期计划，希望他们的学生能直接为其作出贡献；有些则相对宽松，但仍希望和正在进行的项目有联系；还有一些教授会接纳让人感兴趣的新想法，并为学生们提供一个宽的范围供其选择。但也要警惕那些表面上乐意但从根本上还是希望你从事某个研究方向的导师，因为你很可能得不到所需要的支持，并且当下一届学生产生与他相近的想法时，会对你失去兴趣。

If you pick a topic that you're not truly interested in simply because it's your advisor's pet area, it will be difficult to stay focused and motivated -- and you may be left hanging if your advisor moves on to a different research area before you finish. The same is true for choosing a topic because of its marketability: if you're not personally excited about the topic, you'll have a harder time finishing and a harder time convincing other people that your research is interesting. Besides, markets change more quickly than most people finish dissertations.

如果你本人不是对这个题目非常热心，如果你选择的主题不是凭自己兴趣，而仅仅是因为导师的喜好，那你将很难保持动力，并且在导师转到不同的研究领域后，你会感到束手无策。仅考虑市场价值也会产生相同的后果：如果不是自发的对这个主题感兴趣，你会发现要完成它非常困难，而且向其他人说明你的研究工作是有意义的则难上加难。另外，市场的变化总是比完成博士论文的速度快得多。

In order to do original research, you must be aware of ongoing research in your field. Most students spend up to a year reading and studying current research to identify important open problems. However, you'll never be able to read everything that might be relevant -- and new work is always being published.

为了从事原创性研究，你必须清楚你所在领域当前的工作。大部分学生花近一年的时间阅读和学习当前的研究以确定那些重要的公认的问题。但是你不可能把所有相关的内容都阅读—总有新的文章发表出来。

Try to become aware and stay aware of directly related research --but if you see new work that seems to be doing exactly what you're working on, don't panic. It's common for graduate students to see a related piece of work and think that their topic is ruined. If this happens to you, reread the paper several times to get a good understanding of what they've really been accomplished. Show the paper to your advisor or someone else who's familiar with your topic and whose opinions you respect. Introduce yourself to the author at a conference or by e-mail, and tell them about your work.

By starting a dialogue, you will usually find that their work isn't quite the same, and that there are still directions open to you. You may even end up collaborating with them. Good researchers welcome the opportunity to interact and collaborate with someone who's interested in the same problems they are.

　　开始并保持关注直接相关的研究领域—但如果你看到在你研究的方向上有新的文章发表，不要紧张。很多研究生在看到一篇近似他们研究工作的文章发表后都会认为自己的工作没有意义了。如果这种情况发生在你身上，你应该反复阅读他们的文章，彻底明确他们的工作内容是什么。把这篇文章给你的导师或者其他熟悉你题目，你认可的人。通过电子邮件或者会议的机会把自己介绍给作者，告诉他们你的工作。通过对话你会发现他们的工作与你的内容常常不一样，并且还有很多合适的研究方向。你甚至可以最后与他们合作。好的研究人员欢迎与他人交流，并珍惜与对他们工作感兴趣的人一起工作的机会。

To finish quickly, it's usually best to pick a narrow, well defined topic. The downside of this approach is that it may not be as exciting to you or to the research community. If you're more of a risk-taker, choose a topic that branches out in a new direction. The danger here is that it can be difficult to carefully define the problem, and to evaluate the solution you develop. If you have a topic like this, it helps a lot to have an advisor or mentor who is good at helping you to focus and who can help you maintain a reasonably rigorous approach to the problem.

　　为了尽快完成你的文章，最好选择一个范围窄，定义清晰的题目。这样做的劣势是这个题目对于你或者研究团队不再那么有意思。如果你是一位愿意接受挑战的人，可以选择一个开辟新研究方向的题目。其风险是很难确定的定义问题，以及评估你的方案。如果你有类似这样的题目，你可以从导师那里寻求帮助，他们善于帮助你锁定研究重心，并保证你的研究方法在处理问题上足够严密。

In the extreme case, if your topic is so out of the ordinary that it's unrelated to anything else, you may have difficulty convincing people it's worthwhile. Truly innovative research is, of course, exciting and often pays back in recognition from the research community -- or you could just be out in left field. If you have a far-out topic, be sure that people are actually *interested* in it, or you'll never be able to ``sell'' it later, and will probably have trouble getting your work published and finding a job. In addition, it will be hard to find colleagues who are interested in the same problems and who can give you advice and feedback.

　　在极端的情况下，如果你的题目过于特别以至于找不到相关的参考，你可能无法说服别人这个题目是有价值的。真正创新性的研究，常常充满新鲜感，并使你获得研究团队的认可—否则你会被孤立在角落里。如果你有一个超前性的题目，确定人们真的对它感兴趣，否则永远也无法把你的研究推广出去，并且你会在发表文章和找工作时遇到困难。另外，找到对同样题目感兴趣的同事以及给你建议和反馈的人也会是一件困难的事情。

In any case, a good topic will address important issues. You should be trying to solve a real problem, not a toy problem (or worse yet, no problem at all); you should have solid theoretical work, good empirical results or, preferably, both; and the topic will be connected to -- but not be a simple variation on or extension of -- existing research. It will also be significant yet manageable. Finding

the right size problem can be difficult. One good way of identifying the right size is to read other dissertations. It's also useful to have what Chapman *[chapman]* calls a ``telescoping organization'' -- a central problem that's solvable and acceptable, with extensions and additions that are ``successively riskier and that will make the thesis more exciting.'' If the gee-whiz additions don't pan out, you'll still have a solid result.

　　在任何情况下，一个好的题目可以解决重要的问题。你应该尝试解决实际问题而不是过度简化的问题（或者更糟糕的，不是问题的问题）；你应该有扎实的理论工作，有力的经验结果，最好两者兼顾；题目应该与当前的研究有关联—但不是简单的变化或者拓展。题目应该有足够的价值同时能够完成。确定合适大小的问题是一件困难的事。一种好的办法是阅读其他博士论文。使用Chapman*[chapman]*提出的"伸缩式组织"—一个可以解决和易于接受的中心问题，以及使得论文更有意义的扩展和附加内容—可以帮助你找到合适的题目大小。如果附加的内容不能实现，你仍然有基本的理论贡献。

Remember that a thesis is only a few years of your work, and that -- if all goes well -- your research career will continue for another 30 or 40. Don't be afraid to leave part of the problem for future work, and don't compare yourself to senior researchers who have years of work and publications to show for it. (On the other hand, if you identify too much future work, your thesis won't look very exciting by comparison.) Graduate students often pick overly ambitious topics (in theory, your advisor will help you to identify a realistic size problem). Don't overestimate what other people have done. Learn to read between the lines of grandiose claims (something else a good advisor will help you to do).

　　记住，一篇论文只是你几年工作的总结—如果顺利的话—你的科研经历会再继续30或者40年。不要害怕把部分问题放到后面的工作中解决，并且不要把自己与已经有多年科研经历和著作的资深研究员相比较（另一方面，如果你发现未来还有很多的工作，你的论文会变得不够成功）。研究生常常找一些过于复杂的题目（理论上你的导师可以帮助你确定一个合适大小的问题）不要过高估计其他人的工作。要学会从溢美之词中读到实际的内容（这些事情你的导师会告诉你如何去做）。

Some schools may require that you write a thesis proposal. Even if they don't, this is a good first step to take. It forces you to define the problem, outline possible solutions, and identify evaluation criteria; and it will help you to get useful feedback from your advisor and other colleagues. Writing a good thesis proposal will take up to several months, depending on how much background work and thinking you've already done in the process of choosing the topic.

　　一些学校要求你撰写开题报告。即使他们不要求，这也是一个很好的开始。这样做可以督促你明确要解决的问题，列举可能的解决方案，确定评估标准；它还能帮助你从导师和其他同事那里获得有用的反馈。写一份好的开题报告可能要花几个月的时间，这取决于你在选题时做了多少背景内容的工作以及思考。

The proposal should provide a foundation for the dissertation. First, you must circumscribe the problem and argue convincingly that it needs to be solved, and that you have a methodology for

solving it. You must identify and discuss related work: has this problem been addressed before? What are the shortcomings of existing work in the area, and how will your approach differ from and be an improvement over these methods?

报告应该看作博士论文的基础。首先，你必须限定你的问题，并说明它有必要解决，并且你有办法解决这一问题。你必须确定并探讨相关的著作：这一问题是否之前已经解决？当前工作的不足在哪里，你的方法与别人的不同之处在于什么？以及你的方法如何在已有的方法上实现了性能的提高？

Present your ideas for solving the problem in as much detail as possible, and give a detailed plan of the remaining research to be done. The proposal should include, or be structured as, a rough outline of the thesis itself. In fact, unless your final topic differs significantly from your proposed topic (which many do), you may be able to reuse parts of the proposal in the thesis.

尽可能详细表述解决问题的思路，给出接下来研究的具体计划。报告应该包括文章的粗略纲要，或者以之为基本结构。事实上，除非你的最终题目与你的设想千差万别，你是可以在论文中使用报告内容的。

You will probably have to take an oral exam in which you present and/or answer questions about your proposal. Be sure that your committee members are as familiar as possible with your work beforehand. Give them copies of the proposal, and talk to them about it. During the exam, don't panic if you don't know the answer to a question. Simply say, ``I'm not sure'' and then do your best to analyze the question and present possible answers. Your examining committee wants to see your analytical skills, not just hear canned answers to questions you were expecting. Give a practice talk to other students and faculty members. Remember: you know more about your thesis topic than your committee; you're teaching *them* something for a change.

你可能要通过一个答辩来阐述你的报告和回答关于你报告的问题。保证答辩委员会的成员对你的工作尽可能的熟悉。给他们报告内容的拷贝，跟他们讨论一下。在答辩过程中，如果你不知道该如何回答问题也不要慌张。直接说"我不太确定"，然后尽力解释问题并给出可能的答案。委员会希望看到你的分析能力，而不是你预先准备过的问题的答案。同其他学生和老师交流。记住：你比答辩委员会的人要更了解你的论文题目；你在教他们东西以获得他们的反馈。

Writing the Thesis 撰写论文

Graduate students often think that the thesis happens in two distinct phases: doing the research, and writing the dissertation. This may be the case for some students, but more often, these phases overlap and interact with one another. Sometimes it's difficult to formalize an idea well enough to test and prove it until you've written it up; the results of your tests often require you to make changes that mean that you have to go back and rewrite parts of the thesis; and the process of developing and testing your ideas is almost never complete (there's always more that you *could* do) so that many graduate students end up ``doing research'' right up until the day or two before the thesis is turned in.

研究生通常认为论文可以分成两个独立的阶段：做研究和写论文。对于某些学生来说可能是这样，但是更多的情况是两个阶段相互重叠，相互影响。有时很难找到方便测试和证明的好的思路，直到你把文章完全写完；你的测试结果可能要求你改变你文章的思路重写部分内容；发展和检测你的想法的过程几乎永远不会结束（总有一些你可以改善的东西）以至于很多学生在交论文的前一两天还在做研究。

The divide-and-conquer approach works as well for writing as it does for research. A problem that many graduate students face is that their only goal seems to be ``finish the thesis.'' It is essential that you break this down into manageable stages, both in terms of doing the research and when writing the thesis. Tasks that you can finish in a week, a day, or even as little as half an hour are much more realistic goals. Try to come up with a range of tasks, both in terms of duration and difficulty. That way, on days when you feel energetic and enthusiastic, you can sink your teeth into a solid problem, but on days when you're rundown and unmotivated, you can at least accomplish and few small tasks and get them off your queue.

分而治之的方法既可以用于写论文也可以用于做研究。很多研究生面临的一个问题是他们的唯一目标就是完成论文。不管是对于写论文还是做研究，你应该把这个目标划分成便于管理的阶段。你能够在一周，一天或者半个小时之内完成的工作是更为实际的目标。尝试安排一系列的工作，时间和难度各不相同。这样当你精力充沛，热情高涨时可以专注于解决一个重大问题，而当你状态低迷缺乏动力时，也至少可以完成一些小的工作，把它们从你的任务队列中删除。

It also helps to start writing at a coarse granularity and successively refine your thesis. Don't sit down and try to start writing the entire thesis from beginning to end. First jot down notes on what you want to cover; then organize these into an outline (which will probably change as you progress in your research and writing). Start drafting sections, beginning with those you're most confident about. Don't feel obligated to write it perfectly the first time: if you can't get a paragraph or phrase right, just write *something* (a rough cut, a note to yourself, a list of bulleted points) and move on. You can always come back to the hard parts later; the important thing is to make steady progress.

由粗到精的写你的文章是很有帮助的。不要尝试一下子写好整篇文章。首先记录下你要包括的内容；然后把这些内容组织成一个纲要（这个纲要可能根据你在研究和写作上的进展相应变化）。从草稿部分开始，选择你最有自信的部分写起。不要要求自己第一遍就能写的天衣无缝：如果你找不到合适的段落或者短语，随便写一下都可以（粗略的摘要，给自己的提示，关键点），然后继续你的工作。你可以随时回到这些困难的部分，重要的是你的稳定进展。

When writing a thesis, or any technical paper, realize that your audience is almost guaranteed to be less familiar with your subject than you are. Explain your motivations, goals, and methodology clearly. Be repetitive without being boring, by presenting your ideas at several levels of abstraction, and by using examples to convey the ideas in a different way.

当撰写一篇论文，或者任何技术文章时，要了解你的读者几乎肯定没有你对这一话题

的认识深入。所以要清楚解释你的研究动机，目标，和方法。在避免厌烦读者的情况下对一些重要的观点要多次强调，在不同抽象层次上阐述你的想法，从不同的角度选择例子解释你的思路。

Having a ``writing buddy'' is a good idea. If they're working on their thesis at the same time, so much the better, but the most important thing is that they be willing to give you feedback on rough drafts, meet regularly to chart your progress and give you psychological support, and preferably that they be familiar enough with your field to understand and review your writing.

找一位"写作伙伴"是一个好主意。如果他们同时在撰写论文，那样会更好，但是最重要的事情是他们愿意给你关于你的草稿内容的反馈，考察你的进展给予你心理上的支持，如果他们对你的领域比较熟悉能够理解并读懂你的文章的话就更好了。

Getting Feedback 获得反馈

To be successful at research, it is essential that you learn to cope with criticism, and even that you actively seek it out. Learn to listen to valid, constructive criticism and to ignore destructive, pointless criticism (after finding any pearls of wisdom that may be buried in it).

为了在研究中获得成功，你应该学会正确看待批评，甚至你主动寻找不足之处。学会接受那些有用的建设性的批评，忽略那些没有意义的有害的批评（在从中提取有用信息之后）

In order to get feedback, you have to present your ideas. Write up what you're working on, even if you're not ready to write a full conference or journal paper, and show it to people. Even for pre-publishable papers, write carefully and clearly, to maximize your chances of getting useful comments (and of having people read what you wrote at all). 为了获得反馈，你需要阐述你的观点。写一下你正在做的内容，即使你没有准备写一篇完整的会议或者期刊文章，你也可以把写好的内容展示给别人。甚至是即将发表的论文，仔细清楚的说明可以让你有尽可能多的机会让别人阅读你的文章，以及获得有价值的点评。

Give presentations at seminar series at your university, at conferences, and at other universities and research labs when you get the chance. Your advisor should help you find appropriate forums to present your work and ideas. Many fields have informal workshops that are ideal for presenting work in progress.

如果有机会，你应该在系里的交流会，会议上，以及其他学校和研究实验室做报告。你的导师应该帮助你找到合适的论坛展示你的工作和想法。很多领域都与非正式的研讨会旨在交流当前的工作内容。

Attend conferences and talk about your research. When you meet someone new and they ask you what you're working on, seize the opportunity. Don't just say ``I'm doing my thesis on foobar applications of whatsis algorithms'' -- tell them as much as they're willing to listen to. You should have 30-second, 2minute, 5-minute and 10-minute summaries of your thesis ready at a moment's

notice (but not memorized word-for-word; nobody wants to listen to a canned speech).

　　参加会议并想大家介绍你的科研内容。当你遇到对你的研究内容感兴趣的新人时，抓住这样的机会。不要只是说我的论文是做关于某某算法的foobar应用—如果他们愿意听告诉他们尽可能多的内容。你应该根据实际时间准备30秒，2分钟，5分钟或者10分钟的简述（但是不要背诵内容，没有人愿意听"事先录好"的内容）。

Talking to other people will help you to realize which aspects of your research are truly different and innovative, how your work fits into the current state of your field and where it's going, and which aspects of your work are harder to sell (and, therefore, which aspects you need to think more about justifying).

　　跟其他人交流可以帮助你认识你的研究在哪些方面是独到并且创新的，你的工作如何融入所在领域的前沿和未来的发展方向，以及那一部分工作难以获得认可（那么，你就需要在这些方面多思考如何说服别人）。

Giving feedback to other students and colleagues is useful for many reasons. First, it helps you to polish your critical skills, which are helpful both in understanding other people's work and in evaluating your own. Second, it helps you to build a network of people who will be your colleagues for years to come. Finally, if you give useful feedback, those people will be more likely to make an effort to do the same for you.

　　给其他学生和同事反馈信息是非常有用的。首先你可以锻炼你的思维技巧，它可以帮助你了解别人的工作和评估自己的工作。其次，它可以帮助你建立未来合作同事的关系网络。最后，如果你给出有用的反馈信息，受益者也会积极反馈有价值的信息给你。

It will be helpful (to you and to the person whose paper you're reviewing) to organize comments on a paper in descending order of abstraction: high-level content-oriented comments, mid-level stylistic and presentation comments, and low-level nitpicky comments on syntax and grammar. Try to keep your comments constructive (``this would read better if you defined X before introducing Y'') rather than destructive (``this is nonsense'').

　　按照概念抽象程度以降序组织你的反馈信息，对于你和你所评估的文章作者都是有帮助的：高层针对内容的评价，中层针对问题和报告的评价，以及底层对句法和语法评价。尝试让你的评论有建设性（"如果你在介绍Y之前说明X，效果会更好"）而不是简单的抨击（"这是一派胡言"）。

You'll want to read a paper at least twice -- once to get the basic ideas, then a second time to mark down comments. High-level comments describing your overall impression of the paper, making suggestions for organization, presentation and alternative approaches to try, potential extensions, and relevant references are generally the most useful and the hardest to give. Low-level comments are more appropriate for a paper that is being submitted for publication than for an unpublished paper such as a proposal or description of preliminary research.

　　你需要对一篇文章至少读两遍—一次是为了获得基本思路，第二次是提出你的评价。高

层次的评价描述了你对文章的整体印象，对文章的组织，表达以及其他可能的方法，潜在的扩展，和相关的参考给出建议。这些是最有用也是最难的部分。底层的评论更适合等待发表的文章而不是类似开题报告或者对研究做基础描述的，不会发表的文章。

Getting Financial Support 获得经济上的支持

Most graduate students (at least in the natural sciences) have a source of financial support that pays their tuition and a small living stipend. Although nobody ever got rich being a graduate student, you probably won't starve either. Sources of funding include fellowships (from NSF, universities, foundations, government agencies, and industry), employer support, research assistantships (i.e., money from a faculty member's research grant) and teaching assistantships.

大部分研究生（至少是自然科学领域）都有可以支付他们学费以及生活费的经济来源。尽管没有人在研究生阶段就变的富有，你大概也不愿挨饿。收入的来源包括全额奖学金（来自国家科学基金会，大学，基金，政府部门，以及企业），公司资助，助研（比如来自教授的申请经费），以及助教。

Start looking for money early. Many schools arrange support in the form of an RA or TA position in the first year, but after that, you're on your own. Deadlines for applications vary, and if you miss one, you'll probably have to wait another year. After you apply, it can take six months or so to review the applications and several more months to actually start receiving money.

尽早的开始筹备你的学费。很多学校为第一年的新生提供助研或者助教的职位，但是之后你必须自己想办法。申请的最后期限可能不相同，如果你错过了一个，你可能得再等一年。在你申请之后，需要大约6个月的时间复议你的申请，而开始获得资助还需要几个月。

Ask faculty members (especially your advisor, who should be helping you to find support or providing support out of his or her grant money), department administrators, and fellow graduate students about available funding. Go to your university's fellowship office or its equivalent, and look through the listings in "The Annual Register of Grant Support", "The Grant Register", "The Chronicle of Higher Education", and "Foundation Grants to Individuals". Look into NSF grants (there are several different programs). Take advantage of your status as a woman or minority if you are one (this may be the only time when it actually is an advantage). Most universities have fellowship programs that may be administered through individual departments or may be campus-wide.

向大学教师,系主任和研究生同学询问现有的资金.去你所读学校的奖学金办公室或类似于它的单位,浏览"The Annual Register of Grant Support""The Grant Register""The Chronicle of Higher Education""Foundation Grants to Individuals"的清单.浏览国家自然科

学基金准予表(这有很多不同的项目).利用你的地位,如妇女或者少数民族（这可能是它们作为一种优势的唯一机会）.绝大部分大学都有奖学金项目,它们可能是各系独立管理或者是全校范围内统一管理.

If you haven't yet begun actively doing research, getting an RA position from a faculty member may be a good way to become involved in a research project. Working on an existing research project by maintaining or developing hardware or software, writing reports, and running experiments will give you a feel for what it's like to do research -- and you may even find a thesis topic. Ask around to see what's available, and go talk to professors whose work you find interesting.

如果你尚没有开始做研究,那么从一个教员处获得助研职位可能是涉足一个研究项目的好方法.以维护或发展硬件或软件技术,写报告,作实验的方式工作于现有的研究项目会让你对什么是作科研有新的感觉,甚至或许你会在此发现你的论文主题.到处打听观察你可以获得的.找你对他工作感兴趣的教授进行交谈.

For a research grant or fellowship, you will probably have to write a proposal, so the more you've thought about potential thesis topics, the better off you'll be. You may need to tailor your proposal to the interests and needs of the particular funding agency or program you're applying to, but stick to something you know about and are sincerely interested in.

对于研究补助金或奖学金来说,你可能需要写一份申请报告,对这些潜在的主题你思考的越多,你工作完成的就会越好.你可能需要精简你的建议使得它符合资金管理部门或你申请项目的兴趣和需求,但要坚持你知道的和那些你真正感兴趣的事情.

Write for a general audience, since the people reviewing your application may not be in the same field. Emphasize your goals and why the project you propose to work on is important. Talk as much as you can about how you're going to solve the problem, and be sure that your proposed solution will satisfy the goals you've set forth. Follow the rules for format, page layout and length, or your application may not even be reviewed.

建议书是面向普通的读者,因为那些评审你申请的人或许不是和你处于同一领域.强调你的目标和你为何做这样的项目是很重要的.尽可能多的谈论你将采用的问题解决方法,确保你的解决方案可以满足你预先设定的目标.遵循格式,页面和书面长度的规则,否则你的申请将不被评审.

Advice for Advisors给导师的建议

In order to be a good advisor, you have to relate to your graduate students as individuals, not just as anonymous research assistants or tickets to tenure and co-authored publications. Work with all of your graduate students, not just those whom you feel most comfortable with, or who are interested in the problems you're most excited about. Try to get to know your students personally and professionally. Help them to identify their strengths and weaknesses, to build on the former, and to work on overcoming the latter. Give them honest evaluations of their work and performance: don't just assume that they know how they're doing and what you think of them.

　　为了成为一名优秀的导师，你应该把你的研究生看作有独立思想的个人，而不是匿名的助研或者帮助你获得终身教授和共同署名刊物的手段。和你手下的所有研究生一起工作，而不是仅与那些你觉得顺眼的或者跟你有共同喜好的学生一起。尝试从职业和个人的角度了解你的学生。帮助他们认识他们的长处和弱点，激发前者并克服后者。对于他们的工作和表现给予公正的评价；不要以为他们知道该如何做以及对他们的看法。

Read this paper and others like it with an eye towards discovering which aspects of the graduate experience your students may be having trouble with, or may not realize the importance of. Try to see the experience from their perspective, which will be different for each student, because each student has a different background and different talents and goals.

　　阅读这篇文章以及其他类似的文章时, 你应该尝试找到困扰你的学生, 或者他们没有认识到重要性的问题. 试着从他们的角度上来看待这段经历,每个学生将会是不一样的,因为他们有着不一样的背景和不一样的才华与目标.

The roles of an advisor include:

导师的角色有:

1　　Guiding students' research: helping them to select a topic, write a research proposal, perform the research, evaluate it critically, and write the dissertation. 学生研究的导向:在学生选定研究主题,写出研究建议,完成研究,批判的评价工作,撰写论文中给出帮助

2　　Getting them involved in the wider research community: introducing them to colleagues, collaborating on research projects with them, funding conference travel, encouraging them to publish papers, nominating them for awards and prizes. 带学生涉足更广阔的研究社区:把他们介

绍给同事,与他们合作完成研究项目,提供会议旅行资金,鼓励他们发表论文,推荐他们获奖

3   Finding financial support: providing research assistantships or helping them to find fellowships, and finding summer positions. 寻找经济上支持:提供研究生助教奖学金或者帮助他们获得奖学金,帮助他们获得夏季工作.

4   Finding a position after graduation: helping them to find and apply for postdoctoral positions, faculty positions, and/or jobs in industry; supporting their applications with strong recommendations; and helping them to make contacts. 毕业后寻找工作职位:帮助他们寻找,申请博士后职位,教员职位,或者行业工作;给出推荐信支持他们职位申请;帮助他们签订工作协议.

Although guiding your students' research is normally viewed as the central task of an advisor, the other roles are also critical to their long-term success. The section on networking contains advice for students on networking. You can help them in this process by funding and encouraging travel to conferences and paper publication, and by introducing them and talking about their research to colleagues.

尽管指导学生研究通常被视作研究生导师的工作核心,但是其他角色对于他们长期的成功来说也是至关重要.在整个体系中这个部分也包含了给学生的建议.你可以在此阶段中给他们提供帮助,资助鼓励他们旅行参加学术会议和出版论文,介绍同行业的研究人员给他们,让他们交谈.

Interacting With Students 与学生交流

Especially for a new advisor, setting the right tone for student interactions is a difficult task. Different students respond best to different approaches -- and, of course, different advisors have different personal styles. Some of the tradeoffs that have to be made in each advisor-student relationship are:

选择合适的语气与学生交流是一个有难度的任务,尤其对于新导师来说.不同的学生以不同的方式作为反应,当然,不同的导师有着不同的个人风格.在每个导师-学生关系中都需要做出一些折衷:

1   Amount of direction: self-directed/hands-off vs. ``spoon-feeding'' topics and research projects. 指导:在研究项目和主题中是自我指导/请勿动手还是填鸭式
2   Personal interactions and psychological support: do they want advice on career, family, and the like? Are you willing and able to give it, or to find someone else to advise them? 私人交流和心理支持:他们是否需要在职业,家庭等方面的建议,你是否愿意和可以给出建议,或者是让谁来给他们一些建议.
3   Amount and type of criticism: general directions vs. specific suggestions for improvement. 批评建议的风格和数量:普通意义上的指导还是针对性的改进建议
4   Frequency of interaction: daily vs. once a semester. 交谈频率:每天还是一个学期一次.

It helps to establish regular meeting times and to discuss expectations (both yours and your students') about what can and should be accomplished during these meetings. Encourage them to develop relationships with other faculty members, students, and colleagues, to get a different perspective and to get feedback you may not be able to give.

确立例会制度,在会议期间讨论你及你的学生能够完成和必须完成的工作.鼓励他们与其他的大学教员,学生,同事发展关系,鼓励他们给出不同的见解,鼓励他们做出也许你都不能做出的反馈.

To improve the atmosphere of your interactions:

改善交流氛围:

1. Meet over lunch or coffee to make interactions more relaxed and less stressful. 在午餐或者咖啡时间以更轻松的方式与学生角流.

2. Strive to maintain an open, honest relationship. Respect your students as colleagues. 努力保持一种开放,诚挚的关系.像对同事一样尊重你的学生.

3. Tell them if you think they're asking for too much or too little time or guidance. 当你觉得他们要求太多或者太少指导和时间应告诉他们.

Advisors should be aware of both long-term and short-term needs. What should the student's goals over the next few years be? Help your student identify ways that the two of you -- as a team -- can meet these goals. Advise the student on the criteria for a successful qualifying exam, thesis proposal, and dissertation. Help prepare the student for a future research career.

导师需要知道双方长期和短期的需求.未来几年内学生的目标应是什么,帮助他们选择道路让你们双方,作为一个团体,都可以实现自己的目标.在学生成功通过考试,论文选题和论文所要达到的标准上提供建议.帮助学生做好研究生涯的长期规划.

In the short term, a good advisor will work with students to set priorities and to find a balance between doing research, reading, writing, satisfying TA and RA duties, publishing, and coursework. Although advisors may not be able to give advice on all administrative aspects of graduate school, they should at least know the appropriate people to refer students to for assistance with degree requirements, funding, and so on.

从短期上来讲,一个好的导师应该与学生一起在做研究,阅读,写作,完成助教和助研工作,发表论文,课程作业中设定先后顺序和寻找平衡.尽管导师或许不能够给研究生院的管理部门提出意见,但他们至少告知在学位申请,资金等方面可给学生提供帮助的合适人选.

When you meet with your students, pay attention to them. Try to help them to identify their interests, concerns, and goals, not just how can they meet what *you* see as good interests, concerns, and goals. Know what they're working on, and what you discussed last time. Take notes during meetings

and review them if you have to.

当你与你的学生见面时,请关注他们.试着帮助他们鉴别他们的兴趣,观点,和目标,而不是看他们与你认为的好的兴趣,观点,和目标有多大程度符合.了解他们的工作,知道你们上次讨论的内容.在会议期间要记笔记并且如果必要的话复习一下笔记.

Give them productive feedback, not just a noncommittal ``ok, sure'' or a destructive ``why on earth do you want to do that?'' Remember that your students are still learning. If you tell them that a problem they're interested in has already been explored by Professor X, make sure you follow up with a reference that they have access to, and a discussion as to whether the problem remains a worthwhile area to work on, or whether there are new open issues raised by Professor X's work, at the next meeting.

给学生有建设性的反馈意见,而不是仅仅一些不明朗的"好,行"或者让人败坏的"你到底要干什么?".记住你的学生始终在学习.如果你告诉他们一个他们感兴趣的问题已经被 X 教授研究出来了,那么你接下来就应该给出一些可供他们使用的相关资源,并且讨论这个问题是否还是值得研究的领域,或者 X 教授的工作是不是提出了新的开放性议题.

When reviewing a student's paper or proposal, write comments on the paper itself: verbal comments aren't as useful. Give the feedback promptly, or it won't be much help. See the section on feedback for suggestions about giving useful comments. Don't just wait until they hand you something to read: insist on written drafts of proposals, papers, etc. Help them develop their rough ideas into publishable papers. Give them specific, concrete suggestions for what to do next, especially if they seem to be floundering or making little progress.

当给学生的论文或选题作评价时,须在纸上写出评价意见,口头评价是没有用的.及时给出反馈意见,否则它将不能对学生提供帮助.留意关于评价的建议反馈回来的信息.不要总是等着他们交给你需要阅读的材料,如选题草案和论文草案等等.当他们对发表的论文产生粗略想法时就要给出帮助.对他们下一步要做的给出具体的,抽象的建议,尤其在他们踌躇不前或进展不大时.

Advisor-student relationships can break down if the advisor is setting goals that are too high or too low, or if the advisor is exploiting the student to meet the advisor's needs, not the student's. In my opinion, it is never appropriate to develop an intimate relationship with one of your own students. If this should happen, you should not continue to advise them (whether the relationship continues or not).

如果导师设置的目标过高或过低,或者导师利用学生来满足自己的需求而非学生的需求,研究生-导师关系会受到损害.在我看来,与你的学生发展成一种亲密的私人关系也不值得欣赏的.如果发生了这种情况, 不管这种关系是否继续,你都不应继续指导他们了.

Encourage your students to choose a topic that you're *both* interested in and that you're knowledgeable about (or very interested in learning more about). Make sure that they have the appropriate background to understand the problem, and that the methodology and solution they identify are appropriate and realistic. Give them pointers to useful references and help them find them (this can be a mysterious, difficult process for graduate students). Make sure they're aware of other researchers and labs who are doing similar work, and if possible, arrange for them to visit these labs or meet the researchers at seminars or conferences.

鼓励你的学生选择一个你们"都"有兴趣的并且你在这个方面有着丰富知识的主题.确保他们有着合适的知识背景来理解问题,确保他们选取的解决方法是合适和现实的.给他们有用的相关指导或者帮助他们找到有用的指导(这对于研究生来说是个神秘和困难的).确保他们知道其他的研究员和实验室在做同样的工作,如果可能的话,在讨论会或者学术会议上安排参观他们的实验室或者与这些研究人员进行会面.

Women faculty often feel obligated to mentor every woman student in the department, attend every committee meeting, and get involved in every debate, whether they want to or not. While you can't solve all of the problems in the world, you can at least make a difference by giving other women (and men, for that matter) the sense that you do care, and that you think women's issues are important, even if you don't have time (or the inclination) to get involved with every problem.

女教员通常都感觉自己对指导系里每个女学生,出席每次会议,参加每次讨论,不管她们是否想参加,都负有责任.虽然你不能够解决世界上所有的问题,但是你至少可以给其他女生这个感觉,你很在意,并认为她们的议题是重要的,即使你没有时间或倾向涉及每个问题.

Becoming Part of the Research Community 融入科研团队

One of the most important things a graduate students should do is to become established as part of the research community. Your advisor can help with this process by funding conference travel, encouraging you to publish research results early, collaborating on joint publications, introducing you to colleagues, and promoting your work.

研究生最重要的工作之一就是成为研究团体不可缺少的一部分。你的支持者会帮助你参加会议，奖励你尽早发表研究成果，与出版商合作，向同事介绍你，促进你的工作。

In turn, you can make yourself more visible by participating in conferences and workshops, publishing papers on your work, and meeting and maintaining contact with colleagues.

你可以通过更积极的参加学术会议和学术讨论，发表自己的学术成果，与学术组织保持联系和接触使自己更富有名气。

Attending Conferences 参加会议

Attending conferences and workshops is valuable whether you present a paper or not. Some of the reasons to do so are:

不论你是否发表了论文，参加会议和学术讨论总是有用的。理由如下：

1. You'll meet people and have a chance to discuss your ideas and to hear theirs. 你有机会遇到一些能够与你探讨和倾听你的想法的人。

2. You'll get a good sense of what the current state of research is, and will learn more about how to write conference papers and give talks (sometimes by counterexample). 你会对目前的研究现状有一个感觉，还能够学习更多的些会议论文和发表演讲的方法。

3. You'll probably realize that your ideas are more significant, relatively speaking, than you thought. A common reaction is ``I could write a better paper than this!''你会认识到你的想法比预期的更有意义，与研究更加相关。最常见的反应是："我能写出比这更好的论文！"

If you're giving a talk you'll gain even more visibility, and will have an opportunity to make an impression on other researchers. Some tips for preparing your talk to make this impression as positive as possible:

　如果你发表一番演讲，你会得到的更多的关注，会加深你在其他研究者心中的印象。下面介绍几种加深印象的小技巧：

1. Give a practice talk, especially if you tend to get stage fright. Be sure to invite people who will give you constructive, but useful, feedback. 先做一个演讲的练习，不然有可能怯场。一定要邀请能够给你一些建设性的并且有用的反馈。

2. Make sure your talk fits in the time slot allocated. There's nothing worse than a speaker who rushes through the last ten slides, or skips from the middle of the talk to the conclusion. A good rough rule is to allocate 2-3 minutes per slide, on average. 确定你的演讲的时间恰到好处。没有什么比忽略掉最后 **10** 个幻灯片或者从结论的中间开始介绍。一般说来，每张幻灯片 **2** 到 **3** 分钟最为合适。

3. It's better to be somewhat abstract than to get bogged down in technical details -- but be sure you give enough detail to make a convincing case. Your paper should fill in the missing details, so that people can read it to get a more in-depth understanding. Know your audience: you'll have to give more background to a general audience, and more technical detail to audiences that are very familiar with the field of research you're discussing. 稍微的介绍要比拘泥于技术细节要好，但是要保证至少能够让人信服，你的文章要填补那些技术的细节部分。这样就能让读者能够有比较深入的了解。对

于听众也要注意：要向一般的听众介绍更多的背景知识，而像那些对你的专业比较熟悉的听众介绍更多的技术细节。

4. Use examples and pictures to illustrate and clarify your ideas. 采用例子和图片介绍和阐述你的想法。

5. Learn by observation: try to imitate qualities of talks that you like, and avoid things that other speakers do that bother you. 观察和学习：试着去模仿那些你喜欢的演讲，尽量避免你不喜欢的事情。

6. Talk about your ideas informally whenever you get the chance, so that the talk will come more naturally and, hopefully, you'll have a chance to respond to and think about questions that might get asked at the talk. 一旦获得机会就与人探讨，这样你的演讲就会更加自然，甚至你会对可能提出的问题思考并给出解答。

7. Make sure your slides are readable and as simple as possible. Never put up a slide with tiny text and say ``I know you can't read this, but...''确保你的幻灯片尽量简洁，并且具有可读性。不要对某一页只做很少的文字解释并且说："我知道你们看不懂这个，但是……"

8. Try to relax. Don't read from a script or word-for-word from your slides, and don't talk too fast. Be confident: you know more about your work (flaws and all) than anyone else. 放松。不要对你幻灯片上的文字一个一个的读，不要说的太快。自信：你对你的工作比任何人了解的都多。

Publishing Papers 发表文章

Publishing your ideas is important for several reasons: it gives you a source of feedback from people who read your papers; it establishes you as a member of the research community (useful for getting a job down the line); and it forces you to clarify your ideas and to fit them in the context of the current state of research in your field.

发表你的想法是很重要的，理由如下：你能够从你的读者的到反馈；它能够帮助你成为研究团体的成员（至少会对你找工作有帮助）；它能够强迫你阐明你的观点，并把它恰当的融入目前的研究中去。

There are two key properties of a good paper: significant content -- original, important ideas that are well developed and tested -- and good writing style. The degree to which the paper's content has to be ``significant'' depends on where you're submitting it. Preliminary ideas and work in progress are more suitable for a workshop or symposium; well developed, extensively tested ideas are more appropriate for a journal. One way to decide where your paper should be submitted is to read papers in potentially appropriate publications (last year's conference proceedings; current journal issues). Another method to show a draft or outline of the paper to your advisor or other colleagues and ask their advice.

好的论文有两个最重要的特点：有意义的内容——独创的、重要的想法都能够使得文章更具有吸引力，以及好的写作风格。文章的技术程度应该取决于你所发表的地方。初步的想法和工作适合于专题研讨会或者座谈会，比较完善的算法，经过了大量测试的想法更适合于杂志。对于在哪里发表文章，一个有用的参考就是参考最近的会议和杂志，或者咨询你的导师和其他合作伙伴，让他们对你的文章框架提出建议。

If you have a great idea, but present it poorly, your paper probably won't be accepted. Be sure you know what the point of the paper is, and state it clearly and repeatedly. The same goes for the key technical ideas. Don't make the reader work to figure out what's important -- tell them explicitly. Otherwise, they might get it wrong, if they bother to finish reading the paper at all. State the problem you're addressing, why it's important, how you're solving it, what results you have, how other researchers have addressed the same or similar problems, and why your method is different or better.

如果你有一个很好的想法，但是表达的很差，那么你的文章很可能不被接受。但是你要知道你文章的立足点，修改、重新表达这个重点。最重要的是，不要让读者来指出哪里是重点，而要直接告诉他们。否则，他们也许会犯错误，也许读完文章就会成为他们的负担。列出你的问题，指出他的重要性，你怎样解决的，你得到了怎样的答案，其他人对于这个问题是怎么解决的，以及你的方法的独特性和效果好的原因。

Write for the audience that you expect to read the paper, just as you would plan a talk. Give more background for general audiences, less background and more technical detail for specialized audiences. Use a running example if possible, especially if your paper is dense with equations and algorithms.

针对你文章的潜在读者来写你的论文，就好像你在准备一个谈话一样。向一般的听众介绍更多的背景知识，而像那些对你的专业比较熟悉的听众介绍更多的技术细节。如果可以的话，采用一个连续的例子，尤其是在你的文章布满方程和求解的时候。

Don't try to put every idea in your thesis into one conference paper. Break it down into pieces, or write one or two longer journal articles.

不要把你的所有想法都放在一篇会议论文中去，把他分成几个小部分或者写两篇较长的杂志文章。

As you refine your ideas, you can re-publish in new forms, but be sure you're adding new material, not just rehashing the same ideas. Some papers start as short workshop papers, evolve into conference papers, and eventually -- with the addition of detailed empirical results or formal proofs -- become journal articles. It's usually okay to publish the same or substantially similar papers in multiple workshops, but papers for conferences and journals generally have to be original, unpublished work.

在你提炼自己的思路的过程中，你甚至能够以一种新的形式再次发表，但是要保证你增加了新的东西，而不只是重复旧的思想。一些文章就是开始于短的研讨会论文，进而变成会议文章，最后增加了更多的试验结果和细节或者正式的证明，最终成为期刊文章。通常在一

些研讨会发表相同的或者大致相同的文章是没有问题的，但是会议文章和期刊文章必须是原创的、未曾发表过的。

It is critical that any paper you plan to submit be read by someone else first, if only to check for typos, grammatical errors, and style. A good reviewer will give you feedback on the organization and content of the paper as well (see the section on feedback). The more tightly refereed the publication you're submitting to, the more trouble you should go to to have it pre-reviewed. For a workshop paper, having your advisor read it over is probably enough. For a refereed conference, have one or two other graduate students read it as well. For a journal paper, you should probably find researchers who are active in the field, preferably at other institutions (to give breadth), read it over and give you comments. This is where the network of colleagues you should build (see the section on networking) comes in handy.

让其他人先阅读你准备发表的文章是很重要的，哪怕他们只是检查你的打字稿，或者检查语法错误和写作风格。一个好的审阅者会在结构和内容上给你好的建议。你要发表的出版处的审阅者会更加严厉，而在他们眼里，你会有更多的麻烦。在研讨会上发表的文章，只要有导师读过并给你建议就足够了。如果是一个更加正式的会议，最好再找一些研究生来读。如果是杂志文章，最好找一些在这个领域比较活跃的学者来阅读，最好是其他的机构。这就是你应该建立的一些学术联系。

If your paper is rejected, keep trying! Take the reviews to heart and try to rewrite the paper, addressing the reviewer's comments. You'll get more substantial and useful reviews from journals than conferences or workshops. Often a journal paper will be returned for revisions; usually a conference paper will just be accepted or rejected outright. After reading the review the first time, put it aside. Come back to it later, reading the paper closely to decide whether the criticisms were valid and how you can address them. You will often find that reviewers make criticisms that are off-target because they misinterpreted some aspect of your paper. If so, don't let it get to you -- just rewrite that part of your paper more clearly so that the same misunderstanding won't happen again. It's frustrating to have a paper rejected because of a misunderstanding, but at least it's something you can fix. On the other hand, criticisms of the content of the paper may require more substantial revisions -- rethinking your ideas, running more tests, or redoing an analysis.

如果你的文章被拒绝，继续去试！从心里去重新审视你的文章，试着重写你的文章，列出重新阅读时的评论。你会在杂志上获得比会议和讨论会更具有实际意义和有用的评审。杂志文章经常会被发回来要求修改。会议文章经常会被很直接的收录或者拒绝。在读完评论后，首先把它放在一边。等一等之后再回来，详细的阅读文章，判断那些评论是否有意义以及你能够怎么运用他们。你经常会发现那些审阅者的评论与你的文章不相符合，因为他们曲解了你的文章。如果是这样，不要在意这些评论，把你被曲解的部分重新编写，让这部分更加清楚确保不会再次发生误读。如果由于误读导致的拒绝是很沮丧的，但是至少说明你有需要改进的地方。另一方面，内容上的批评需要更加实际的修改，重新考虑你的想法，做更多的测试或者重新分析实验数据。

Networking 协作

One of the most important skills you should be learning in graduate school is how to ``network.''

Breaking into the research community requires attending conferences, meeting established researchers, and making yourself known. Networking *is* a learned skill, so you shouldn't expect to be an expert at it immediately; but it is also a skill that you can, and should, learn in order to be a successful member of the research community.

　　另一件你在研究生阶段需要掌握的重要技巧就是学习怎么建立"网络"。加入研究组织需要通过参加会议，拜见学者来使自己有一定的知名度。网络是一个需要学习的技巧，你不可能立刻就成为专家，但是它是一项技巧你能够，并且应该学习，以使自己成为一个成功的学术机构成员。

Just going to conferences and standing in the corner isn't enough. Especially if you're not normally an outgoing person, you have to make a conscious effort to meet and build relationships with other researchers. Presenting papers is a good way to do this, since people will often approach you to discuss your presentation. Introducing yourself to people whose presentations you found interesting, and asking a relevant question or describing related research you're doing, is also a good way to meet people.

　　仅仅作为会议中的旁观者是不够的。尤其当你不是一个外向的人，你就需要付出更多努力去与其他学者讨论和建立联系。发表论文是一个很好的途径。这样读者就能够找到你讨论问题了。向那些研究方向使你感兴趣的人介绍自己，向他们咨询相关问题或者研究也是个很好的方法。

You should talk about your research interests every chance you get. (But be sure to spend some time listening, too: you'll learn more this way, and people will feel that your conversations are a two-way street.) Have summaries of your work of various lengths and levels of detail mentally prepared, so that you can answer the inevitable ``So what are you working on?'' intelligently and clearly. If someone expresses an interest in your work, follow up! Send them e-mail talking about new ideas or asking questions; send them drafts of papers; ask them for drafts of their papers and send them comments. (If you do this, they'll be sure to remember you!) Bring business cards with your e-mail address to conferences to help new acquaintances jog their memory.

　　你应该抓住一切机会与别人探讨你的研究兴趣（但是一定要在说的时候花时间去听别人的：这样你会学到很多，而且你们的交谈才会是双向的）无论有多少细节或者有多么深奥，都应该准备一个摘要，这样在被问道："你工作的内容是什么"时能够清晰的回答。如果有人对你的研究表现出了兴趣，一定要穷追不舍。给他们发电子邮件告诉他们你的想法或者向他们咨询，寄给他们你的文章的草稿，向他们询问他们文章的草稿并给他们一些建议。（如果你这样做，他们一定会记住你！）出席会议的时候发放的名片上面一定要有电子邮件地址，这样能够帮助他们回忆起你。

Maintain the relationships you form via e-mail, and by re-establishing contact at each workshop or conference you attend. If you work at it, and use your initial acquaintances to meet new people, you'll find that your ``network'' grows rapidly.

　　保持你通过电子邮件建立的关系，在参加会议或者研讨会的时候，加强这种关系。如果

你这样做了，并且用你已经有的熟人去认识新的人，那么你的网络就会成长的非常迅速。

Sometimes these contacts will grow into opportunities to do collaborative research. Seize these opportunities: you will meet more people, often become exposed to new methods of doing research or new subfields within your research area, and the responsibility you feel towards your collaborator may give you more of an incentive to stay motivated and keep accomplishing something.

有时候这种联系会发展成为合作研究的机会。抓住这些机会：你会结识新的研究者，接触到当前研究中的新方法或者是你科研领域的子领域。处于对合作伙伴负责的态度将给你更多的激励使你保持积极并不断做出成绩。

Other professional activities can bring you into the research network as well: volunteer for program committees, send your resume to a book review editor, offer to give seminars at other universities, write conference and workshop papers and send them to people you've met or would like to meet, or organize a workshop on your subfield at a larger conference. Mentoring junior graduate students and undergraduates is a good investment in the long run (besides providing them a valuable service and making you feel useful and knowledgeable).

还有一种专业的活动会让你的网络成长：成为会议的志愿者，把你的简历寄给书籍评审员，主动到其他学校组织研讨会，撰写会议或者研讨会文章并把他们寄给你遇到的人或者你希望遇到的，或者组织你的研究方向的研讨会或者更大型的会议。从长远看来，指导低年级研究生和本科生是很一个不错的方法。（除了他们提供有意义的帮助会让你觉得自己更加有用和博学）。

Finding specific mentors can be very useful. Especially if you feel that you are isolated at your institution, having a colleague at another institution who can give you advice, feedback on drafts of papers, and suggestions for research directions can be extremely valuable.

寻找特定的导师会很有帮助。尤其是当你觉得你的研究领域很少有人关注的时候，在其他的组织有一个能够向你直接提供建议和文章反馈的同事是非常有用的。

All Work and No Play...

只工作不娱乐...

Finding a balance between work, play, and other activities isn't easy. Different people will give you very different advice. Some people say you should be spending eighty or ninety percent of your waking hours working on your thesis. Others (myself included) think that this is unrealistic and unhealthy, and that it's important for your mental and physical health to have other active interests.

在工作，娱乐和其他活动之间找到平衡并不容易。不同的人会给你不同的建议。有些人会说你应该把80%或者90%的时间用在论文上。另外一些人（包括我）认为这是不现实而且不健康的，参加其他的活动对于你的心理和身体健康都很重要。

If you have a family, you will have to balance your priorities even more carefully. Graduate school isn't worth risking your personal relationships over; be sure that you save time and energy to focus on the people who matter to you.

如果你有一个家庭，你将必须在各项事情上小心的权衡。研究生学习不值得你把感情家庭都搭进去，你应该把时间和精力留给那些对你重要的人。

One of the keys to balancing your life is to develop a schedule that's more or less consistent. You may decide that you will only work during the days, and that evenings are for your hobbies. Or you might decide that afternoons are for socializing and exercising, and work late at night. I decided very early on in graduate school that weekends were for me, not for my thesis, and I think it helped me to stay sane.

权衡你的生活的一个关键是制定一个基本不变的活动安排。你可以安排自己只在白天工作，夜晚则留给个人爱好。或者你可以安排自己在下午参加社交活动或者锻炼身体，而晚上加班工作。从研究生一开始，我就决定在周末从事其他活动不学习，我觉得这样我可以保持头脑的灵活。

Many graduate students hit the doldrums around the end of the second or beginning of the third year, when they're finishing up their coursework and trying to focus in on a thesis topic. Sometimes this process can take quite a while. Try to find useful, enjoyable activities that can take your mind off of the thesis. Sing in a choir, learn a foreign language, study the history of ancient Greece, garden, or knit. If you schedule regular activities (rehearsals, tennis lessons), you will probably find it easier to avoid drifting aimlessly from day to day.

很多研究生在第二学年末或者第三学年初，当他们完成课程学习开始准备论文的时候

还没有完全解决工作和学习的关系。有时候这一过程需要很长的时间。尝试找一些有意义的有趣的活动让自己从论文中摆脱出来。参加合唱队，学习一门外语，学习古希腊历史，园艺，或者编织。如果你给自己安排了定期的活动（排演，网球）你的生活将变得更有乐趣而不会感觉度日如年。

In the final push to finish your thesis, though, you will almost certainly have less time for social activities than you used to. Your friends may start to make you feel guilty, whether they intend to or not. Warn them in advance that you expect to turn down lots of invitations, and it's nothing personal -- but you need to focus on your thesis for a while. Then you'll be all done and free as a bird! (Until the next phase of your life starts...)

在完成论文的最后阶段，你参加其他社会活动的时间会比之前更少。你的朋友可能会让你觉得惭愧，不过他们是否真的有意这么做。提前告诉他们你会拒绝很多的邀请，而且这不是个人原因—而是你要集中时间去完成论文。之后所有事情都完成了你就可以彻底放松了（直到你生活的新一阶段开始…）

Issues for Women关于女性的话题

Although this paper started out from a discussion about the problems women face in graduate school, it has evolved into something that I think is relevant for everyone, not just women. This is not to say, however, that there aren't special problems faced by women.

虽然这篇文章的初衷是讨论女性在研究生学习中面临的问题，但是这些问题对所有人不仅是女性都有意义。当然这不是说没有对于女性的特殊问题。

In many cases, women and men face the same obstacles in graduate school, but react differently to them. For women, the additional factors that are sometimes (but not always) present include isolation, low self-esteem, harassment and discrimination, unusual time pressures arising from family responsibilities, lack of a support network, and lack of relevant experience. Having an unsupportive advisor can thus become much more of a problem for women than for men. I hope

that to some extent, this paper will help both women and advisors of women to provide the supportive, positive environment that all graduate students deserve.

很多情况下，女性和男性在研究生学习的阶段会面临相同的问题，但是他们会以不同的方式对待。对于女性，额外的问题可能是孤独，自卑，骚扰以及歧视，来自家庭责任的时间上的压力，缺少支持圈子，以及相关的经历。对于女性，一位不够负责人的导师带来的问题要比对于男性来所多得多。我希望在一定程度上，这篇文章能够帮助女学生以及女老师提供所有研究生应该获得的积极，能够支持他们的环境。

Part of the reason that I changed the focus of the paper is that there have been many articles written recently on the subject of women scientists and women graduate students. These include *[spertus]*, *[toth]*, *[hall1]*, *[hall2]*, *[hall3]*, *[sandler]*, *[nsf]*, *[leveson]*, and *[strok]*; *[mckay]* talks about issues relevant for minority faculty members, many of which pertain to minority graduate students. The "systers" mailing list is an electronic resource for women in computer science; send e-mail to "systersrequest@pa.dec.com" for more information.

我改变文章重心的一个原因是最近有很多文章关注女科学家以及女研究生。这些文章包括*[spertus]*, *[toth]*, *[hall1]*, *[hall2]*, *[hall3]*, *[sandler]*, *[nsf]*, *[leveson]*, 以及*[strok]*; *[mckay]*讨论了关于校园中的少数民族的话题，他们大部分属于研究生。"systers"邮件列表针对计算机专业的女性，它提供了解决相关问题的电子资源，发电子邮件到"systers-request@pa.dec.com"可以获得更多的信息。

Conclusions 结论

In addition to the papers I have cited directly in the article, I found a variety of other resources to be useful, and have included them in the References section.

除了我在本文中直接提及的文章，我发现还有其他有用的资源，我会在参考资料部分把他们包括进来。

The UC Berkeley "Graduate" is a newsletter published by the UC Berkeley Graduate Division with articles of general interest to graduate students. I found this publication very informative both during graduate school and while writing this article. A number of particularly interesting articles are included in the References section.

伯克利大学研究生部出版的时事通讯"研究生"包含很多对研究生有意义的文章。我发现这本刊物给处在研究生阶段的学生和我写本文都提供了很多信息。很多有意思的文章都收录在了参考资料的部分。

Several articles (*[bundy]*, *[bental]*, *[chapman]*) give general advice on graduate school and doing research. Guidelines and suggestions for reviewing papers are given in *[smith]* and *[shriver]*.

几篇文章(*[bundy]*, *[bental]*, *[chapman]*)给出了研究生学习和做研究的一般性建议。在*[smith]* 和 *[shriver]*两篇文章中给出了评估论文的指导和建议。

A number of articles on writing proposals and successfully applying for research grants are available (*[somerville]*, *[white-proposals]*, *[white-grants]*, *[lefferts]*).

关于撰写开题报告和申请经费的文章包括*[somerville]*, *[white-proposals]*, *[white-grants]*, *[lefferts]*

Graduate school is not an easy process, and too many students are thwarted and intimidated by unsupportive or unskilled advisors, lack of knowledge about what graduate school is all about, inflexible bureaucracies, and a myriad of other obstacles. I have tried to give advice that graduate students and caring advisors can use to lessen some of these obstacles.

研究生学习不是一件容易的事，很多学生因为导师不够关注和缺乏技巧，不了解研究生学习，呆板的官僚机构，以及其他困难而没有继续他们的学业，我尝试了给出一些意见帮助研究生和负责任的导师解决其部分的问题。

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