

# How To Speak, 2019

**Speaker:** Patrick Henry Winston

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[**Note:** This year, Patrick has noted the difference between *technical* talks and *instructional* talks, which is something new. Consequently, some of the following points only apply to one and not to the other; the rest may still apply to both.]

[**Also note:** I use “Patrick” and “PHW” interchangeably to denote “Patrick Henry Winston.”]

## Abstract

Upon the completion of “Start Me Up” by the Rolling Stones, Patrick Henry Winston started his talk—an excellent way to start a talk on how to give a talk, if you ask me. Indeed, you might be wondering, why should any of us care about how to speak at all? To answer that, I’ll just quote what Patrick said during the talk, and this is as close to an exact quote as I can get:

There’s a uniform code in the military that stipulates that officers who send their soldiers into battlefields without weapons should be court-martialed. Going into society without decent knowledge about how to speak is like going into battlefields without weapons, because your success will depend on your speaking skill, your writing skill, and your ideas, in that order. So we as teachers need to provide our students with knowledge about how to speak.

## 1 The Formula

$$s = f(K, P, T)$$

where  $s$  stands for your speaking **skill**,  $K$  stands for your **knowledge** about how to speak,  $P$  stands for how much your **practice**, and  $T$  stands for how much public-speaking **talent** you’re born with. In PHW’s graphic representation on the board (the point about being “graphic” with the use of a “board” will be discussed in full detail in section 4.3 below),  $K$  is extremely large,  $P$  is moderately large, and  $T$  is super-duper small—conveying that your *knowledge* about how to speak is the absolute-most important element, that the amount of the time you spend on *practicing* those knowledge is also very important, and that the amount of *talent* with which you’re born (if there’s even such a biological or genetic thing) barely means anything.

## 2 Four Samples

1. **Cycle:** Talk about your idea; describe the details of your idea; and then, come back to your idea for a third time just so that, even if people got lost in your details the second time, they still end up feeling like they have understood the big picture at least.
2. **Fence Your Idea:** In some very abstract sense, all ideas are made of the same “substrates.” So then, how do you convince your audience that the ideas you talk about are “yours”? Well, you can describe a concrete scenario (e.g. the “arch”) and walk through the steps of your idea in that concrete scenario. This way, it’s like you’ve built a “fence” around your idea.
3. **Verbal Punctuation:** Break your talk into “parts” by using verbal punctuation, thus giving your audience a sense of *structure* in your talk.
4. **Questions:** “Can anybody think of a fourth heuristic to be used when trying to bring the audience’s attention back to the speaker?” . . . Aha, this is actually funny!

## 3 How to Start

1. Never start with a joke, because people are still trying to adjust to your “speech parameters” and putting their laptops away, and all that.
2. You can start with a promise, whereby you promise that you are gonna deliver something beneficial or useful or at least interesting to the audience by the time you’re done talking. And of course, you should promise in such a way that your audiences feel like this is gonna be the most important and interesting talk they’ll ever attend, and that they’ll learn a lot from your talk.

## 4 Tools

### 4.1 Time & Place

1. The best time to give a talk is 11:00AM (which used to be 10:30AM!), because the ordinary “earthly people” by that time will have awoken and will not have likely gone back to sleep.
2. The best place to give a talk is a well-lit, auditorium-like, easy-to-access, and (very importantly) not-awkward-to-leave room, e.g. Room 10-250 (“Center of the Universe”). Well-lit, so that people won’t fall asleep; auditorium-like, so that more people can sit close to the front, to the speaker, and to the real action; easy-to-access, so that people are actually more willing to attend your talk upon hearing that you are giving that talk; not-awkward-to-leave, so that those who have to or want to leave early don’t feel like being watched and embarrassed by others, and those who stay don’t feel like being disrupted.
3. The best place to give a talk should also be relatively full, in addition to all that has been mentioned above. If there are 100 people showing up to your talk, which sounds like a pretty good number, but if the talk takes place in a room of capacity of 500 people, then the room will still seem largely empty, which in turn will make everyone in the audience think about “Where are all the other people, and what are they doing? Are they having more fun right now?”

## 4.2 Props

Properly designed and designated props not only help the audience predict what you are going to do next, but also make them want to actively engage in that prediction, thereby making your talk itself more engaging and interesting—and making the audiences feel like they’re smart!

## 4.3 The Board

1. **Graphic:** Using a blackboard or whiteboard, you can be graphic in conveying your idea, e.g. the “cycle” idea above, where you can actually draw cycles on the board. (Of course, this is a pretty naïve example, but the point remains!)

You can actually be graphical without using the board, but using some other means of demonstration. For example, one of Patrick’s favorite demonstration is putting a piece of duct tape around a piece of a bicycle wheel (thus creating a *representation*), reasoning about how that one piece is gonna move if it gets a heavy blow from the side, and figuring out how every successive piece is gonna move and thus figuring out how the entire bicycle wheel is gonna move.

Duct tape, Patrick says, is a universal fix.

2. **Speed:** Using a blackboard or whiteboard, you can pace yourself as you move along in your materials, either describing the details of your work in the case of a *technical* talk, or teaching the details of the concepts to be learned by your students in the case of an *instructional* talk.
3. **Target:** Using a blackboard or whiteboard, you can make your hands much less awkward by pointing them to places on the board, rather than jamming them in your pockets (which offends people from certain parts of the world) or crossing them behind your back (which offends people from certain other parts of the world, e.g. Serbia).
4. **Mirror Neurons:** We who are interested in how people think believe that the so-called *Mirror Neurons* in the audiences’ brains help the audience mentally mirror what the speaker is writing or drawing on the board—and as the audience do so, the activities of these mirror neurons propagate into those parts of their brains that would normally be propagated into whenever they themselves were actually doing the writing or drawing with their own hands. So the use of the board, in this case, is a highly efficient and highly parallel way of triggering the same thought processes in the audiences as in the speaker.

## 4.4 Slides

This is the part on which Patrick spent the most time during the entire talk. The fundamental idea is that we use the board for instructing the audience on something, and we use the slides for persuading the audience that we have done something right, or that they should also believe in something that we believe in, etc.

1. Never include too many slides — people will stop following them.
2. Never make your font-size smaller than 35 points, in a room like 10-250. (This, of course, depends on the specific room setting that you’re in. If the room is narrow and long, then you should make your font-size large; if the room is wide and not so long, then perhaps you don’t need to make your font-size so large.)
3. A *hapax legomenon* can be used, but only to illustrate that it’s something *not* to be scrutinized. For example, to describe how complicated the Afghanistanian government works, you can include one—and only one—slide of a graphical representation of the

networking that goes on inside the government. The purpose of the inclusion of that slide is so your audience won't dig into the details of that slide, appreciating how impossibly complicated the government must be.

4. Never use a laser pointer—people will stop paying attention to you and focus only on where your little laser dot is going on the screen. If you use your laser pointer from quite a distance and everyone's hands shake, this can cause dizziness in your audience as they try to follow your little laser dot. But, worst of all, if you're using a laser pointer, that means you yourself have to be looking at the screen just so you get to look at where you're pointing, and that simultaneously means your audience will be staring at your back, not your face. "We can all leave and he wouldn't even notice!"

To prevent from accidentally activating the laser pointer on your clicker, cover it up with a piece of duct tape—the universal fix!

5. Never use an actual wooden or plastic pointer, either. Well, nobody really does that anymore, but Patrick still brought two wooden pointers to his talk and snapped one of them in front of us, reminding those of us who are familiar with his 1986 talk of this signature move. In this sense, the pointer actually served as an excellent prop.
6. An interesting experiment (I don't remember the experiment conductors' names, nor the many details of actual experiment): Two groups of subjects, one of them were given concise slides and they got to listen to the speaker doing a lot of talking, the other of them were given wordy slides and the speaker only talked to fill in some of the details here and there. The question was: Did the test subjects remember more from the slides, or more from what the speaker talked about? The answer... More from the slides! In fact, one test subject even complained something like "Oh, the slides were pretty good, but I was distracted by the talking." Yikes...

This may or may not surprise you, but the point is that, if you're gonna give out all the stuff you wanna talk about on your slides, you might as well just not show up to give that talk, and just distribute your slides somehow to your "audience."

## 5 Special Case: Job Talk

For an "ordinary" job talk, which is usually, say, 45 minutes long:

1. You should always, within the first 5 minutes of your job talk, finish introducing your **vision**. Your vision should comprise a **problem** that you're going after, as well as an **approach** that generally describes *how* you're going after that problem. For example, I can say something like: I want to understand how people think (a **problem** that I'd like to solve); to understand this, we must have an understanding of our own story-telling, story-understanding, and story-composing capabilities (a general **approach** to solving that problem).
2. After all that, you should then use the next 35 minutes or so to tell your audience that you've done something toward your vision. Your "**done something**" should comprise the specific **steps** that you've taken (e.g. the programs you've built, the theorems you've proved, the papers you've published, etc.) and some **news** (e.g. what other people have most recently done toward the same or some analogous vision).
3. Last, but *absolutely not least*, you need to spend those remaining 5 minutes or so to talk about your **contributions**—as opposed to some meaningless, space-wasting and time-wasting "conclusions." For specifics, see all the "Contributions" sections in PHW's papers.

## 6 How To Stop

1. ***“Ite Missa Est”***: This is a Catholic phrase—something the Pope tells the mass—which basically means “Ok, we’re done, you can all go home now.”
2. ***Joke***: Although jokes are discouraged for starting a talk, they are an excellent way of ending a talk. As Douglas Lenat said, “If I end my talk with a funny joke, the audience will think they’ve had fun all along.”
3. ***“Thank You”***: Don’t thank the audience! Well, why not—everybody does it, right? Well, think about it: You’re already nervous throughout giving your talk, and many among the audience who are still there after your talk are the ones who’ve gotta be there no matter what (e.g. a job talk). And then, here comes your big “Thank You” — especially if you put it on a slide. That’s basically saying, “Well, thank goodness I’m finally done, thank you all for putting up with me, and you can all finally stop having to put up with me. . .” No, no, no.
4. ***Salute***: Do so appropriately. For example, in a political debate, Governor Chris Christie—before he was disgraced—said, “God bless you. God bless the United States of America.” Bill Clinton, one time, contracted his lips as if he was about to say “Thank you” but didn’t, and he ended up giving a hand salute to the audience—a bit awkward. Some people also shake hands with people from the front row, if they feel like they can.

In Patrick’s case, he said, “It’d be pretty weird if I said ‘God bless you all. God bless Massachusetts Institute of Technology. . .’, so I’m just gonna say: this is end of the story, I’ve delivered my promise that you’d learn about valuable speaking skills that’ll help you succeed in landing a job, and we’re done, you can all go home now.”

Immediately then, Patrick reached his hand out to an audience who sat right in front of where Patrick stood, who simultaneously reached his own hand over to give Patrick a firm handshake. Everyone in the audience gave a huge round of applause, signaling a true end of story and a unanimous acknowledgment of Patrick’s salute.

~~(To be continued next year, 2020.)~~

Patrick Henry Winston passed away on 19 July 2019. This “How to Speak” turned out to be his farewell to all of us who have learned so much about how to speak from him.