

Precision of Speech

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“If you don’t tidy your room, then you won’t get any ice cream.” [1]

This is a quote from one of my undergraduate mathematical textbooks rightfully titled *How To Think Like A Mathematician*. Not only that, but to me it is one of the most important quotes in the entire books. Not because of what it says, but rather what it represents. On the surface, many people will interpret this as getting ice cream if you tidy your room. However, this statement does not say anything about what will happen if you actually tidy your room. On the contrary, it only explains what will happen if you *do not* tidy your room. Apples and oranges right? Well, apples and oranges are very different fruits, as is this statement from one stating what would happen if you did tidy your room.

The distinction here is subtle, though pointing it out is necessary. It’s commonplace for people to be misunderstood in day to day language. Whether this is from their own imprecision of speech, from a wrong interpretation, or perhaps a combination of both, misunderstandings can cause great turmoil - causing frustration, pain, or even detrimental mistakes. For this reason, it is best to adapt behaviors that support being both precise in speech and trying to precisely understand others.

Mathematics and Engineering, by design, are languages in which precision is built in and things are defined in such a way that they cannot be misunderstood (to the extent that they are interpreted correctly). Imagine a blueprint design of a bridge. It should be the case that no matter whom looks at the blueprint to build the bridge, the end result of construction should always be the same (given the same material availability and no human mistakes are made). If it were not the case and the blueprints could be interpreted in different ways, then there would be no telling how said bridge would turn out.

English (and similarly, other languages), within the context of its cultural influence, is not designed in the same way. However, it has the capability to be utilized in such a way. In the context of mathematics, it is often expressed with a language rep-

resentation. There are predefined set rules to use when expressing mathematical expressions in a written language that are defined such that it cannot be misinterpreted. With our example above about not getting ice cream, there is no room for misinterpretation given you read and interpret the statement as it is written.

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Precise speech does not just mean the words you are speaking though. Precise speech encompasses actions, writing, sounds, speech and even thoughts. I’ll assume you’ve all heard the saying “actions speak louder than words”. Your speech and your actions should be precise together so that you can be understood and avoid misunderstandings. I’m going to use three examples to demonstrate briefly why this is such an important concept.

Consider the following. You are an engineer tasked with designing a bridge. You write up all the blueprints and designs with diagrams and measurements and send it off to the builders. Unfortunately, you didn’t bother to put the units on your measurements. These plans get sent off to another country where they are building a bridge based off these plans. Of course, they use the metric system over there and your plans did not specify. The bridge gets built, and everything collapses! It turns out that you used the imperial system and not the metric system. Unfortunately this happens more often than it should but is a simple case of not being precise.

If you’re not precise in speech, you may be misunderstood.

Turn to 1 Corinthians 14, verses 7 to 9. Which reads,

7) Even things without life, whether flute or harp, when they make a sound, unless they make a distinction in the

sounds, how will it be known what is piped or played?

8) For if the trumpet makes an uncertain sound, who will prepare for battle?

9) So likewise you, unless you utter by the tongue words easy to understand, how will it be known what is spoken? For you will be speaking into the air.

For my second example, consider the following simple process.

Fibrous and threadlike structures extend downward into the earth collecting organic compounds and provide structural support and stability. An oxygen hydride is absorbed which allows the formulation of Culms which extrude from the Crown of the Gramineae. A ligule surrounds the connection between a sheath and a blade which serve to collect energy through photosynthesizing chlorophyll.

If you understood that I applaud you. What I just explained is the process of grass growing. Let's read verse 9 again: "unless you utter by the tongue words easy to understand, how will it be known what is spoken?" Complicated speech is not precise.

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Now, I worded that phrase very carefully, because if you are precise in your speech, you can still be misunderstood. We have two ears and one mouth¹. We are to listen more than we are to speak. Thoughts in our minds are just a form of speech to ourselves. And that speech can be just as precise or imprecise as verbal words or actions. Another half of the coin when dealing with precise speech is precise understanding and interpretation.

My last example is the same as the first. You are an engineer designing a bridge. However, this time you remember to put the units on. You clearly write on the blueprints that you are using the imperial system of measurement and not the metric system. So inches, and feet and miles, etc. Now this gets sent off to a another country and they start building the bridge. Unfortunately they make the same mistake as before. The difference this time is that you were precise in writing the plans but they were not precise in reading the plans!

This happens all the time. We can be precise in speech but still be misunderstood. Therefore, we have to try and be precise in both how we speak and act but also in how we understand others. We have to take extra care in ensuring we understand the point of others and ensure we act and speak precisely so others can understand us. Continuing in Corinthians a couple verses down in verse 12:

12) Even so you, since you are zealous for spiritual gifts, let it be for the edification of the church that you *seek to excel*.

By thinking more about what and how we speak and act, we are working towards seeking to excel. We are striving towards perfection which will help edify us as individuals and improve relations to all of those around us. We should be easy to understand and ensure we understand those around us. Practicing precision is an important step towards this. So remember,

"If you don't tidy your room, then you won't get any ice cream." [1]

References

- [1] "How to Think Like a Mathematician: A Companion to Undergraduate Mathematics". Kevin Houston. Cambridge University Press. 2009.

¹As Mr. Foster has mentioned recently and more than once in past messages here in Austin.