The "Three Things" Exercise for getting things out of talks

(More general advice on going to talks is [here](http://math.stanford.edu/~vakil/threethings.html). As with all my webpages, feedback is more than welcome!)

*The challenge of talks.* It is tricky to get things out of talks, even after a lot of practice. It is very easy to go to a talk, and at some point have your eyes glaze over. Talks are like horses: once you are thrown off, it is hard to get back on. Especially if the horse is stomping on your face. (That's why it is very bad to come into a talk a few minutes late --- even if it is sometimes necessary.)

"Three Things" is an exercise to learn how to get things out of talks. It can be useful if you are in the first few years of going to seminars --- I've intended it as practice for graduate students --- but I've also found that I got much more out of talks (especially those out of my comfort zone) when using it. It is admittedly a little contrived, and when a bunch of us first experimented with it (perhaps around 2007?), we stopped doing it after a while because we got tired of it.

*The theory* is as follows. If you can get even three small things out of a talk, it is a successful talk. And if you can't get even three small things out of a talk, it was not a successful experience. Note that the things you get out of a talk needn't be the things that your neighbor got out of a talk, or the things the speaker expected you to get out of the talk.

*Here is how it works.* Take a clean sheet of paper, or an index card. Your goal is to have three things, and only three things, on this sheet at the end of the talk. The "things" can be of many forms:

- a definition you want to remember (e.g. "a K3 surface is...")
- a theorem you want to remember ("the moduli space of polarized K3 surfaces is smooth")
- a motivating or key example ("a quartic is an example of a K3 surface")
- a motivating problem ("why are all moduli spaces of polarized K3 surfaces the same dimension?")
- a question you want to ask the speaker ("why is that hypothesis in your theorem?")
- a question you want to ask someone else (a definition, motivation, a question about a connection etc.)
- anything else of a similar flavor: something specific that made you think. Something vague ("I liked the part where she talked about groups") does not count as a "thing".

*As you watch the talk,* look out for "things" you like. When one comes your way, write it down. Then later write down a second. Then write down a third. Hopefully a fourth will come your way --- and then you must look over the previous three, and decide which one must be cut. A dirty secret is that you may not be able to prevent yourself from remembering the one you cut --- and the ones you kept and reviewed will be more fixed in your mind.

(If you take notes in a more traditional sense, you can still play the game, by putting a star beside each "thing". This works a little less well; you will be less focused on looking for "things".)

*After the talk:* if other people are playing, send each other your things by email (or discuss them in person). It is surprisingly enlightening. And there will likely be some follow-up discussion. It doesn't take much time (to type or to send one sentence responses to others’ things if the spirit moves you). If you have questions, then
ask them to someone (perhaps the speaker over the semianr dinner; or perhaps your advisor or your students or your colleagues). Don't let them drop.

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