



Why Science Needs Story



HOUSTON,

**WE HAVE
A NARRATIVE**



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I sort of always call it the rule of replacing *and*'s with either *but*'s or *therefore*. And so it's always like, this happens, and then this happens, and then this happens—whenever I can go back in the writing and change that to this happens, THEREFORE this happens, BUT this happens—whenever you can exchange your *and*'s with *but*'s or *therefore*'s, it makes for better writing.

His words hit me like a bolt of lightning. So clear. So clean. I had never heard such a simple rule for storytelling. I wrote it down immediately. I've now spent three years researching it, going all the way back to Aristotle (Trey Parker didn't invent the idea). I've given a TEDMED talk on it, published a letter in *Science* about it, and used it nonstop in my workshops.

I've developed it into a simple one-sentence, fill-in-the-blanks template called the ABT (meaning "And, But, Therefore"). The template is this:

_____ and _____, but _____, therefore _____.

Every story can be reduced to this single structure. I can tell you the story of a little girl living on a farm in Kansas AND her life is boring, BUT one day a tornado sweeps her away to the land of Oz, THEREFORE she must undertake a journey to find her way home. That is the ABT at work.

In a more practical way, a scientist could say, for example, "I can tell you that in my laboratory we study physiology AND biochemistry, BUT in recent years we've realized the important questions are at the molecular level, THEREFORE we are now investigating the following molecular questions . . ." That would be the narrative of that particular research program. You can do the same for whatever you are working on.

The ABT is also a tool for creating an "elevator pitch" (a concise explanation of a project) in a way that draws on the power of narrative structure. We will get into this in great detail in part 3.

that's juuuust right. We'll do this by varying the two parameters of being concise and compelling.

This exercise helps you understand what you are trying to say with the story you're wanting to tell. This is a problem that comes up all the time in my workshops—people with a big story to tell that is all jumbled up. I ask them, "What is the story you want to tell? What do you want us to know, exactly?"

1. THE INFORMATIONAL ABT (iABT)

It may seem a little overstated, but I'm going to label these three versions of the ABT with lower case letters. It feels like I'm trying to emulate messenger RNA (mRNA), transfer RNA (tRNA), mitochondrial DNA (mtDNA) and other incredibly important components of the beginnings of life itself. Actually, why not? As I've said, the ABT is the DNA of story.

Our starting point is the Informational ABT (iABT). This is a first version where you don't worry at all about being concise. Our only interest is to include all the compelling information.

What this produces is a massively long, clunky "sentence" that you hopefully would never try to speak in public. It's just the whole enchilada as a starting point, meant to include all the potentially compelling and interesting information, yet still narratively structured using the ABT words.

As an example here's an iABT from Katelynn Faulk, a graduate student from the University of North Texas who took part in my workshop at the American Physiological Society meeting in 2014:

iABT: In my lab we model moderate sleep apnea in rats with a chronic intermittent hypoxia protocol in order to investigate the physiological mechanisms of sustained diurnal blood pressure, BUT we have realized the importance of molecular pathways within the central nervous system contributing towards blood pres-

sure control, THEREFORE we have begun exploring novel molecular pathways that develop as a result of our sleep apnea model.

Okay, whew, that's a mouthful. Katelynn wouldn't want to be caught dead saying all that at a cocktail party if someone asked her what she does. But don't worry. It's just a starting point.

2. THE CONVERSATIONAL ABT (cABT)

Now we go to the other end of the range, creating an ABT that takes concision to its extreme. The Conversational ABT (cABT) is a much more interesting configuration of the ABT for a couple of reasons. First, it reveals the core argument being made, and second, it provides the chance for "narrative relatability," which I will explain shortly.

The first challenge in creating the cABT is to strip the sentence of all of the compelling information and context. Put the ABT into the most generic form possible. I know this is going to read as funny, but trust me, this is what you want to uncover beneath all the words in the iABT.

Here's what I helped Katelynn arrive at (I say this so you can blame me if you think it sounds pretty dumb):

cABT: We were looking at one way but realized there's another way therefore we're looking at that way.

Yep. Sounds pretty dumb. But it's what we want—and it's actually not dumb, just totally generic and free of context.

The first thing you gain from this exercise is the realization of what it is, at the very core, you are saying. This is your story in its simplest form. This is what you can say when someone asks you, "What exactly are you trying to say?" You must be sure to always have an answer to that question—which, too often, participants in

my workshop do not. Here Katelynn can answer, “Basically we were doing things one way but found out there’s a better way to do it, which is what we’re working on now.” That is the core of the “story” she wants to tell.

Now let’s pause our Goldilocks ABT discussion to talk about why this is a powerful element.

CHARACTER RELATABILITY VERSUS NARRATIVE RELATABILITY

In our Connection Storymaker workshops, the idea that our improv instructor, Brian Palermo, advocates most is the need for “relatability.” At the start of our book *Connection*, each of us offered up a one-sentence summary of our main message. Brian’s sentence is “Make your story relatable.”

This is yet another aspect of taking the communications burden on yourself, which takes time and energy but is important. Brian is saying that if all you do is tell people a bunch of facts about your life, they may or may not find it interesting. But ultimately, they’re probably going to wonder, “So what does this have to do with me?” because they simply can’t relate to what you’re saying.

Brian recommends finding some way to shape what you have to say into a form that your audience can relate to. If you’re speaking to a group of golfers about the physics of space flight, see if you can present some of the challenges in terms of the physics of golf. Anything you can insert that they will recognize from their world will make it easier for them to relate to what you have to say.

We can call that “character relatability”—using character material that bears direct similarity to their world. This is powerful and important. But by following the ABT process, it’s also possible to connect through what we can call “narrative relatability.” This is a new distinction I’ve begun to make in our workshop with the ABT. I don’t see anyone talking about narrative this way in the books on

story structure published so far, but I think it has the potential to be powerful.

Say you are speaking to a group of people who have absolutely no background or interest in your field. You might still connect with some of them for at least a moment if you have a narrative structure they can recognize and relate to.

Suppose you begin by saying, “Let me tell you what I’ve been up to in my lab lately. We’ve been doing things one way but recently realized there’s another way to do them, so now we’re looking into that.”

It’s entirely possible that one person in the group is a realtor and is suddenly thinking to herself, “Wow, that’s just like me—I’ve been using one listing service for years but recently found out about a new one and now am trying the new one.”

For that one instant that person will be thinking she’s got something in common with you. You will have opened a channel of communication by offering up something relatable.

Now if you go on to say, “It all began when my new assistant offered up a suggestion,” it’s entirely possible that the realtor will think, “Wow—that’s also how it began for me. I hired a new assistant and he told me about this other listing service.” Once that happens, she is going to track you down later, tell you about how much you have in common, and you’ll be buddies for life.

But in contrast, if you started your talk by saying, “Let me tell you about the chronic intermittent hypoxia protocol I’ve been using in my laboratory . . .,” the realtor as well as all the other nonscientists will instantly disconnect. Your communication possibilities will be over.

Keep in mind that the relatability has to come first. A woman told me about a dinner she attended in Australia where she sat across from the CEO of a big mining company. She immediately began lecturing him about global warming and he shut down. She asked how she might have taken better advantage of the opportunity.

I told her she could have begun with some character relatability. If she had been able to Google the guy and find out he was, say, an avid tennis player, she could have begun by talking about her favorite tennis players. Basically she just needed something, anything, to provide common ground and open up the channels of communication.

But you have to lead with the relatable material. It's not going to work to get into a spat about environmental practices with the guy, then try to change the subject by saying, "So, did you happen to catch the Australian Open?" Nope. That won't work at all.

3. THE KEEPER ABT (kABT)

The Keeper ABT (kABT) is your finished product. The length will be somewhere in between the other two ABT versions. You get to it by adding back some of the information you stripped out, bit by bit, while maintaining a balance between retaining concision and making it compelling. The cABT was too vacuous to be of use in presenting your story publicly, but you don't want to slip back to something as clumsy and huge as the iABT.

This was my suggestion for Katelynn's kABT:

kABT: In my lab we're studying sleep apnea using rats as our model system, AND we've been focused on physiological mechanisms, BUT lately we've realized the real controls may lie at the molecular level in the central nervous system, so AS A RESULT we've begun exploring novel molecular pathways.

This version is short enough to roll off her tongue yet includes compelling pieces of information that tell her basic story. This is roughly what she'll want to say when that VIP in the elevator asks, "So what sort of research do you do?" Her reply: "Well, thanks for asking. I study sleep apnea. Yeah, I know, kind of wild. In my lab

we actually use rats as a model system and for a while we've been focused on physiological mechanisms as the controls, but *recently* we've realized the real answers are probably at the molecular level in the central nervous system, so now we're changing directions and looking at molecular pathways. And that's my story—a shift from physiological to molecular levels."

It's simple, clear. It moves right along toward an overall point. It's the sort of statement that won't bore or confuse. In fact, for many it will arouse their interest. Such is the power of narrative.

One point more. Sometimes people ask, "How do I know how many words an ABT should be?" My answer is simple—intuition. There is no set length. It will be different for every story. You will probably even want to come up with more than one ABT for whatever project you're presenting, as well as different ABTs for different audiences. You'll want one that is light on the jargon for the broadest audience, but then one for your colleagues that has a little more technical language.

But when it comes to the length, that's where you need to have the narrative intuition that is the goal of all of this. That is your only hope for the long term—to be able to just feel how many words you need rather than working toward a set number, because there is no set number.