

To Teach Image by Its Function: Structuring Image Making for Graphic Design Students According to Cognitive Outcomes

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Abstract

Graphic design students often have access to image-oriented studio electives within schools of art and design, taught by experts in photography, illustration, and painting. What is distinct about a core image-making course for graphic designers? This question addresses the fundamentals of graphic design, possibly in opposition to what is implicitly claimed as such in many discipline-spanning foundation courses. This paper outlines two iterations of the author's image-making course in two graphic design programs, both at public research universities, with special emphasis on the method employed in its development. The conception of image making embodied in the course is rooted in the author's research on the cognitive function of imagery. Considering imagery in terms of the cognitive processing of its readers is an inherently user-centered approach, which distinguishes the coursework as design pedagogy. Critique methods reinforce the emphasis on goal-oriented interpretation and are critical to the integrity of the course. Assignments are classified here according to designations of exercise, project, and investigation, largely based on contextuality. Exercises isolate some fundamental aspect of graphic design without overwhelming beginning students with undue complexity, though oversimplification is a danger. Many exercises fail to present the requisite complexity for truly guiding student engagement. Projects are more context-rich and are reasonably close to analogs in design practice, or are more authentic to design practice. Investigations extend beyond an individual project and into systems. Specific assignments will be presented through student work.

To Teach Image by Its Function: Structuring Image Making for Graphic Design Students According to Cognitive Outcomes

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Graphic design students often have access to image-oriented studio electives within schools of art and design, taught by experts in photography, illustration, and painting. What is distinct about a core image-making course for graphic designers? Design emphasizes the relationship between media and users. While design instructors certainly address the designer's relationship to media in development, this is ultimately to serve user experience. Thus a design-specific image course should frame images in terms of the readers who interpret them, or construct knowledge with them. Graphic design being an established profession also suggests baseline coverage of methods and challenges reflective of practice.

The author has developed two introductory (sophomore-level) studio courses on image making in graphic design programs at major universities, separated in development by six years. These courses represent different philosophical positions for engaging in graphic design fundamentals. The 2008 course seeks to isolate fundamentals, while the 2014 course embeds them in rich experiences.

In *Understanding by Design* (1998), Grant Wiggins and Jay McTighe advocate for a curriculum development method of *backward design*. Backward design dictates that outcomes are determined holistically before individual assignments are developed to fulfill them. This prescription appears straightforward, but is likely practiced far less frequently than faculty would claim. The author employed a course development methodology for the 2008 image-making course, which qualifies as backward design. Two factors were used as structuring devices: (a) proficiencies or production methods, which anticipate common aspects

of professional practice, and (b) performative image function, which focuses attention on users and interpretation. The latter is a product of the author's research, and must be summarized before the course development methodology can be reported.

Performative image function details the ways in which images can model reader cognition. Any time an image involves a reader in more than simply automatic recognition processes (e.g., identifying a certain shape as a tree), one or more image functions are in operation. Ultimately, the performative image function typology should describe any possible image, often times within the context of complex layout (in relation to text and/or other imagery). To date, the twelve identified image functions are:

1. Decorative: imagery that does not reward any inspection and merely distracts from any otherwise meaningful visual discourse; non-functional, non-performative (does not involve the reader), and non-cognitive.
2. Reiterative: imagery that is relevant to its context but contributes nothing to the visual discourse; non-performative and non-cognitive.
3. Affective: imagery that elicits an emotional, gut reaction; performative but by definition non-cognitive. (The remaining functions are all performative and cognitive.)
4. Exploratory: imagery that the reader must navigate. Exploratory imagery is always complex and presents the reader with a parallel system, where there is no correct reading order.
5. Constitutive: imagery that describes some entity or concept through elements that the reader must combine into a complete model. Constitutive imagery is often also exploratory, and vice versa.
6. Narrative: imagery with which the reader constructs a sense of time. As such, there is a proper reading order (narrative imagery is a serial system), though the *arrangement* need not be unilinear. The sense of time can be suggested through the provision of evidence, the repetition of forms, or through other more exotic means. Video, despite being an inherently time-based medium, only rarely qualifies as narrative imagery, as the viewer is passive in the reception of its linear temporal structure. (Image function details reader activity, and interprets any form according to it.)
7. Metaphorical: imagery that selectively maps characteristics of one thing onto another, often but not always through juxtaposition or visual similarity. Simpler mapping can be considered visual analogy, while the most complex mapping becomes allegory.
8. Computational: imagery that promotes active comparisons by the reader. Computational imagery can be both quantitative (especially in diagrams) and qualitative (e.g., morphological comparisons).
9. Associative: a partial presentation of imagery that is completed by the reader.

10. Linguistic: imagery that, if recognized as such, can be translated directly into language. Linguistic imagery has been used to communicate with illiterate “readers.”
11. Reflexive: imagery that somehow calls attention to its material means of existence.
12. Problematic: imagery that at least initially appears confused, and involves the reader in a visual problem solving process. Here there is heavy reader involvement, though it might not be consummated by any “successful” understanding.

In each case image function emphasizes the reader’s probabilistic involvement (that is, how a reasonable number of readers, but certainly not all, will perform). Media is analyzed only in relation to that involvement. As such, image function was determined to be a systematic way to analyze imagery that would focus students’ attention on user experience.

The other structuring device for the 2008 image-making course, proficiencies or production methods, was a way to define graphic design practice while students were still impressionable. It is the author’s experience that sophomores in graphic design (or students in the *first year* of core graphic design coursework at a given institution) incorporate their experiences into their own personal models of graphic design. If web design, for instance, is withheld until the junior year, students are far less likely to apply their typographic skills to that endeavor. A problem of transfer is created that can be avoided by introducing students to web design in the context of an introductory typography course, for instance. There is virtue in ensuring that the formative year of core graphic design instruction is broad in its scope.

To that end, a list of proficiencies and production methods was generated, both pointing to practice and reacting to perceived oversights in the existing curriculum. This list included:

- ▶ Documentary photography (shooting existing scenes)
- ▶ Set photography (constructing sets and shooting them)
- ▶ Object photography (shooting work or objects for silhouettes)
- ▶ Scanning
- ▶ Screen printing
- ▶ Sketching techniques
- ▶ Bezier curves
- ▶ And 11 more

The resulting course development strategy is simple: otherwise unrelated coverage goals are connected to one another, and projects are defined to exemplify those combinations. In this case, connections were made between a “production” column and a “function” column. Screen printing and Bezier curves (production) can connect with linguistic imagery (function) to form an assignment where students create rebus designs, screen

print them onto T-shirts, and test their communication by asking peers to translate the images to phrases (Figure 1).

In this way 20 assignments were developed in rough form. The final list for the course was determined by finding a subset that retained the strongest projects while sufficiently covering the more critical production and function goals.

This methodology is not dependent upon the headings used in this particular case: production and function. It generally represents a means through which desired outcomes (*content coverage* in a loose sense) can serve to generate coursework. It is a specific operationalization of Wiggins and McTigue's backward design prescription.

The resulting 2008 image-making coursework included nine assignments, seven of which involved design production of some sort.

1. Show & Tell (following a day 1 introduction to image function, students went to the university's book stacks, particularly the oversize section, to find examples of a set number of functions. The class then analyzed the findings and how well they fit to the function descriptions).
2. Envirobehave: read from Scott McCloud's *Understanding Comics* (1993) on closure, the ways in which images can suggest the passage of time across panels or frames. Document interactions in a chosen environment in six sequences of six "documentary" photographs, utilizing Flickr's "sets" interface circa 2008, and employing at least four of McCloud's six closure types (Figure 2).



Figure 1: Two rebus T-shirt solutions. At left: "vote for change," designed during Obama's first presidential run, by Griffin Friedman. At right: "dancin' [the] night away," by Jeremy Purser.

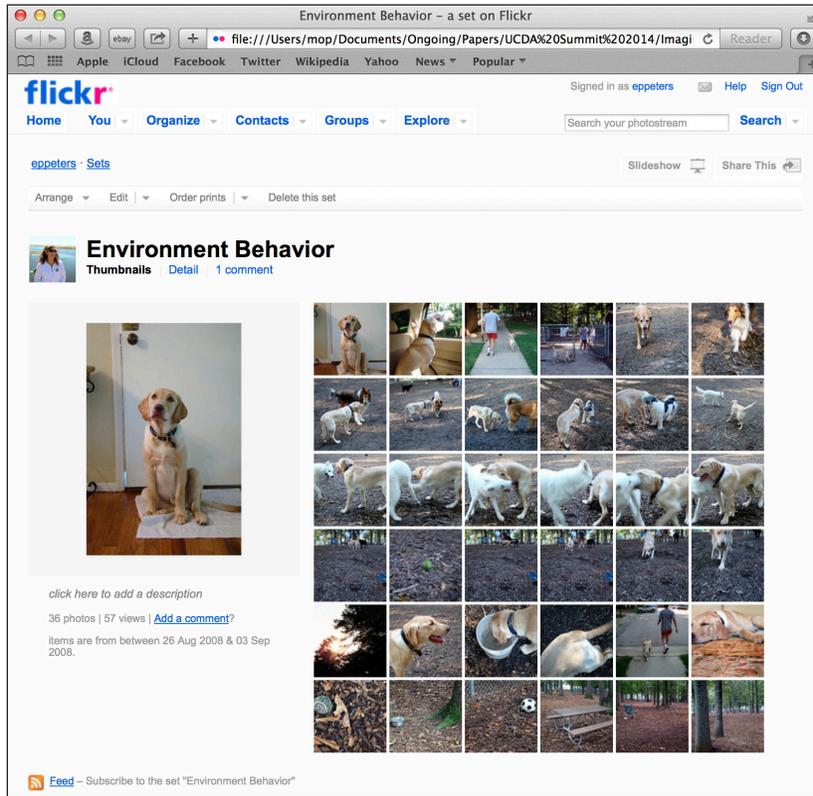


Figure 2: Enviro-behave thumbnail view, by Betsy Peters.



Figure 3: Adbuster presentation board, by Sarah Blackmon.



Figure 4: Six 'Historicize' iterations, by Will Calloway.

3. Tableau: suggest a passage of time, in as many steps (moments in time) as possible, in a single photograph. Only levels adjustments are allowed post-shoot.
4. Illiterate Instructions: using no language save a title, create instructions for executing some task and post in an appropriate place on or near campus. (For the critique, classmates “found” the postings in the environment, photographed them *in situ*, and presented the work upon returning to class.)
5. Adbuster: find an existing ad, conduct a semiotic analysis of its message, and shift the implication of the message without changing its subject (Figure 3).
6. Rebus (described above; Figure 1).
7. Historicize¹: choose a historical event before your birth and create a complex visual poster explaining it in detail. Scan and appropriate imagery from a large stack of books related to the subject following initial trips to the library (Figure 4). (The work was accomplished by breaking the process down into six iterations. With each iteration the poster needed to be complete. Subsequent iterations would layer new information into the poster, and existing material had to be modified to accommodate the new. Iterations included cause, effect, minority report [an alternate perspective], and three others.)
8. It Lives!: utilizing the altered imagery from Historicize¹, create a stop-motion video documenting the historical event.
9. Portfolio Workshop (documenting work in class).

While the 2008 image-making course asked students to manipulate reader interpretation through various image functions and covered a range of proficiencies and production methods, its products were especially impractical. Each assignment qualifies as an *exercise*. An exercise is brief, inauthentic (to professional practice), and context-free. It is an attempt to address design fundamentals by isolating them.

A *project*, on the other hand, is complex, contextual, and in some significant way authentic to professional practice. This does not mean that a project needs to simulate practice, or that doing so is even desirable, but rather that a project serves as a relative analog to professional work or some significant aspect thereof.

Assignments can also be *investigations*, when they collect projects in a system, utilize research, or otherwise go deeper than projects allow.

While Historicize¹ is deeper than the typical exercise, with its heavy revisions and complexity, it has little connection to *purpose*, so critical to design. A relatively simple change to the exercise transforms it into a project: it becomes an educational poster for middle school or high school classrooms, with the inclusion of text consequently encouraged (Figures 5, 6 and 7). The new assignment, Historicize² (included in the 2014 image-making course), becomes a far more productive artifact for classroom discussion, where critique is informed by a clear understanding of utility. It forces the students to manage complexity.

The three-iteration sequence in Figure 7 demonstrates the impact of the exercise-to-project conversion on critique and development. The first pictured iteration (at left) is basic in terms of its content, which includes a title, ten illustrations with dates, a minimal timeline, a marginal moon, and a single paragraph. For the 2008 version of the assignment, the critique would stop at internal relationships of layout. For this 2014 version, where the poster is an educational resource, it is clear that the iteration is too information-poor to adequately serve that purpose (which came out in the critique). Furthermore, those internal relationships of layout become easier to discuss when the work is clearly goal-oriented.

The later iterations in this example folded more information into the poster, as the assignment dictated. The gradual increase of information, and the significant critique-informed iteration that goes along with it, is what makes such complexity manageable by entry-level students (the 2014 image-making course was in the second semester of a graphic design curriculum). The work becomes more about the practical use of imagery—which in practice is most often provided to designers—and its relation to typography, than it does about image making in isolation. Historicize² thus promotes a more authentic product than Historicize¹.

Figure 5: Historicize² final iteration (typos retained), by Matt Pahl.



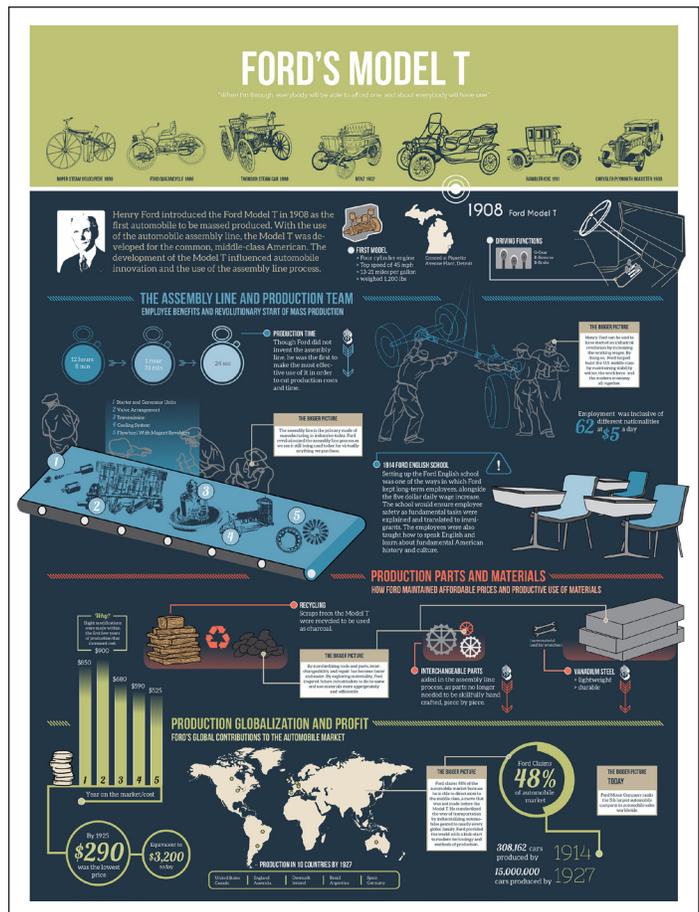
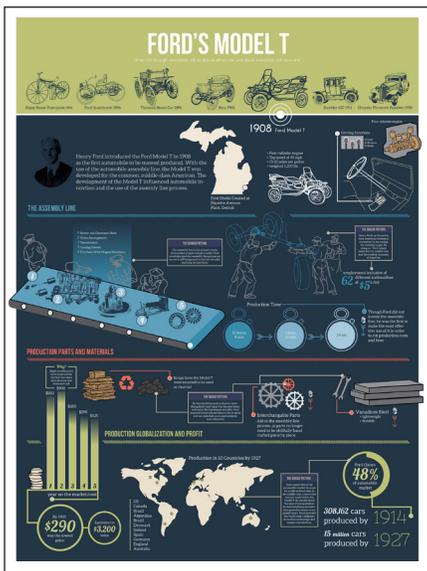
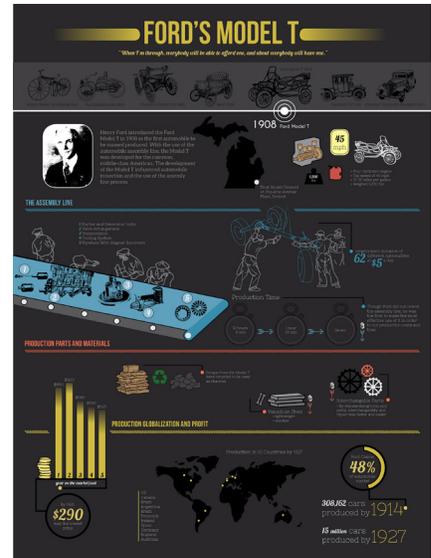
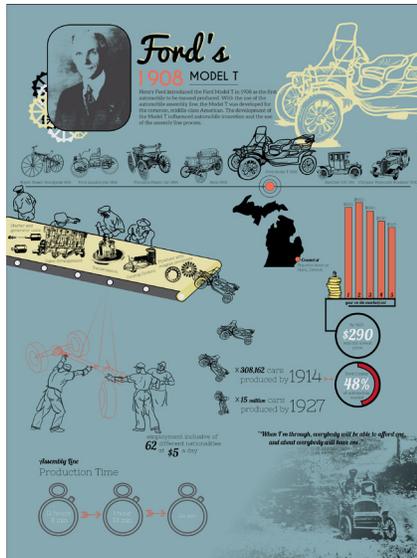
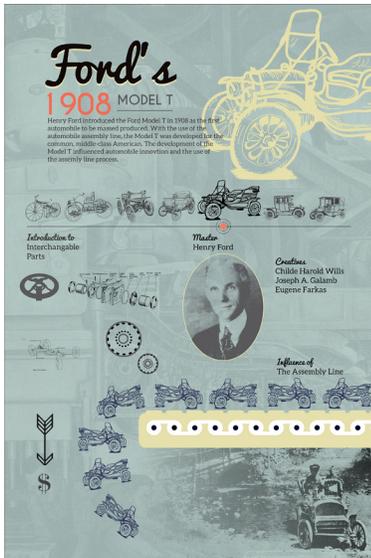


Figure 6: Historicize² iterations, by Bella Reinhofer.

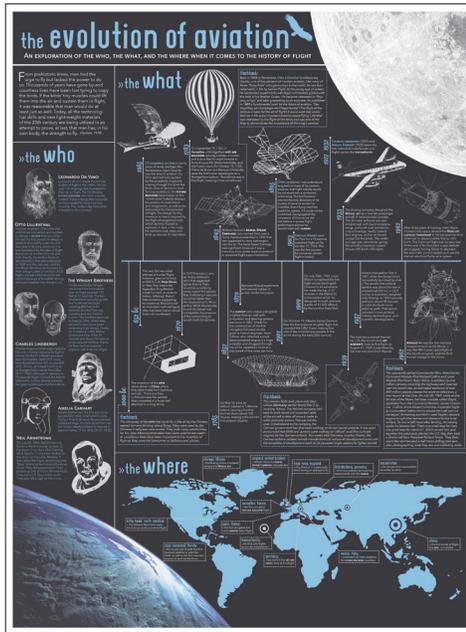
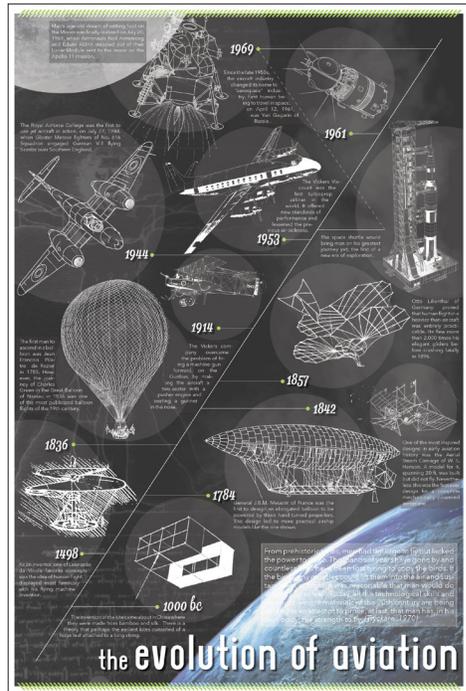
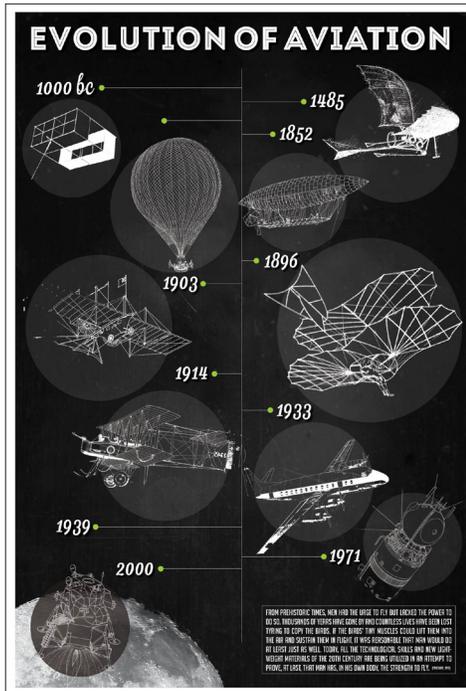


Figure 7: Historicize² iterations, by Katie Geary.

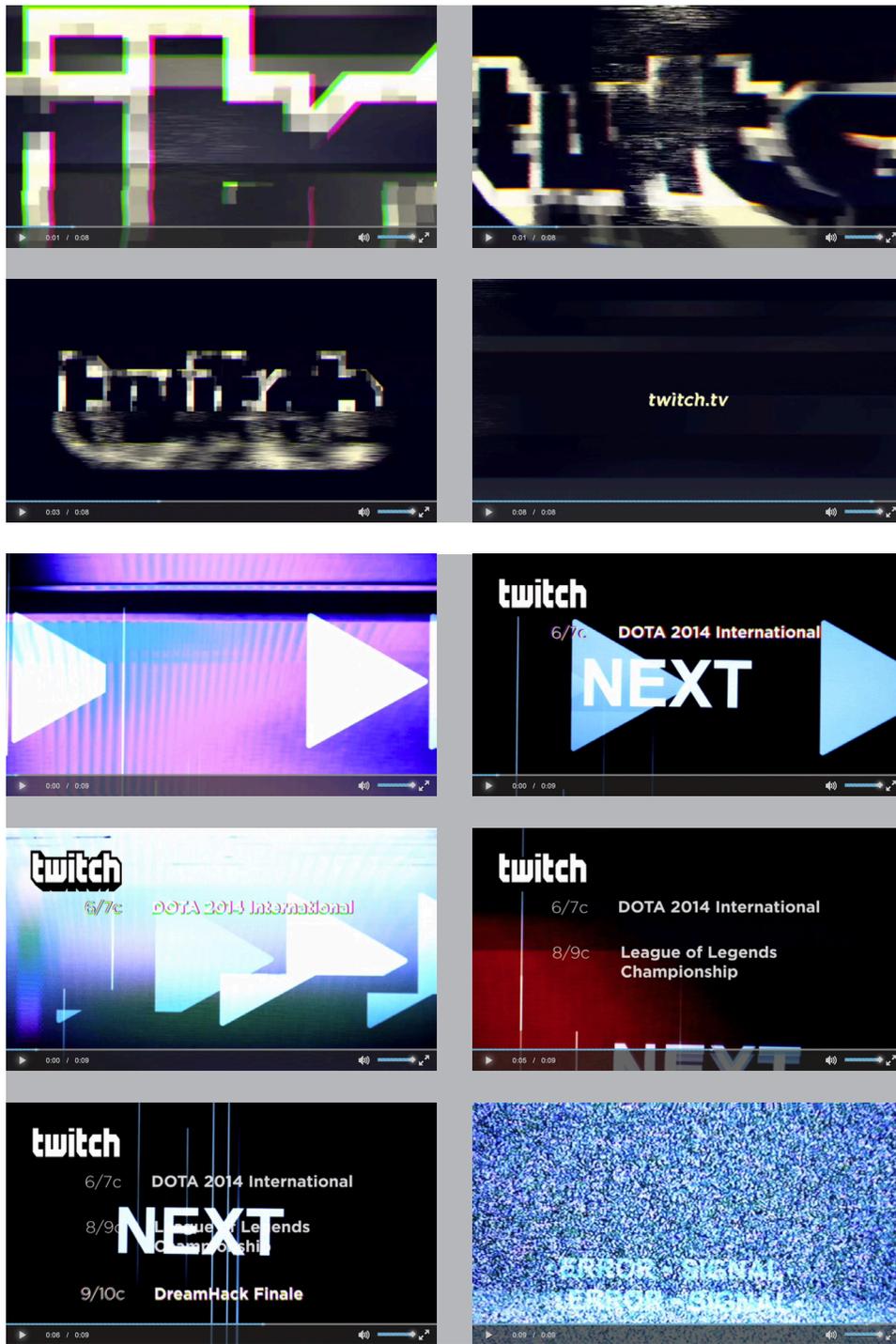


Figure 8: Stills from Station Identification, with identity (top) and programming (bottom) bumpers, for a video game oriented station, by Lisa Vuong. This solution was executed with video editing software.



Figure 9: Stills from Station Identification, identity (above) and show (below) bumpers, for Manhole, a channel for men, by Emily Ogden. This solution was executed with minimal use of video editing software. The student created sets, including a lit match head as a smoking cigar and a TV set made with a 3D printed enclosure over an iPhone displaying video.



Figure 10: Magazine covers and corresponding contents page, by Lisa Vuong.

The 2014 image-making course is more dependent upon projects, with assignments longer in duration than the 2008 exercises and often experienced in multiple stages (though the semester does start with two “warm-up” exercises only slightly modified from their 2008 versions). The course maximizes productivity by issuing new assignments in the same period as final critiques, such that every day includes a deliverable. All assignments afford enough time for critique-driven revision. The 2014 coursework includes six assignments, the final four of which qualify as *projects*, and some arguably as *investigations*.

1. Illiterate Instructions (similar to 2008 version).
2. Tableau (the 2014 version is a slight modification that stresses the construction of a mystery and includes a more prominent typographic message, which is not allowed to “give away” the mystery itself, but rather frame it).
3. Historicize² (described above).
4. Station Identification: invent a new viable TV station and produce three 2–15 second bumpers (interstitial sequences amidst programming)—an identity bumper (identifying the station itself), a show bumper, and a programming bumper (listing the next few programs with air times). The suite of bumpers needs to form a coherent system of identity, while each bumper must also have unique aspects to maintain interest (Figures 8 and 9). (A workshop was conducted on day 1 of the assignment, where students brought in light sources, objects, and cropped graphics, and explored filming techniques. These in-class studies demonstrated that compelling form can be generated without intimate software knowledge, and served as a form-making backup plan for any students who had difficulty learning video software.)
5. Non-Gallery Guide: select a local space or set of spaces and treat it like an exhibition, with a gallery guide (brochure) that leads a reader through points of interest. The guide should provide information on the points of interest. (Small groups conducted the critique by traveling to the local “exhibition spaces” [a park, a building, a set of college bars, etc.] with guides in hand, returning to report to the full class.)
6. False Titles: invent a new viable magazine and design three covers and a contents page corresponding to one of the covers (Figure 10). (As with all other projects, students had to develop alternative ideas before selecting and developing one. Early image creation for the covers was guided by an assigned image function.)

While the 2008 image-making course attempted to isolate design fundamentals through exercises, the 2014 course took a different philosophical stance:

- Design fundamentals are embedded in rich experiences. Graphic design is meaningful and relational, and isolating fundamentals through context-free exercises fails to engage with them in any practical or transferable way.

- ▶ Meaningful complexity is inherent to authentic graphic design. Complexity need not be denied for lower-level students. It can be managed through guided attentional focus, by limited what students have to deal with at any given moment while still permitting them to develop something ultimately complicated.
- ▶ Work that is self evident, that doesn't require a corresponding project brief to appear sensible as a solution, better represents the inherent goal-oriented nature of design. (Compare False Titles [2014] to Envirobehave or Adbuster [2008].)

Both courses were developed using a backward design approach, which ensures specified learning outcomes by developing assignments from those articulated outcomes. Of course, a backward design course development approach is only as good as its learning outcomes and the philosophy embedded therein. And in-class discussion and critique formats must purposefully reinforce the philosophy and goals inherent in the coursework. Instruction, as ever, is a convoluted but manipulable endeavor. It is perhaps a good sign if the instructor is as challenged as the students.