HOW TO READ AN ACADEMIC PAPER

A NON-DEFINITIVE GUIDE

BY ANDREW MCNUTT

OR, WHAT I WISH I LEARNED IN COLLEGE

(INSTEAD OF JUST TAKING MATH AND PHYSICS CLASSES)

STEP 1.
PRINT THE PAPER

I read a lot of papers, such is the loathsome life of the PhD student. Unfortunately I foolishly squandered my first opportunity to learn how to academically read good and have had to develop these skills during grad school

I spent most of my college years insisting I didn't need to know how to read papers (or really to think critically at all) because scientists just did math. How wrong I was!

This zine will take you through my approach to reading papers. It mostly applies to reading Visualization and HCI papers, so your mileage may vary.

There are better guides on read gooding, but this documents what I wish I could tell myself 10 years ago.
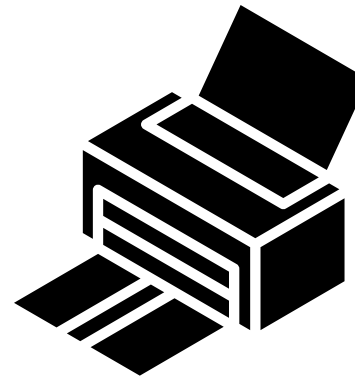
Getting the paper in print is valuable as it transforms the document from something ephemeral into something tangible and definite.
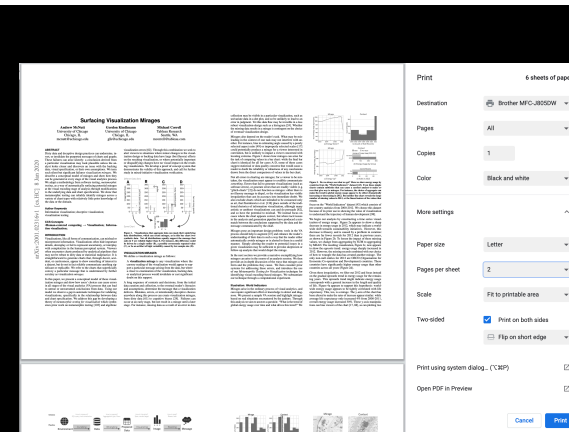
Chrome (and lots of other programs) lets you print two document pages per print page!

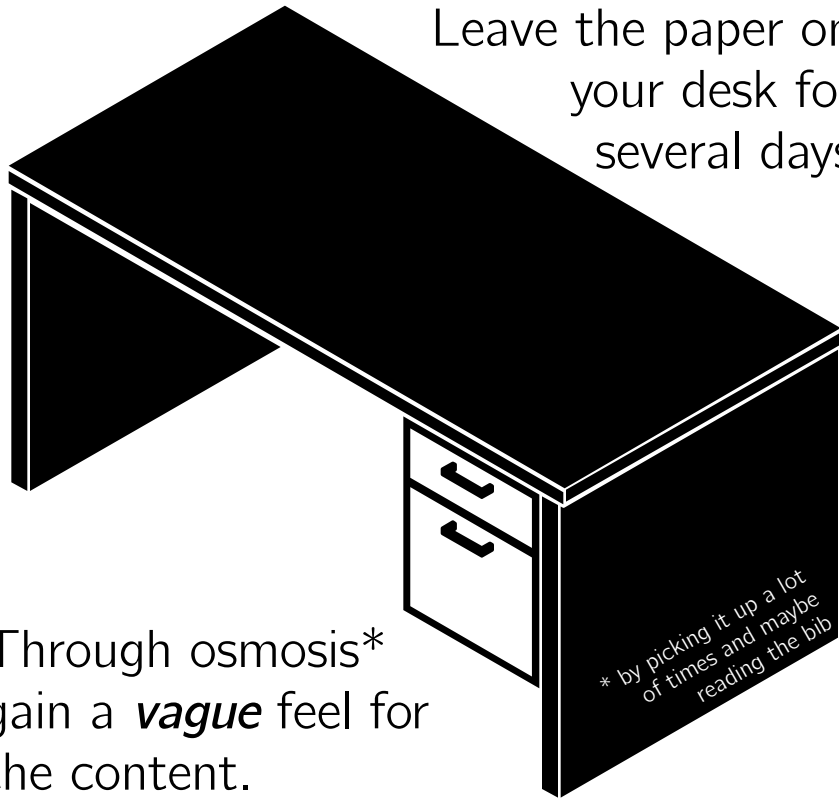In addition to looking cool this also gives more space to write notes in the margins

MAGIC!

STEP 2.
PRE-READ
(PROCRASTINATE)

Leave the paper on your desk for several days

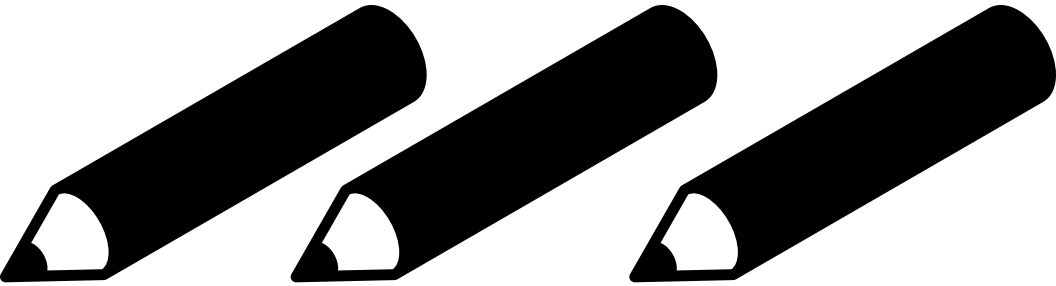Through osmosis* gain a *vague* feel for the content.

* by picking it up a lot of times and maybe reading the bib

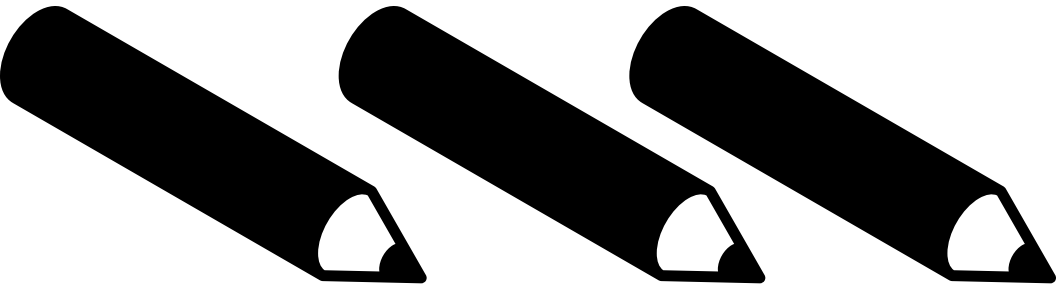*(This step can be skipped if you are excited)*

STEP 3.

READ **THE** PAPER
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STEP 3A.

GET YOURSELF A PEN

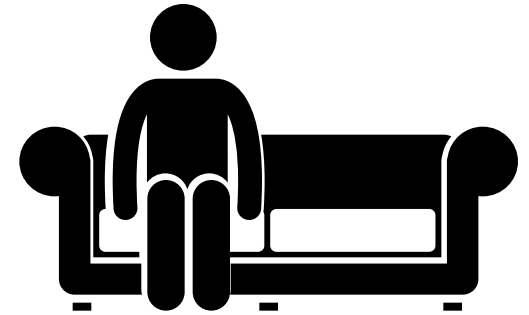Red and green are great because they are easy to see. (Highlighters are not allowed, because you can't write notes)

GATHER MATERIALS

STEP 3B.
FIND A LOCATION

Sit down at a table with the paper.

ALLOWED!   NOT ALLOWED!

Try to remove all distractions: put away your laptop, you can have music (but try to keep it non-distracting*)

Posture is super important! Sitting on a couch isn't great for comprehension

* drones** are great for this
** Such as the works of Pauline Oliveros
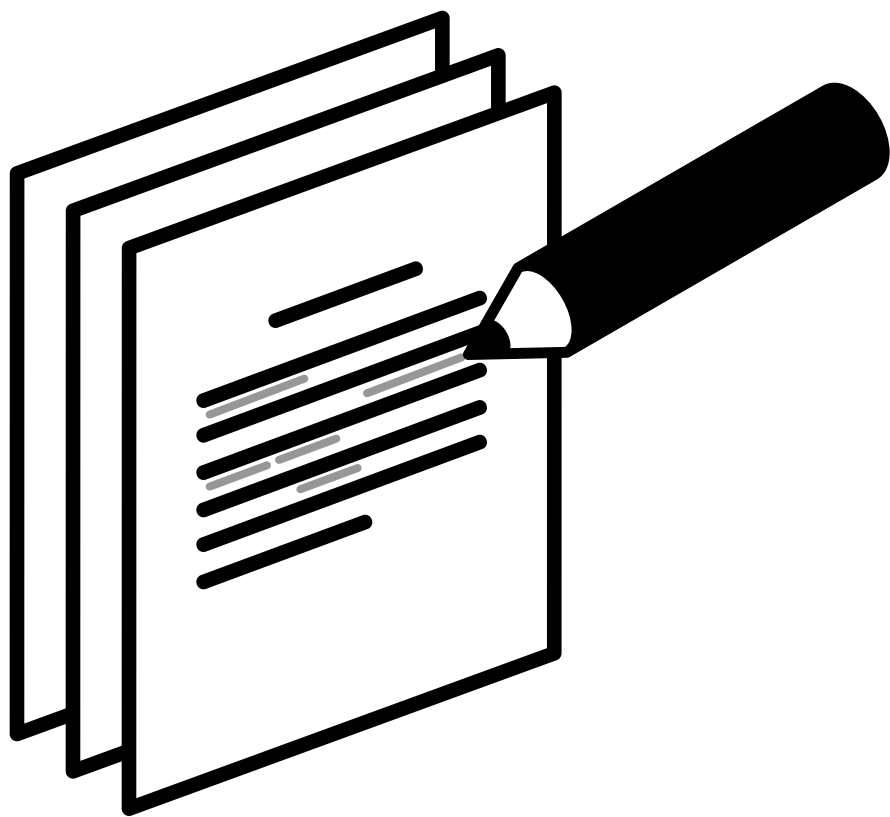
STEP 3C.
ACTUALLY
READ THE FUCKING
PAPER

It takes awhile! Be patient!
(like 1-4 hrs)

UNDERLINE STUFF AS YOU GO

NOT EVERYTHING, BUT ANYTIME ANYTHING SEEMS TO BE SAID WITH 'RHETORICAL FORCE'

This can yield a lot of underlining. This is unlikely to be useful later, but it is *useful now*, as it helps you not gloss over long or boring sentences.

Anytime there are footnotes circle them in the text, that way you can be sure you didn't miss them.

MAKE IT REAL OBVIOUS YOU IN 10 MINUTES MIGHT NOT REMEMBER WHY THIS IS COOL

Anytime there are cites you like or are curious about, go to the back and circle them. If you are motivated, look them up later, nbd if not. Reading bibs is its own reward

OO! I FORGOT ABOUT THAT PAPER, IT'S SO COOL

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[11] Sabrina Bresciani and Martin J Eppler. 2009. The Risks of Visualization. *Identität und Vielfalt der Kommunikations-wissenschaft* (2009), 165–178.

[12] Sabrina Bresciani and Martin J Eppler. 2015. The Pitfalls of Visual Representations: A Review and Classification of Common Errors Made When Designing and Interpreting Visualizations. *Sage Open* 5, 4 (2015). DOI: http://dx.doi.org/10.1177/2158244015611451

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FIGURES CAN BE OBJECTS OF GREAT DEPTH

OR WORTHLESS TRASH.

EQUATIONS ARE MUCH THE SAME, (DEPENDING ON THE PAPER AND PAPER TYPE)
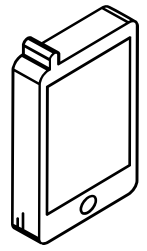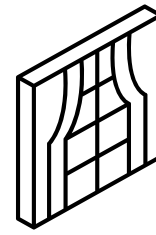
It's okay if your attention wanders, just stop reading briefly and take a lil time for yourself.

Look out the window, go to the bathroom, look at twitter, do what you need. Reading is hard!

THEM   **US**   **IAP4NR**

INDECIPHERABLE ACRONYM PLACED HERE 4 NO REASON
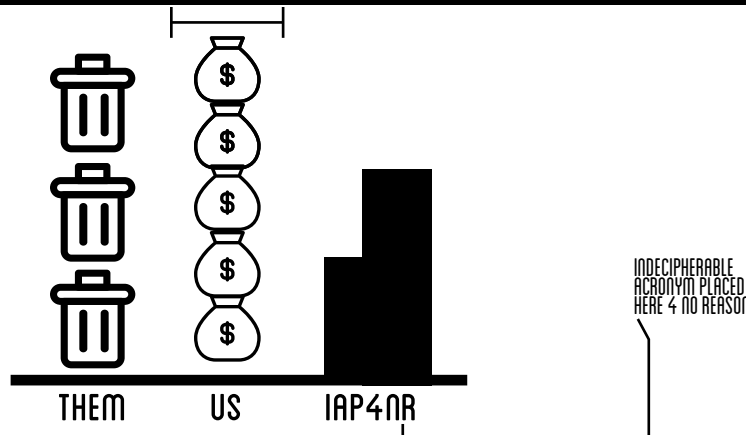
Figure 7: Our analysis indicates that the stilted setup constructed to demonstrate our system is great worked out awesome!

TAKE LITTLE BREAKS

You can often assess which of these they are by looking at how carefully they are made*. Spend time with the good ones, forget the others.

You can take a day or two break if you really need, but be careful, this can be a way to just not read the paper. (Or to forget what's actually going on)

*my highschool physics teacher was fond of saying *good work looks good.*

STEP 4. WRITE IT UP

You are probably going to forget the specifics of this paper in a few months. That's okay!

The last step then is to write a summary of the paper in a document that contains all your summaries. It's okay to include your opinions, but you'll want to reference this later so *try* to keep it coherent.

EXAMPLE PAPER SUMMARY EXAMPLE PAPER SUMMARY

Title: How to read an academic paper - a non definitive guide
Authors: Andrew McNutt
Venue: n/a
Venue Year: n/a
Date read: February 16, 2021
Summary:
In this zine the author tries to summarize how to read a paper well, but in doing so becomes unable to remember how to read a paper well and makes a bunch of jokes wrapped in "okay" (if a little pretentious) graphic design.

EXAMPLE PAPER SUMMARY EXAMPLE PAPER SUMMARY

Don't write too much, this is just for you. You're not turning it in and can't get points

ADDENDUM 1

Figure out <u>when</u> works for you to read
I find that I am most consistent with my reading when it's the first thing I do every day (some say *"if something matters to you, do it first thing in the morning"*). I find if I read at night then it takes longer and I read in unnecessarily high depth.

ADDENDUM 2

Figure out <u>what</u> works for you to read
While some papers are really boring, not all of them are! If you are having a consistently hard time reading a particular kind of paper, that may be a sign that you find that type of paper boring. This is okay! You learned something about yourself. (You probably still gotta read them though.)

ADDENDUM 3

Don't read too deeply / don't read too shallowly
Some papers require great reflection and care, others require casual parses, others still require somewhere in between. I think one of the big skills in paper reading (as it is a skill, and not (as I have thought in the past) a talent) is to know when to read and how.
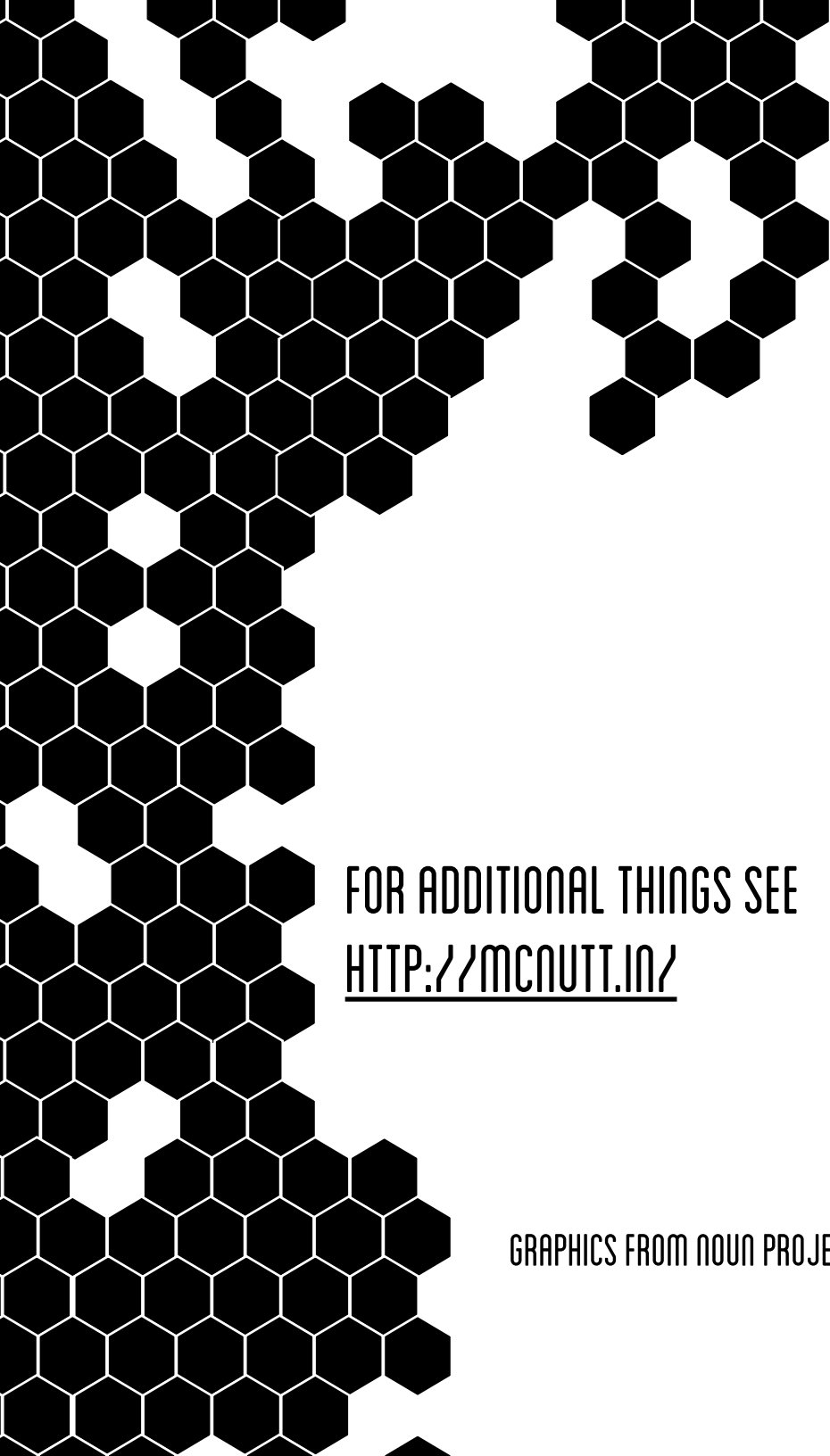
FOR ADDITIONAL THINGS SEE
HTTP://MCNUTT.IN/