People have always said I'm a terrible listener, and I always thought they meant I should *shut up* more. But I just realized they meant I should…you know… *listen*! And find out what other people *really mean*!

MIT undergraduate in 6.141,
Robotics Science and Systems

The moment when Cern director Rolf Heuer confirmed the Higgs result.

Photo: CERN

The three purposes of the Challenge Design Outline:

1. Agree on a mental model that ...

2. meets the spec for the Challenge.

3. Communicate it effectively to us.

For Friday 3/22, we want you to arrive at your outline, consisting of both team-written and individually written sections.

We don't expect you to have all your technical details work out. We know that even some of your key decisions may get further revised.

But we want to see a document that proposes a design, including headings, sub-headings, key points in full sentences, and key graphics.

In addition, we'd like a brief description (a paragraph or two) of the decision-making process that your team has arrived at, as best you can describe it.

Metaphors are useful!

A useful metaphor for this Challenge is the fleet of ships. Each of you is a ship; your team is a fleet. You need to arrive in the same place, with some efficiency, which will require making different kinds of decisions with some level of coordination.
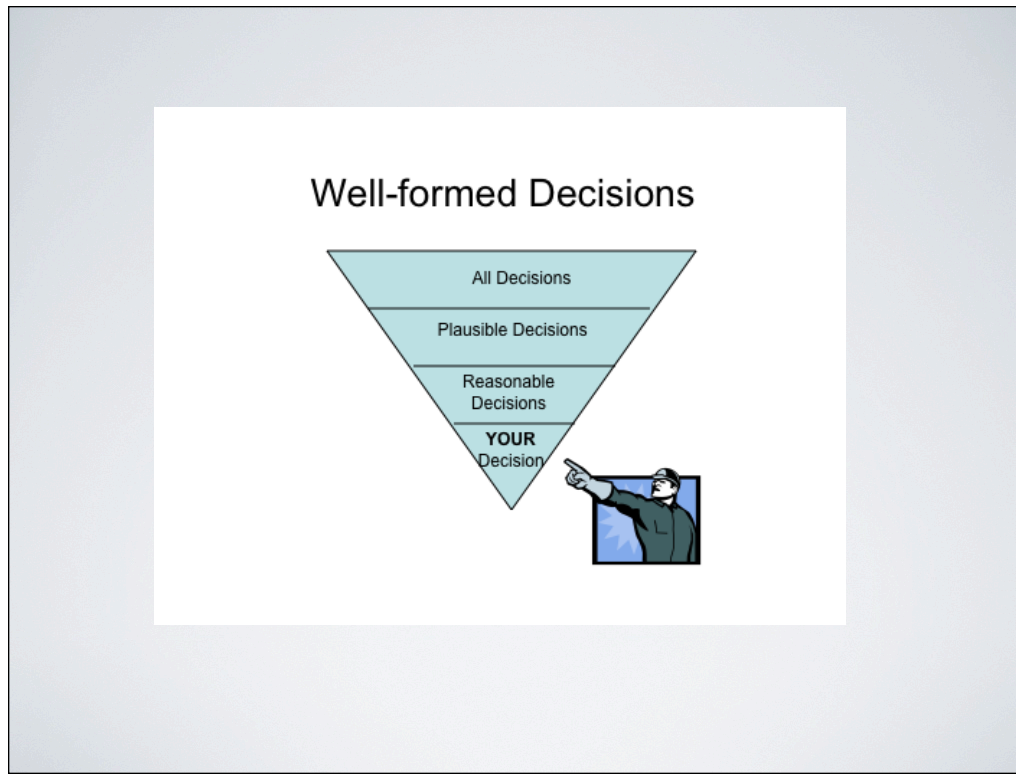
In order to accomplish the Challenge, your team will need to make many, many different kinds of decisions, some in parallel, some in concert.

CONFLICT

Each person
insisting on
a given point of view.

from Latin *conflictus*, collision, from past participle of
confligere, to strike together : *com*-, with + *fligere*, to strike.
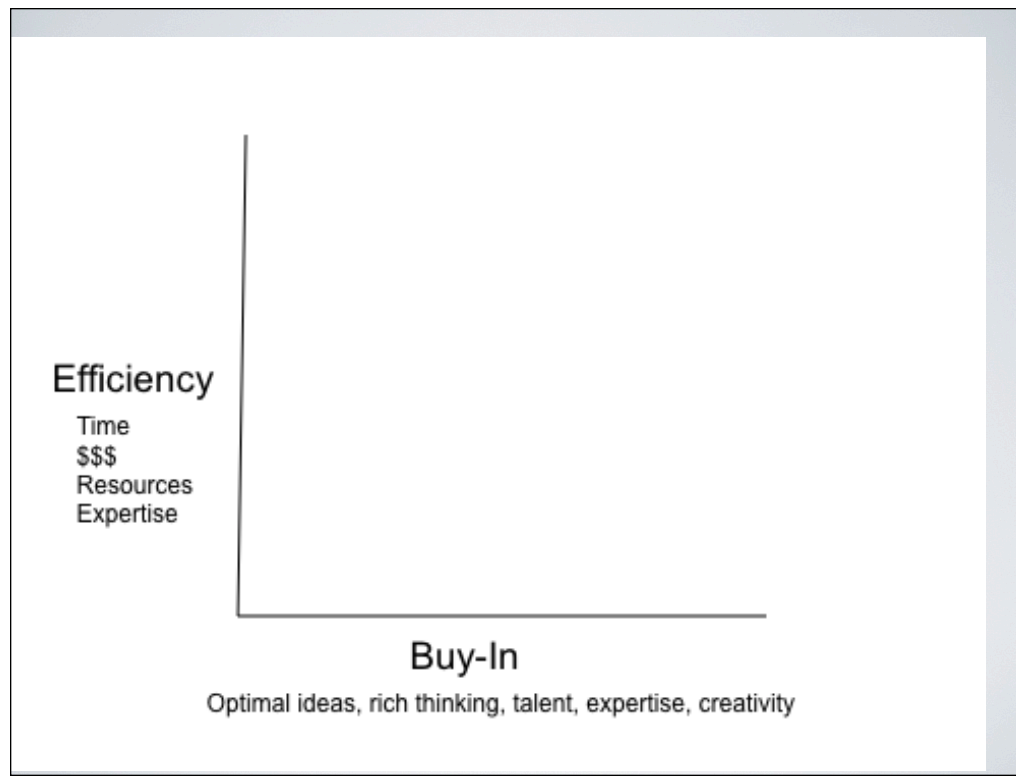
CONSENSUS

Each person
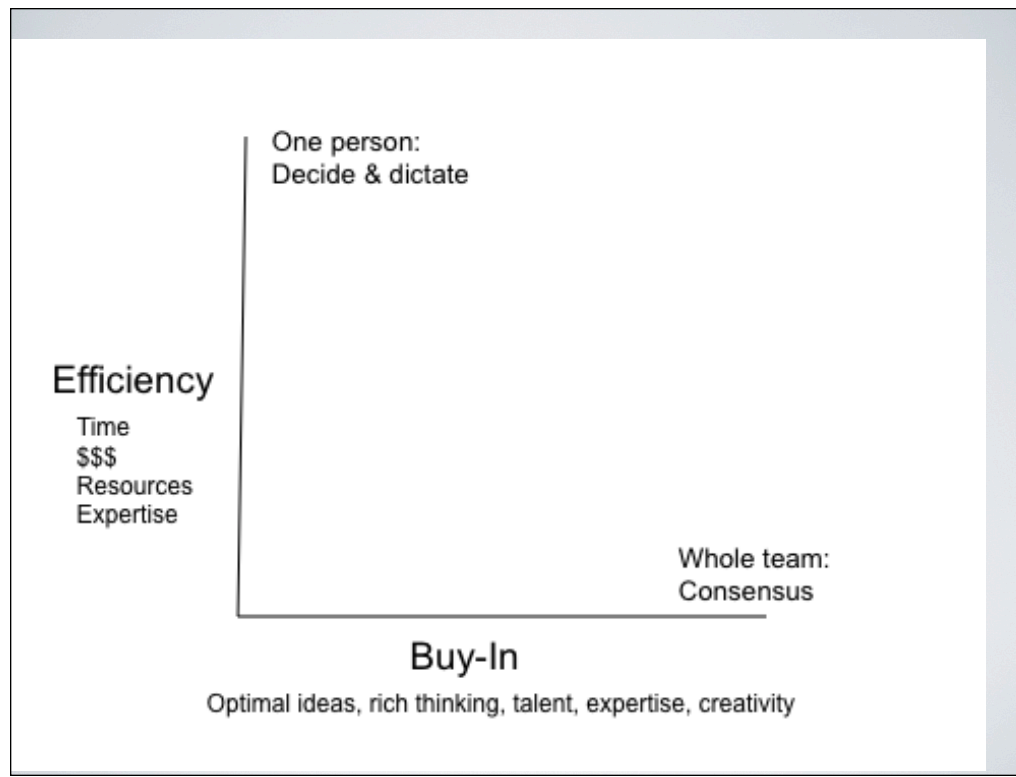willing to support
and implement.

from Latin *consentire* : *com-*, with + *sentire*, to feel.

Note that "consensus" does <u>not</u> mean "agreement." It means no one will resist or impede the team's decision.

Some decisions will be relatiely straightforward. Others will take more thought. As a tool for helping you through complex decisions, consider that each decision you need to make exists on two dimensions: efficiency, and buy-in.

Efficiency
Time
$$$
Resources
Expertise

One person:
Decide & dictate

Whole team:
Consensus

Buy-In
Optimal ideas, rich thinking, talent, expertise, creativity

"Fire!" requires great efficiency, and minimal buy-in. It is a decision that can be dictated. On the other hand, a decision like who you're going to marry? Take all the time you need, and make sure everyone who matters is in board :)
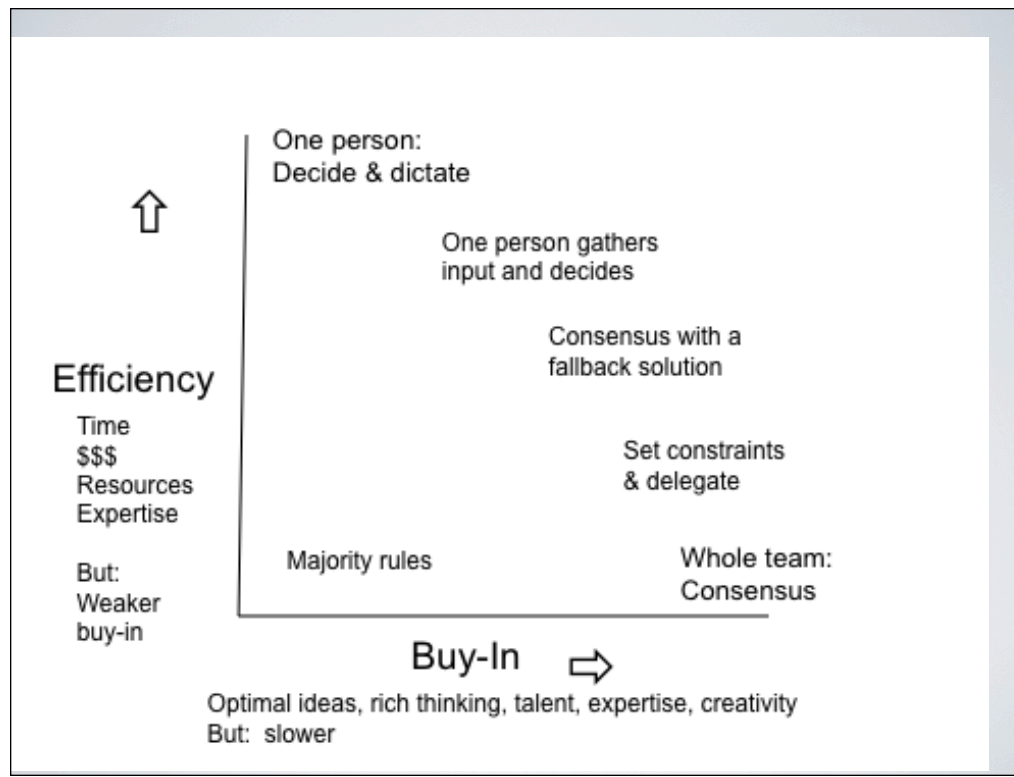
For decisions that require some other proportion of efficiency / buy-in, there are other ways of making decisions that will allow you to be efficient while at the same time getting people's support.

The main point of consensus, though, is that an individual may not *love* the decision, may not *prefer* the decision, but will not impede the decision. A team can have consensus with individuals thinking "I wish we'd done Y," so long as they are thinking "...but I'll work 100% for the success of X."

Consensus emerges
when each team member can say:

- I believe I've been heard.
- I believe I've heard you.
- This decision doesn't compromise my values.
- **I can fully support this decision and its implementation.**

> **Strong teams elicit, understand, and resolve their differences:**
> - Who has questions?
> - Does anyone not agree?
> - What objections do you have?
> - Can you give an example of that?
> - Is anyone <u>not</u> in agreement?
> - Tell us more.
> - Do you mean X or Y?
> - What about that seems important to you?

Arriving at consensus requires a lot of discussion, so it can take a long time to arrive at; consensus is likely, though, to save a much longer time down the road. For decisions where buy-in is essential, plan a *lot* of time for discussion.

Certain kinds of questions lend themselves to achieving consensus. You want to get disagreement out on the table for discussion. So, rather than "Does everyone agree?" ask,   "What objections do you have?" Find out what underlies people's objections. Probe people's opinions.

Now we'll look quickly at making proposals.
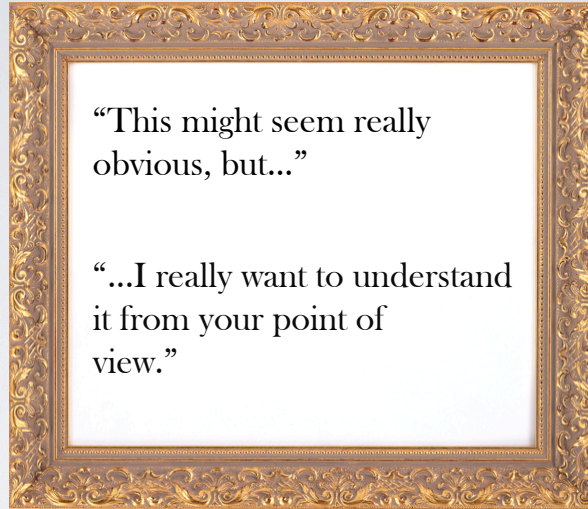
When your meeting get stuck:

1. Think of something to try.*

2. Say: "I propose x."

3. Your team can either
   (a) accept it, or
   (b) make an alternate proposal.

* Proposing <u>something</u> is more important than figuring out the "right" thing. The energy of proposing will begin to move you forward.

Making proposals is an essential tool in the decision-making process to move things forward when your team gets stuck.

Remember: proposing <u>something</u> can be more important than figuring out the <u>right</u> thing.

IF SOMETHING IS MAKING YOU HESITATE, SAY:

"This might seem really obvious, but..."

"...I really want to understand it from your point of view."

Frame: make your intention explicit.

Framing is another invaluable tool when you're making decisions. It can clarify, smooth over, prevent, reassure, explain, persuade.... It is a metacommunication that can get you and your team onto the same page when trust is not yet sufficiently developed to carry a complex communication.

KEYS TO GIVING GOOD FEEDBACK:

- Speak for yourself. (Use "I.")
- Frame your intention.
- Refer to specific behaviors, with examples

MAKING FEEDBACK USEFUL

- Assume they mean well.
- Ask questions to find out what they mean.
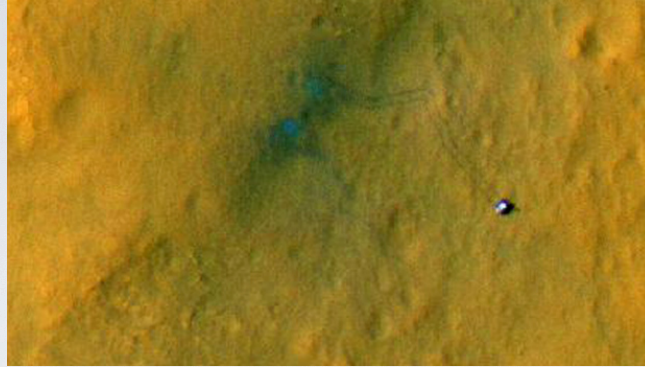- Try on the possibility that they're right.

Feedback is essential on a well–functioning team. Here are some principles that can make feedback more useful.

Metaphors are useful!

Making wise decisions will help your team avoid trouble. It will also help your team if you get in trouble.

Tracks from the first drives of NASA's Curiosity rover are visible in this image captured by the High-Resolution Imaging Science Experiment (HiRISE) camera on NASA's Mars Reconnaissance Orbiter. (NASA/JPL-Caltech/Univ. of Arizona)

Wise decision–making underlies successful team effort.

Photo: NASA; JPL

To go fast, go alone.
To go far, go with others.

Proverb of unknown origin.