

## THINKING ABOUT ART

MATH 105-6: FIRST-YEAR SEMINAR: THEORIES OF MIND AND MATHEMATICS  
PROF. THEO JOHNSON-FREYD, NORTHWESTERN UNIVERSITY, FALL 2015

### THEME

We have seen already a number of important themes appear in the readings: recursion, the location of meaning, translation and interpretation, truth and beauty, knowledge and understanding, the relationship between abstract mathematics and the physical world, the relationship between human thought and abstract truth, Turing, whether contradictions are a contradiction, levels of software and hardware, how other people or species think — this is only a partial list, and you are encouraged to add to it. One of the theses of Hofstadter’s book *Gödel, Escher, Bach* is that many of these themes are visible in art and music. The purpose of this assignment is to explore that thesis.

Find a work of visual art at the Art Institute of Chicago (free for Northwestern undergraduates with student ID) that illustrates or otherwise interacts with one of the themes from this class. You should choose a work that is not already discussed in *Gödel, Escher, Bach*; check the “List of Illustrations” on pp. xiv–xviii. In a short essay, explain your chosen theme and how your chosen artwork illustrates/interacts with it.

While at the museum, I encourage you to observe your chosen artwork from many vantage points (many museum goers stand too far away from the art) and to read the material the museum provides. Take notes on your art while you are there, but be aware that the Art Institute does not allow ink pens in the galleries (pencil and paper for dry sketching are encouraged). You may photograph pieces from their permanent collection provided you do not use a flash; their special exhibits often do not allow photography, as those pieces are generally on loan from other collections. While putting together your essay, be sure also to educate yourself about the artist and the context for their art. Whether that background information ends up in your essay is up to you, and depends on the point you choose to make. Of course, all sources, including your artwork itself, should be correctly cited and included in a bibliography.

### VARIATION

I think you will have the best luck, in terms of quality and variety of sources, by using a work of art from the Art Institute, and I highly recommend exploring repeatedly. But you may also decide to use a piece from another Chicago art museum (see [http://en.wikipedia.org/wiki/List\\_of\\_museums\\_and\\_cultural\\_institutions\\_in\\_Chicago#Art](http://en.wikipedia.org/wiki/List_of_museums_and_cultural_institutions_in_Chicago#Art) for a partial list). I do want you to inspect the original artwork: don’t trust reproductions on the internet or in books.

Alternately, you may find an appropriate subject by attending a live performance. Some of the many regional performance calendars to consult include Harris Theater, the Chicago Symphony Orchestra, the Lyric Opera, the Auditorium Theater, and Steppenwolf. Note that these options can be very expensive (although many of these theaters offer student rates) and may not speak towards this class’s themes.

### INSTRUMENTATION

Your essay should be addressed toward a typical Northwestern student who is not participating in this class. In particular, you must provide enough context about your artwork and theme for

someone who hasn't been to the Art Institute and has not read any readings for the class to be able to understand your essay.

Your essay should be two to three pages, double spaced, written in a normal typeface, in a normal size (11pt or 12pt), with normal margins (between 1in and 1.5in). It should be copy-edited and should follow the conventions of an academic essay.

Your essay should be submitted in PDF form by email to [theojf@math.northwestern.edu](mailto:theojf@math.northwestern.edu) by 9am on Thursday, October 22.