# **I** Introduction

Imagine speaking to an audience of two hundred smart and highly critical individuals. If you fear them, the fear will prevent you from giving an effective lecture. If you analyze them in too much detail, then you risk confusing yourself. If you ignore them, then you will be no different than a mechanical video rerun. What you must do is to grab all two hundred audience members and bring them into your world and share with them your thoughts. You must exude confidence and remain in control of the lecture at all times. You must overcome your fear by focusing more on the audience than on yourself. Teaching, lecturing, public speaking, motivational talking, and presenting, which are all different names for exactly the same action, are an art form whose mastery can be surprisingly easy. In this book, numerous strategies, tips, and tricks will be presented that will help you with any lecturing task, including academic lectures and business presentations.

# 1.1 CONCLUSION

If you are interested in the fundamental ideas of this book, but do not want to spend the time and effort to read the entire book, then this section is for you. However, it is still recommended that you read this book, since much of the important details are lost in this short summarization.

Perhaps the most important lecturing advice embedded in this book is to be aware of the audience. The audiences of today are significantly affected by the presence of television and the internet in their daily lives. The shows and websites that they see, where information is packaged and spoon-fed in a careful and focused manner, result in a unique set of expectations of the lecture and the lecturer. These expectations include the requirement for an extremely organized and thought

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Figure 1.1. A side view of a lecture room filled with an audience of 200.

provoking lecture (to the tune of a TV show rather than your average twentieth century lecture). So, as a lecturer, you need to think carefully about the lecture before preparing and rehearsing for it.

The mindset of the lecturer is imperative for the successful preparation and delivery of the lecture. For example, the ability of lecturers to combat their fears or to channel their emotions into positive and productive endeavors can have a huge impact on the lecture. Furthermore, lecturers who are not afraid of failing tend to deliver more exciting, passionate, and unique lectures compared with the safe and boring lectures delivered by those who constantly fear trying something new that does not work. These lecturing mindset issues should always be kept in mind long before the preparation for a lecture even begins in order to maximize the effectiveness of the lecture.

The effectiveness of a lecture is determined by three parameters: the audience quality, the lecture quality, and the lecturer quality. All of these parameters can be tuned and controlled by experienced

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lecturers. For example, it is important to know that the information processing ability of most audiences is akin to a narrow information channel. If you send too much or too little information, the end result will be less understanding than if you send information at the optimal rate.

It greatly helps your lecture if you offer something unique during the lecture presentation, if you connect with the audience, if you simplify and focus on the fundamental points instead of tossing out detail after detail, and finally, if you care about and are fair to the audience.

During a lecture, you need to be aware of several indicators that should ideally guide your pace and your actions. These include the noise level in the lecture room, which must be kept to a minimum, the type of questions asked during the lecture, as well as the look on the faces of the audience members. Always keep in mind that the attention span of audiences is usually far smaller than you, as the lecturer, might expect. In fact their attention span generally decays as the lecture goes on, necessitating some form of break or shock every 20–30 minutes.

Every lecturer will inevitably make mistakes. When this occurs, you must confront your mistakes directly instead of trying to hide them. Direct confrontation of errors will show a sincerity that will always be greatly appreciated by the audience. Remember that the success of the lecture is on your shoulders, hence you must be on the offensive during a lecture instead of being on the defensive (e.g. if someone keeps talking during the lecture, it is your responsibility to confront them). Breaks (every 20–30 minutes), jokes, and other fun distractions are tools that can be very effective in increasing/resetting the attention span of the audience.

The common theme in this book is to be aware of what the audience can handle and to adjust the lecture accordingly. This does not mean that lectures should be overtly simple; it just means that lectures should be focused. Packing too much into the lecture will almost always have negative consequences and result in a

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Figure 1.2. A student's view of a lecture.

misconnection with the audience. In the same way, when preparing overhead slides or computer presentations, it is essential to focus on the main issues instead of producing extremely detailed and unintelligible slides.

Finally, some of the points mentioned in this book may work for you, and some may not. Always keep in mind that the rules and tactics that apply to each lecturer may differ slightly. However, the general principles in this book should allow anyone, even amateur lecturers, to give effective and understandable lectures.

# 1.2 A LECTURE ...

Officially, a lecture is defined as "an exposition of a given subject delivered before an audience or a class, as for the purpose of instruction."<sup>1</sup> In this book, the word lecture is used interchangeably for a

 <sup>&</sup>lt;sup>1</sup> The American Heritage® Dictionary of the English Language, Fourth Edition Copyright
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variety of actions and sequences of events. The commonality, and the definition of the word "lecture" utilized here, is that a lecture consists of taking somewhat complex topics and ideas and delivering them in an understandable fashion to an audience. Obvious examples include the delivery of a university lecture to a large classroom of students, presenting in a corporate setting, giving a scientific presentation at a conference, or even pitching an idea for a company to venture capitalists. In all these cases there is a need to understand how to speak, what to say, and what to do during and after the lecture. This book is about these actions which are the essence of that thing that we will from now on call a *lecture*.

# 1.3 THE INGREDIENTS OF A LECTURE

A lecture is composed of three primary ingredients which can make or break the lecture. The first and most important element of a lecture is the audience. The audience is the reason for the lecture, the means by which the lecture can succeed or fail, and a source of energy and inspiration for the lecturer.

The next important element of a lecture is the lecturer. The lecturer is the master of the show. She or he alone defines and sets the pace, the tone, and the style of the lecture. The lecturer is essentially responsible for taking in the emotions, feelings, and energy of the audience and focusing them towards the presentation and the description of a single point.

The third and final important ingredient of a lecture is the lecturing medium. The lecturing medium is the way and form in which ideas are transferred from the lecturer to the audience. This can be thought of as a communication channel or link between the lecturer and the audience. The default and baseline modality of this channel is obviously speech. However, it also can consist of the usual PowerPoint presentations, chalkboards, slide shows, etc.

Careful and precise control of all these ingredients is often required in order to ensure a successful lecture. The audience, for example, can easily get tired, bored, or confused. This must be avoided

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at all costs. The lecturing medium can either be too confusing or too much (such as a crowded PowerPoint presentation); this must also be avoided. Finally, the lecturer can lose control of the audience, lecture at a pace that is inappropriate for the given medium (for example, pacing through overhead slides too quickly), or fail to maintain the interest of the audience. These points define the difference between a great and memorable lecture and a bad, boring, and confusing lecture.

## 1.4 BOOK MOTIVATION

A crowd of two hundred impatient students start gathering and sitting in the lecture room, anxiously awaiting your arrival. As soon as you enter the room, most eyes begin staring at you, some with fear, some with envy, but most with excitement regarding what you may do today during this specific lecture. Before the performance and show begins, you glance one last time at your notes, trying to find that one



Figure 1.3. The contest between a single lecturer and a lecture room packed full with 200 students.

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lecture-killing error. Feeling confident for not finding such a mistake you erase the boards, settle down your chalks, and open your can of iced tea and have a quick drink. You then take one last look at your notes, not because you are actually paying attention to the notes but because you are nervous of what is about to come.

Seeing that you are almost ready to go, the conversations among the two hundred audience members start to die out. A quiet hum is all that can now be heard. While the noise has reached a minimum, the excitement of each of the audience members is at its maximum. At this moment, time begins to slow down, and as you pick up your first piece of chalk you start the lecture, the theatrical performance, the intellectual show.

But will you bore the two hundred students to sleep, confuse them to the brink of insanity, or energize them in a shape, way, and form that they have never experienced before? When the hour (or so) is over, and the students walk out, what will they say about you? More importantly, what will they remember about their past hour? Will they go home dreaming about the wonders of science, the possibilities of technology, the beauty of history, or the fact that they have to sit through months of boring, useless, and uneventful lectures? The answers to these questions are for the most part determined by you, the lecturer. You alone will shape the perception, the experience, and the resulting memories of the audience members who attend your lectures.

This book is not really a guide nor does it consist of foolproof methods for making your lectures exciting. It is but one person's tale of what he has learned after almost a decade of teaching, after one thousand of those moments that are described in this section, and after numerous negative and positive feedbacks from his audience members.

#### 1.5 FROM A SHY OBSERVER TO AN UNORTHODOX

LECTURER – THE STORY OF THE AUTHOR Perhaps the best way to describe myself is by saying that I am an average man trying to have an above-average effect on the world around me. My

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Figure 1.4. Parham, making his first attempt at lecturing, beside his mom at age 3.

story starts almost three decades ago in Iran. I was born on August 25, 1976, to an upper-middle class family in Tehran. My parents, both civil engineers, were on their way to building a financially secure and stable life when I was born. However, my birth coincided with the turmoil of the Islamic revolution, which toppled the government of the Shah of Iran.

Soon thereafter the Iran-Iraq war ignited, lasting for almost an entire decade and killing more than a million innocent people on each side. In the middle of this war, my family, who were unhappy about their lives in Iran and more importantly about the prospects of a future for me and my younger sister, decided to emigrate from Iran.

The process of emigration was long, tedious, and grueling. We first traveled to Japan with hopes of obtaining a visa to the United States. After being refused, we then moved to Switzerland the next summer, again with hopes of getting a visa for the United States. After living there for about five months, we were denied a US visa once

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again. On subsequent attempts, with trips to Switzerland and Turkey, we eventually obtained a jigsaw puzzle of US visas (i.e. visas for me and my sister, but not my parents, then visas for my mother and myself, and not my sister and my father, and so on). Eventually, after securing enough jigsaw puzzle US visas, we were finally able to move as a family to Atlanta, where my uncle was living.

My time in Atlanta was exhilarating and enjoyable. While I had taken English classes in Iran (from a former advisor to the Shah's family, Mr. Barzin, who advised and taught me more about life than English), I still felt shy when it came to speaking to my classmates in Atlanta. This was especially true when it came to girls in the co-ed school, whose presence in the school after coming from an all-boys school in Iran was quite an eye-opening, exciting, and nerve-racking experience. The unease with English faded rather quickly, but my shyness remained.

After the death of my grandfather and the expiration of our US visa, we returned to Iran and several months after, secured immigration to Canada. At the age of 12, I immigrated with my family to Toronto. Throughout high school, and through my subsequent undergraduate studies at the University of Toronto, I was a shy observer in most conversations and a horrible public speaker. Perhaps the largest and most frustrating problem was that I knew what I wanted to say, but when I tried to speak my shyness and nervousness would interfere with my conversations, resulting in either quiet, extremely fast, or unintelligible speech. This did improve slightly as I got older and as I obtained more public speaking experience. Nevertheless, the nervousness and discomfort with giving lectures for large audiences remained. After obtaining my Master's degree at the age of 22 from the University of Toronto, I went to Stanford to obtain my Ph.D. in Electrical Engineering.

Stanford was and still is a very unique and fantastic place. From the resort-like campus, to the friendly but tough atmosphere (which is perhaps true of a lot of places in the United States), and to the courses that are televised live on television and over the internet, my two doctoral years there were certainly ones that I will never forget. When

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Figure 1.5. Parham walking down University Avenue in Palo Alto, just a few steps away from the Stanford Campus.

I went to Stanford at the age of 22, I was a shy geeky student with little or no idea about a great number of things. When I completed my doctoral studies, I was a more confident and feisty 24-year-old with a fire inside me that has since been my inspiration and motivation. The stories and events of those two years are beyond the scope of this book.

However, it is safe to say that enough interesting and unique events happened in those two years to merit an entire book! In less than two years, I became a volunteer teaching assistant, a course instructor, a soccer referee, a presidential campaign volunteer for Senator John McCain, the founder of a start-up company at the intersection between beauty and technology, a private investigator (of sorts, not an official one!), as well as a regular research assistant and doctoral student. Throughout it all, the support of my advisor, Professor Vaughan Pratt, the meetings and support of my associate advisor, Professor Bernard Widrow, and the support of two good friends, Dr. Keyvan Mohajer and Dr. Majid Emami, were essential to get me through the rough patches.