



SPEAKING ABOUT SCIENCE

A Manual for Creating Clear Presentations

Scott Morgan Barrett Whitener

剑桥科学素养读本

如何作科学报告

苏庆运 注译



CAMBRIDGE

大连理工大学出版社
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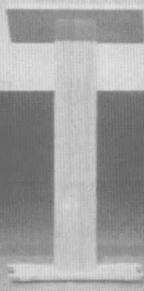
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Speaking about Science

Presenting in public is an important career skill for anyone in the sciences, and this practical manual is essential reading for researchers and clinicians who are preparing talks for meetings and academic conferences. The book features step-by-step instruction for creating clear and compelling presentations – from structuring a talk and developing effective PowerPoint slides through delivery before an audience. Color examples of slides and posters from actual presentations are included. The authors also provide tips on answering questions and strategies for handling media inquiries and job interviews.

SCOTT MORGAN and BARRETT WHITENER are professional public speakers and write from their extensive experience designing courses and teaching presentation skills to scientists and medical researchers at the National Institutes of Health and in the private sector. The seven-step process they have developed will help readers become better speakers and ensure success behind the podium.

For more information, visit www.premierepublicspeaking.com.

如何作科学报告

科学报告对于科学领域中的每一个人都是一项重要的职业技能。本书可以作为科研工作者准备学术会议的必备指南。按照本书所讲步骤,大家可以轻松准备科学报告:从话题的选择,到 PPT 的制作,一直到在听众面前演讲。本书还附有幻灯片和海报实例。作者还提供了一些非常实用的回答问题的技巧、应对媒体采访及面试的策略。

SCOTT MORGAN 和 BARRETT WHITENER 是专业演讲者。多年来,他们面向科学工作者设计了多项课程,进行如何做科学报告的训练。他们的七步法可帮助读者提高演讲技巧,且保证在讲台上一展风采。本书正是他们多年实践经验的结晶。更多信息可直接访问 [www. premierepublicspeaking. com](http://www.premierepublicspeaking.com)。

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感谢张业新、张桂玲、王宏博、徐康、马兵对本书注译版做出的贡献。

编者的话

科学研究的目的是发现新事物并将之应用于改善人类及动物的生活状态。但是,现在的科学研究本身则很费力气,不仅仅需要对科学的热爱。如果你正在考虑将科学研究作为自己一生的职业,或者已经踏上自己的职业之路,或者想有所成就但尚不确定未来的路线,急需一些从事科研工作的建议、训练和指导,《剑桥科学素养读本》丛书将给你提供满意的答案。

《剑桥科学素养读本》丛书全部从英国剑桥大学出版社引进。特邀大连理工大学几位有留学经历、具有丰富相关教学及科研从业经验的教授,对本套丛书逐一进行点评式注译。本系列丛书相辅相成,互为补充,涉及如何规划及实践科研职业,如何写作和发表科研论文,乃至如何作科学报告。我们认为,这套丛书将成为中国读者案头一套必备的科研实战指南。对于有志于从事科研事业的读者来说,实为甘醇雨露,春风化雨。

本套丛书具有以下特色:

- **题材广泛,内容丰富,表达地道** 本套丛书直接选自国外原版,内容广泛。读者可细细品味欣赏,也可随手借鉴,均有开拓视野、提升能力之功效。

- **作者学识渊博,有丰富的教学科研经验** 作者均是在各自学科领域颇有建树的专家学者,他们绝不单纯是知识技能的传授者,更是引导人生道路的前辈。读者在书中可随时感觉到其爱心和耐心,也感受到科学研究作为职业乃至事业的独具魅力的意境。他们的写作风格不尽相同,但能够洞悉母语为非英语的学生学习和使用英语的心态,均使用浅显易懂的语言对各种问题及对策加以解说、诠释,像和朋友在聊天,更像导师在引导你一步步上路。对这套丛书,读者们完全可以用一种轻松的心情去品读。

• **英语原文与中文点评相得益彰,易学易用** 为了让读者品读原文的韵味,丛书采用了点评的注译模式,特别有助于读者在潜移默化中掌握地道的英语、培养英语语感,减少许多不必要的摸索时间。

• **装帧精美,常读常新** 丛书的装帧设计精美大方,品质高雅,以国际水准的精美版面呈现于读者的面前,令读者赏心悦目。加之内容实用可读,在科研的不同阶段,均能从本套丛书中得到不同的收获,颇具收藏价值。不但收藏起图书,更是收藏起你科研道路的足迹。

从作者的“闲言絮语”中,读者尽可体会个中的激情与周到:

“我喜欢作为一名科学家的我。这是一个让我为之陶醉、为之痴迷的职业。科学领域中像我这样的人比比皆是,他们都专注于在常人看来很抽象的目标。他们很忙碌,甚至全神贯注。这使得通常的交往远非容易。一下子投入到科研领域……职业道路很不稳定……对于一个新加入者来说,看起来前途是如此暗淡。但是,如果你能坚持下来,回报将是巨大的……当你发现了前人没有发现的规律时,这种兴奋会使你义无反顾,这就是一切。”

“当人们决定要成为一名科研工作者时,通常是因为他们喜欢科学,而不是因为想成为作家。然而,一旦人们开始职业生涯,很快就会发现,一个管道工可以不会写关于管道的文章,也可以生活得很好,而科学工作者的成功则依赖于其写作能力。”

建议读者通读本套丛书,若时间有限,也可以根据自己的需要,以按图索骥的模式选择性地阅读其中的一本或其中的有关章节。相信读者通过本套丛书的帮助,能够增强自己进行科学研究的兴趣和信心,驾驭未来的能力会有质的飞跃,会更自信地应对未来的各种挑战,满怀信心地踏上科研之路。

我们期待着本套丛书能够为读者的事业之鹰插上腾飞的翅膀,能够帮助读者达成理想,从此走向成功。

To Chinese Readers

青島國中

Since 1996, we have heard thousands of scientific talks on the campus of the National Institutes of Health in Bethesda, Maryland and at dozens universities around the United States. We have been very fortunate that a great number of our students are from China. The Chinese continually impress us with their intellect and determination. But perhaps what is even more impressive is that these students travel thousands of miles from home to better their science, improve themselves, and to exchange new ideas. So until the day when we see you in one of our classes, we are thrilled to offer a Chinese language edition of Speaking about Science.

Some communication issues are specific to individual cultures; others are particular to the United States. We have found, however, that most elements of clear communication are universal. For example, no matter what one's background, we can all be more concise, and this book continually stresses the fundamental importance of brevity. But perhaps the book's most significant message is that every audience member in the world respects a speaker's ability to teach complicated material, rather than just lecture about it. In essence, we are teaching how to teach.

Time and scheduling are also major factors, as all scientists have many projects to manage. The ability to identify the core elements of a good talk is, therefore, a crucial skill for another reason: It makes very efficient use of a speaker's preparation time. Not only does the audience benefit from a more concise talk, but the speaker does not have to spend hours in fruitless rehearsal.

We have both long wished to visit China. Perhaps, this translation will promote further collaboration between our countries on the issue of communication. We may be of different languages and cultures, but we are all one people. Barrett and I are honored to make a small contribution to the globalization of science with this special edition.

Present your work well!

Scott Morgan
Barrett Whitener

致中国读者

自 1996 年以来,我们在马里兰州的贝塞斯达国家卫生研究院以及美国的多所大学里听取了成百上千场科学报告。幸运的是,我们的许多学生来自中国。他们的才智和意志给我们留下了深刻的印象。这些学生不远万里来到异国他乡,以求学到更多的科学知识,以提升自我、交流新思想的精神深深打动了我们。现在,当我们再一次在课上遇见他们时,我们就会很兴奋地送上一本在中国出版的《Speaking about Science》了。

某些交流问题为某一文化所独有,也有一些是美国所独有。不过,我们发现,交流顺畅的大部分要素其实具有普遍性。例如,不管一个人的背景如何,我们都能够更加简练地进行交流,而且本书一直在强调简洁是极其重要的。本书最重要的信息也许是:世界上每一位听众都会尊重演讲者讲授(teach)复杂材料的能力,而不只是说教(lecture)。实质上,本书的目的正是讲授如何讲授(teach)。时间和进度表也是重要因素,因为科学家都在忙于处理很多课题。因此,要组织一个好的演讲,必须要有确定演讲的核心要素的能力,其另一方面的原因是:这可以使演讲者节省大量的准备时间。不仅听众能够从一个简练的演讲中获益,演讲者也可节省准备演讲的大量时间。

我们很早就希望有机会访问中国。本书注译版的出版也许会促进我们两国的交流。我们可能有不同的语言,不同的文化,但是我们都是一样的。我们非常荣幸能够通过本书在中国的出版为科学的全球化尽微薄之力。

祝工作顺利!

Scott Morgan

Barrett Whitener

Introduction

Thus, it is the communications process which is at the core of the vitality and integrity of science.

—Philip Hauge Abelson

In an age when so much communication is tethered to technology, delivering messages face-to-face has paradoxically become even more vital to professional success. We all have ready access to more information than any of our ancestors did. At the click of a few keys, we can locate reams of facts on any topic under the sun. But although the amount of data available to us has grown, the number of hours in a day has not. Amidst this flood of information, technology can make getting to the *pertinent* bits of data much more challenging. And that is where a good public speaker becomes a priceless commodity. Listening to a clear and concise speaker is still the most time-efficient way to comprehend new information.

Yet even with its known benefits, most of us view addressing a group of people as a dreaded burden. That may be even more the case for scientists. In addition to the concerns that all speakers have, they must present specialized and complex data.

Some of the dread is also due to the fact that the craft of public speaking is not taught properly. For most of us, it was never taught at all. We all have had to learn by painful trial and error. The purpose of this book is to offer a methodical and efficient procedure that can be used to prepare and deliver any talk, to any audience.

Our method builds cumulatively, so we suggest reading the book in sequence the first time, without jumping between topics. We have tried to enhance readability, yet avoid gender bias, by using masculine pronouns for the odd-numbered chapters and feminine pronouns for the even-numbered chapters. Because our primary focus is on scientific talks, most of our examples come from basic research. But the concepts are easily adapted for clinicians, administrators or review talks.

Lastly, these ideas have hardly developed in isolation. We would like to thank the hundreds of clients who have helped us discover the techniques that make a presentation successful. In fact, we think of them as our teachers, and it is an ongoing honor to learn from them.

Scott Morgan
Barrett Whitener

前言

正是各种交流过程,形成了科学的力量和保持科学的完整的核心。

—Philip Hauge Abelson

这是一个技术和交流密不可分的时代,然而,对于专业人员,要想取得事业成功,面对面的交流变得更加重要。我们必须准备好比我们的前人接受更多的信息。

键盘嘀嗒中,任何专题,各种信息都可从世界各地纷至沓来。尽管我们获得的数据量急剧增长,但我们一天中的时间并未随之增长。在信息的海洋中,我们面临着如何获取恰当的技术信息的挑战。这一切,使得一个优秀的公众演讲者成为无价之宝。听一场条理清晰、信息量集中的报告仍然是接受新信息的最有效的方法。

尽管我们深知精彩的演讲的种种好处,但大多数人仍然惧怕面对公众讲话。对于科学家(科研工作者)尤其如此。与其他演讲者不同,他们还要面对复杂的专业信息。

惧怕公众演讲的另一些原因来自他们没有经过正确的训练。我们中的大部分人甚至从未受过这方面的训练。我们必须在一次次痛苦的失败中获得经验。本书的目的正是给大家提供一种有效的方法,使你可轻松面对任何听众,成功进行任何演讲。

这种方法必须循序渐进地进行,我们建议读者第一次最好将此书从头至尾地读一遍,不要跳过任何章节。为增强可读性,同时避免性别歧视,我们在奇数章中采用男性代词,而在偶数章中采用女性代词。因为本书主要关注的是有关科学的话题,大多数示例来自基础研究。因此,本书适合于从一线人员到管理者,甚至评论性谈论。

最后,本书观点不可能与世隔绝地独立发展而来。在此,我们要特别感谢我们的听众,是他们帮助我们发现了演讲成功的秘诀。实际上,我们一直将他们视作我们的老师,他们将成为我们永远尊敬的老师。

Scott Morgan
Barrett Whitener

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1 THE BASIC PROBLEM WITH ORAL PRESENTATIONS, AND ITS SOLUTION

科学报告的基本
问题及其对
策

Both science and art have to do with ordered complexity.

— Lancelot Law Whyte, in the *Griffin* (1957)

本章概括了做好科学报告的基本方法。一个好的科学报告应该清晰简洁,做到这一点需要更多的是技巧而不是天赋。科学报告与写作不同,前者的整个过程是由演讲者控制的,他必须有效地安排演讲内容的顺序和时间。为此,作者提出了一个独特的演讲模式——沙漏模式。按照这种模式,演讲者可以方便地安排演讲内容的顺序和时间,从而引导听众把握自己的研究思路和结论。

We often ask our students, “What’s wrong with scientific talks?” They invariably respond with variations of: They are boring; they are too complicated; they are hard to follow; the speakers have too much information for the time allowed; they do not recognize the different knowledge levels of the audience; they do not look at the audience; they talk too fast or too softly; they sound bored with

“科学报告有什么问题?”

their work.

Conversely, we are told that good presentations are clear, concise, and focus on a few key points and that good speakers are enthusiastic and help the audience to become engaged. We have seen many accomplished presenters ourselves, and it is truly inspiring to see science communicated well.

Still, as anyone who has taken the podium has discovered, simply telling oneself, "Be clear" or "Be enthusiastic" rarely assures success. It is easy to despair over not being a "born presenter". Many struggle because they think they are too introverted, are not funny or because English is an alternative language for them. The truth is that there are very few natural presenters, and even they can benefit from technique. One's gregariousness could not matter less in this context; humor is irrelevant to scientific speaking; and nonnative English speakers actually have a few advantages over native English speakers. This is all to say that giving an effective presentation is more a matter of method than of talent.

写作与演讲

Writing vs. Speaking

演讲与写作在组织材料和表达方式上都是迥然不同的。演讲是和听众同步学习的过程,而写作是读者独自体会、咀嚼的过程。前者要求演讲者良好地把握演讲技巧和进程。