Twitter Thread by Chris Olah



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An important part of growing as a researcher is developing research taste. But it can be hard to explicitly work on. So I wanted to share some concrete exercises for developing research taste.

(Take my advice with a grain of salt! Note version: https://t.co/2BhyxOKy3q)

Exercise 1: Write down a list of research ideas. Have a mentor you respect rate each idea 1-10. Discuss ideas where you disagree with them after reflection.

It often takes several months of work to truly test an idea. Asking a mentor is a cheap proxy.

Exercise 2: Pay attention when other people try ideas you've had. How did the results compare with your expectations?

If you're investing in brainstorming, you'll have tens or hundreds of research ideas for each one you try. It can be emotionally uncomfortable when someone publishes an idea you had, but it's an opportunity to get precious feedback for free.

Exercise 3: Interview researchers around you on their taste. Why do they work on the problems they do? How do they pick problems? What's their "big picture" of research?

Bonus: If you have a great interview, you might consider writing it up with their permission.

Exercise 4: Read books about the history of science. Reflect on why some researchers focused on important directions their contemporaries ignored.

(Kuhn's "The Structure of Scientific Revolutions" is one of my favorite books, and you can get an audio book!)

Exercise 5: Critically consider your research taste, and the community taste around you. Your taste is likely very influenced by your research cluster (collaborators, advisor, etc).

eg. In what ways has your own research taste or your community's taste been wrong in the past?

I also wanted to go through some research taste failure modes:

Failure Mode 1: Getting overly attached to one research direction / falling into sunk costs.

A lot of researchers start working on one problem (often more due to circumstance than contemplated decision) and then find it hard to move on.

Antidote: Set aside a week or two to step back and create a list of the other directions you think would be most promising to work on (look at new work, talk to others, etc). Then ask what you'd want to work on if you were starting from scratch. Repeat every 1-2 years as needed.

Failure mode 2: Lack of research knowledge / intimacy.

Theoretical knowledge is table stakes for research taste. You can't have research taste in a vacuum.

Sometimes people fall into a trap of trying to pick the perfect problem or have a brilliant insight before getting their hands dirty. You can't have research taste in a vacuum. You need theoretical knowledge and research intimacy (https://t.co/sJrGuXI0ft).

> Research Intimacy: Internalizing obscure knowledge, equations, relationships, and ways of thinking related to a research topic.
>
> — Chris Olah (@ch402) August 16, 2020

Antidote: Help someone else with their project in a space you're interested in. You'll learn a lot and get your hands dirty without becoming overly committed to working on something long term. Ideally, by not leading the project, this should also be lower stress.

Failure mode 3: Environment not aligned with your interests.

I sometimes talk to PhD students who have different interests than their advisor, and are trying to contort their research interests into something their advisor will find palatable.

This generally leads to ideas optimized for compromise rather than quality. This both leads to lower quality work and deprives them of the opportunity to hone taste.

This can happen even when those around you nominally support you working on whatever you're interested in. It can be challenging to pursue a direction when people around you are unenthusiastic.

Antidote: Either (1) move to an environment which is aligned with your interests, or (2) temporarily buy into the interests of your group and try to exercise good taste within those interests.

I'm generally pro moving to another environment once you've reflected a lot on what you're interested in and have something you feel very actively excited about.