

# Collectively Mapping Borders

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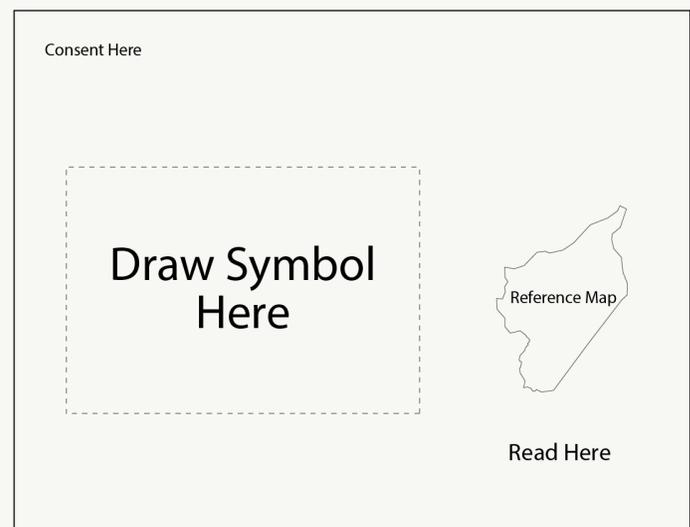
I BECAME FASCINATED with borders and all their peculiarities about two years ago, while simultaneously enrolled in a border studies course and a cartography course. At that time, I began questioning and rethinking the cartographic conventions and workflows that I had been exposed to: downloading a shapefile of country outlines, generalizing the linework, and assigning homogeneous symbolization—thin, solid, black strokes—across all units, sometimes adding a dash if the border is contentious (Figure 1). But throughout the semester, I quickly discovered that I was doing it all wrong: I had no clue what borders were or how to represent them.

Borders are dynamic and are continuously evolving. They are nowhere near homogeneous, as each border is geopolitically different. They often tighten and loosen, allowing some to enter, but not others—and force many to be smuggled across. We conventionally represent borders in two dimensions: lines for the border itself and points for border crossings. In reality, borders are often areas and zones of transition. Lastly—and most importantly—individuals experience borders in different ways. Men and women, the young and old, those alone and those in groups, often have very unique and individualized border experiences. These peculiarities became the center of my work as I chose the timely case study of Syria and Syrian refugee border experiences for my graduate research.

The question at the center of my research became: How can the cartographic portrayal of Syrian borders be improved to better represent refugee experiences? I conducted a series of interviews with Syrian refugees and humanitarian workers in the spring of 2015 and developed an alternative technique to remap Syria's borders based on my interviewees' experiences and perspectives (Kelly 2016 and [mappingborders.github.io](http://mappingborders.github.io)). My technique, however, is just one solution for rethinking and remapping borders, so I turned to the cartographic community to continue this exploration of border symbolization.



*Figure 1. A familiar depiction of Syria and its neighboring countries that uses conventional border symbols (solid and dashed black lines) and smooth, unhindered flow lines showing refugee movement.*



*Figure 2. The page layout used in each notebook given to sketch mapping participants.*

In October 2015, I asked attendees of the NACIS Annual Meeting in Minneapolis, MN to collectively remap Syria's borders based on excerpts from my interviews with refugees and humanitarian workers. Participants were given one of six notebooks and various colored pens. Each page had a blank space for drawing, a locator map, and a different quote from one of my interviewees—either Adiba or Mohammed (Figure 2). I asked participants to (1) pick a notebook, (2) read the passage, (3) symbolize the border based on the experience described in the passage, and (4) start again!

Each passage was taken from either Adiba's or Mohammed's description of Syria's borders through their personal experience or perspective (Kelly 2016).

**Passage 1 (Adiba):** "It's very difficult for young men. It's a high-risk age to be trying to leave."

**Passage 2 (Mohammed):** "I was lucky. They didn't have my name on the [Syrian] border."

**Passage 3 (Adiba):** "The Turkish border [is] more fluid or porous, more equipped."

**Passage 4 (Adiba):** "For women, I think it's been a bit easier to cross... if you want to come to Europe, make sure you have one of your children at least with you."

**Passage 5 (Mohammed):** "You have to go through the mountains and take backroads through villages. It [the Lebanese border] is like walking through a mine field."

**Passage 6 (Mohammed):** "The Jordanian-Syrian border is totally one hundred percent controlled by the Jordanian government. No one or nothing goes in and out."

I collated and digitized my 50 collected sketches (Figures 3-A through 3-DD) and quickly analyzed the visual variables and cartographic techniques used in each map. Here, I briefly mention a few of these variables that were most frequently used in reinventing border symbolization.

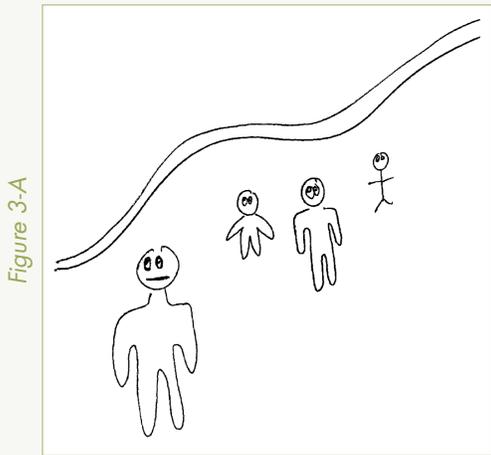


Figure 3-A

### Passage 1

"It's very difficult for young men. It's a high-risk age to be trying to leave."

Adiba

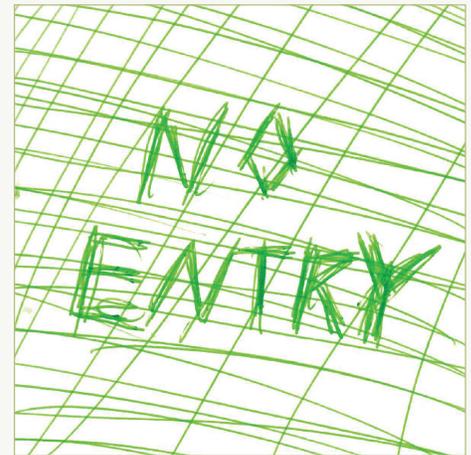


Figure 3-B

Figure 3-D

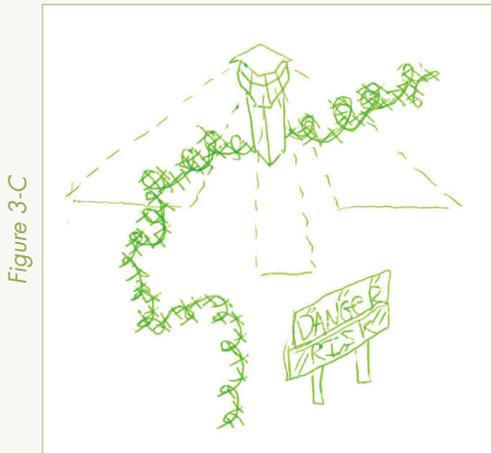


Figure 3-C

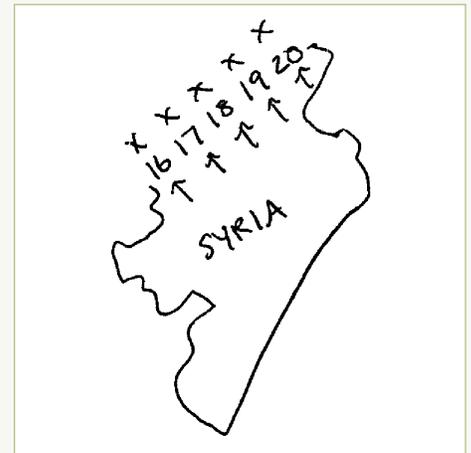
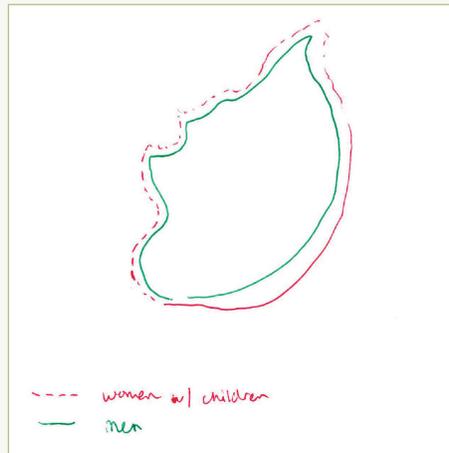


Figure 3-E

Figure 3-F



### Passage 2

"I was lucky. They didn't have my name on the [Syrian] border."

*Mohammed*

Figure 3-G

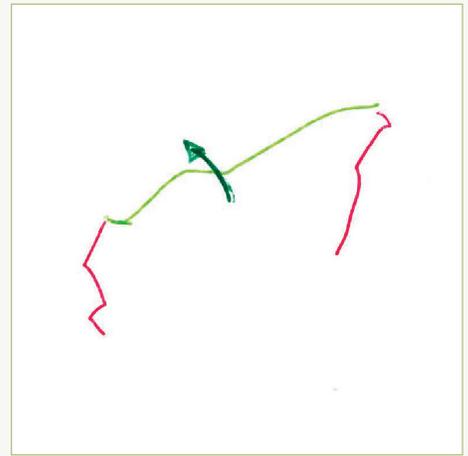


Figure 3-H

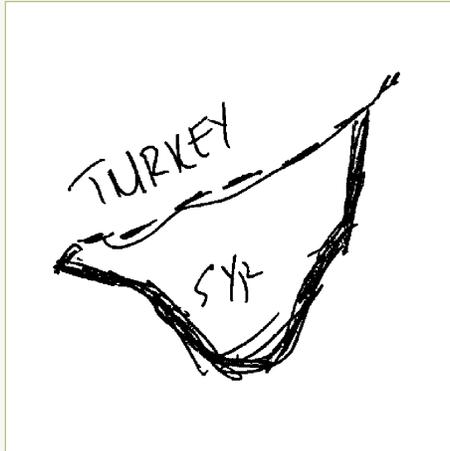


Figure 3-I

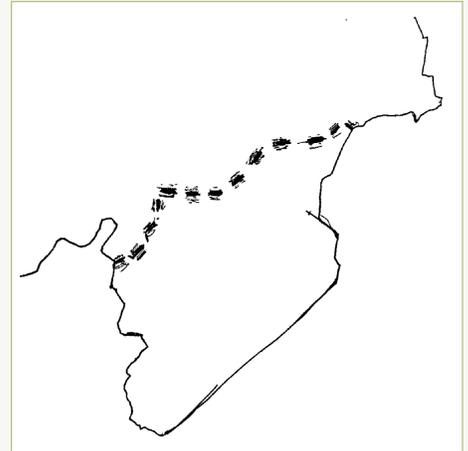
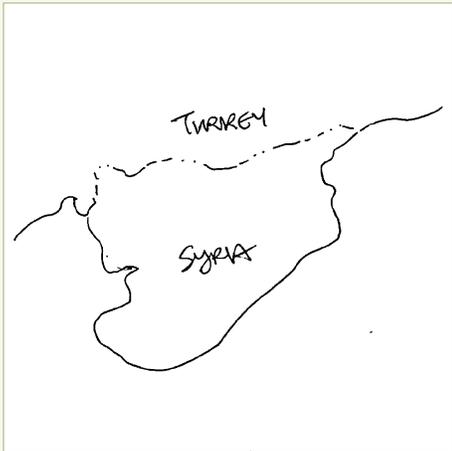


Figure 3-J

Figure 3-K



### Passage 3

"The Turkish border [is] more fluid or porous, more equipped."

*Adiba*

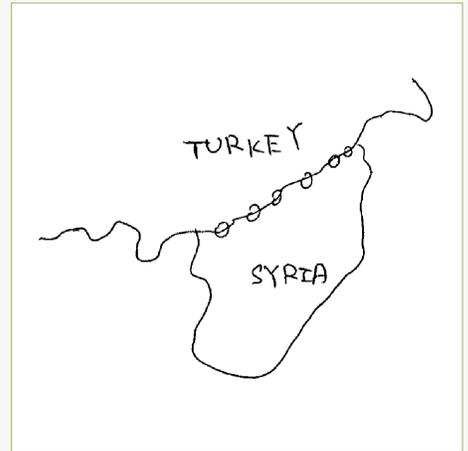


Figure 3-L

Figure 3-N

Figure 3-M

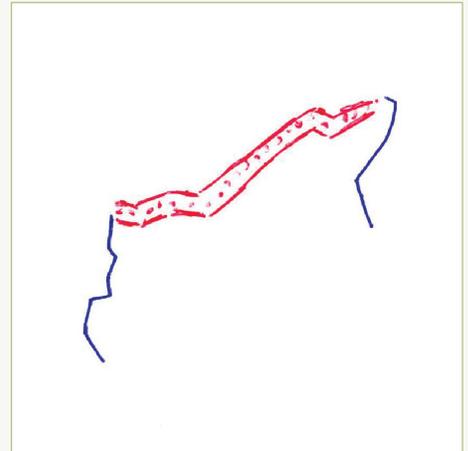
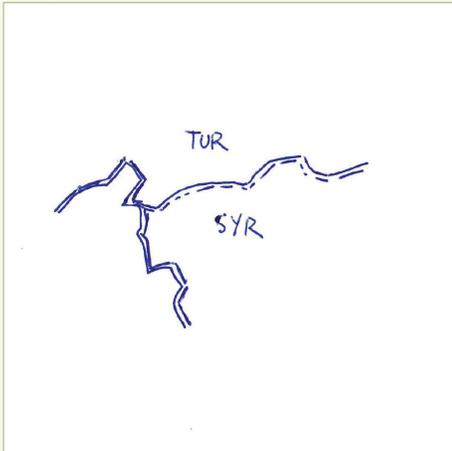


Figure 3-O

Figure 3-P

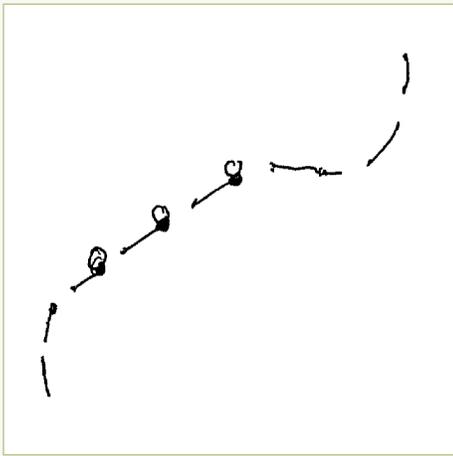


Figure 3-S

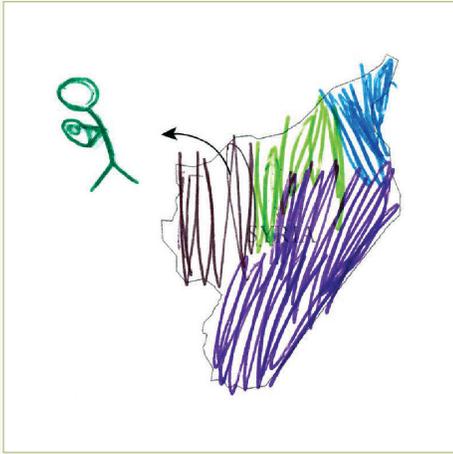


Figure 3-U



Figure 3-W

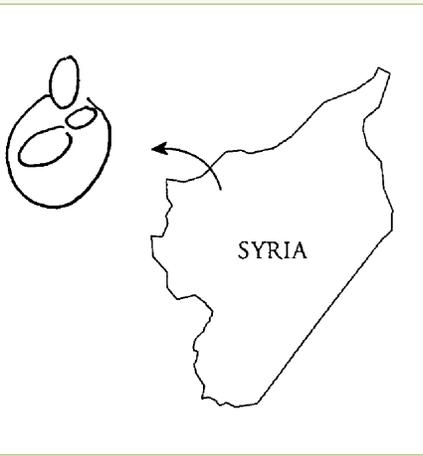
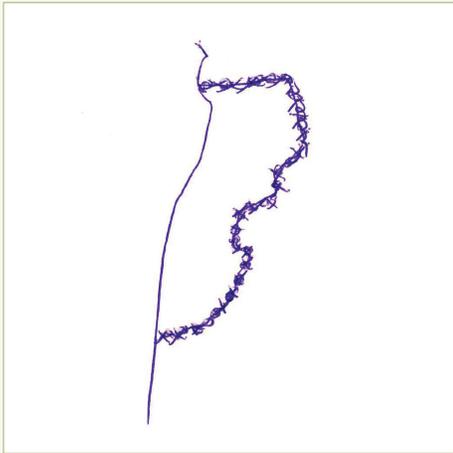


Figure 3-Q

### Passage 4

"For women, I think it's been a bit easier to cross... if you want to come to Europe, make sure you have one of your children at least with you."

*Adiba*

### Passage 5

"You have to go through the mountains and take backroads through villages. It [the Lebanese border] is like walking through a mine field."

*Mohammed*

Figure 3-X

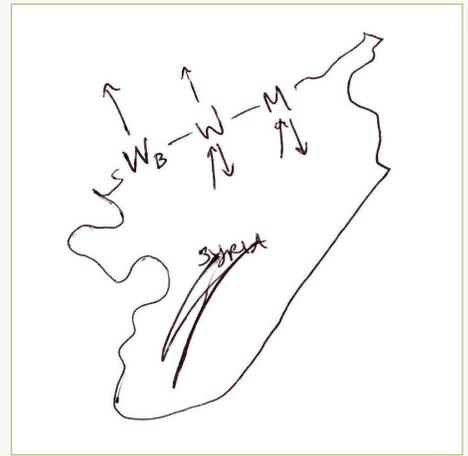
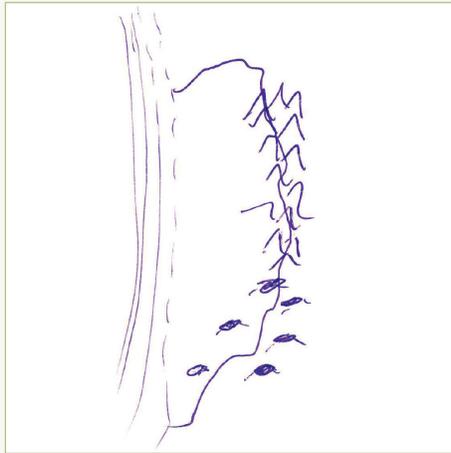


Figure 3-R

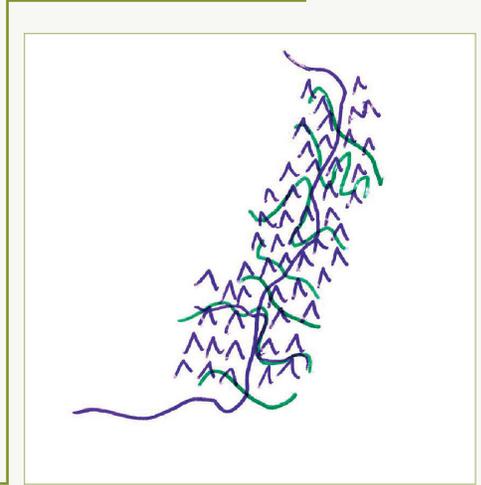


Figure 3-T



Figure 3-V

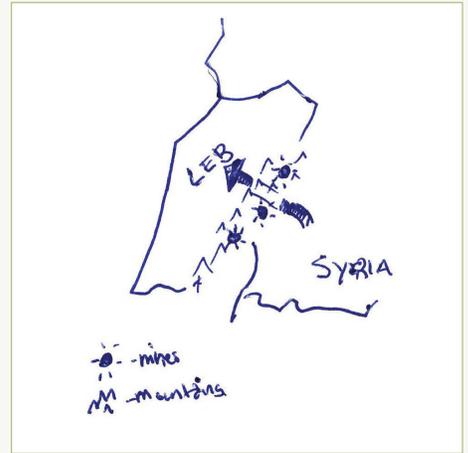
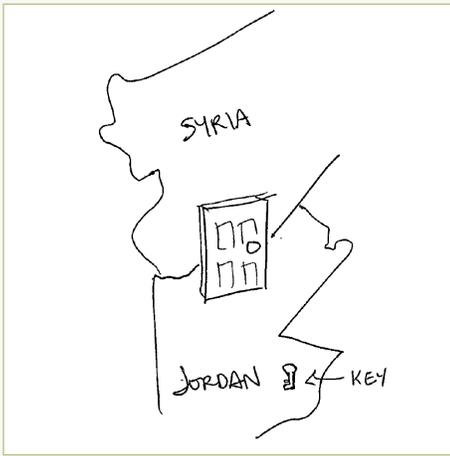


Figure 3-Y

Figure 3-Z



## Passage 6

"The Jordanian-Syrian border is totally one hundred percent controlled by the Jordanian government. No one or nothing goes in and out."

Mohammed

Figure 3-CC

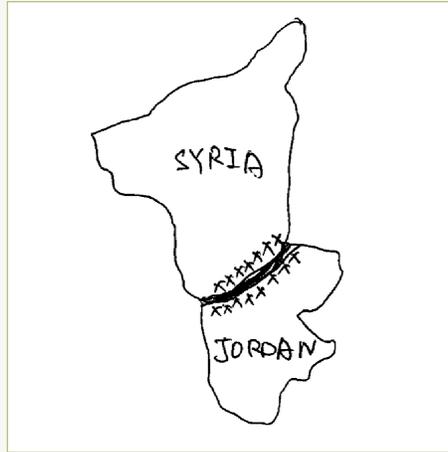


Figure 3-BB

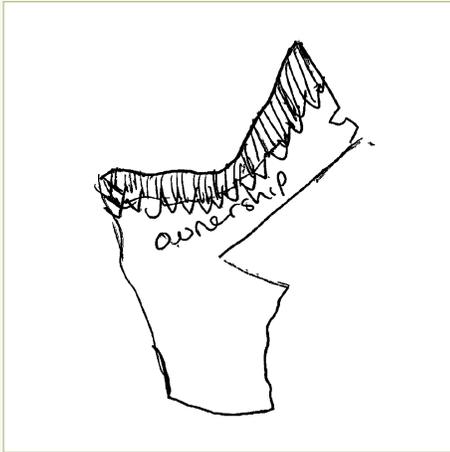


Figure 3-AA

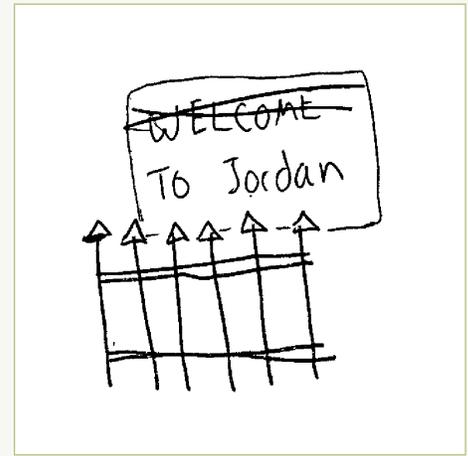
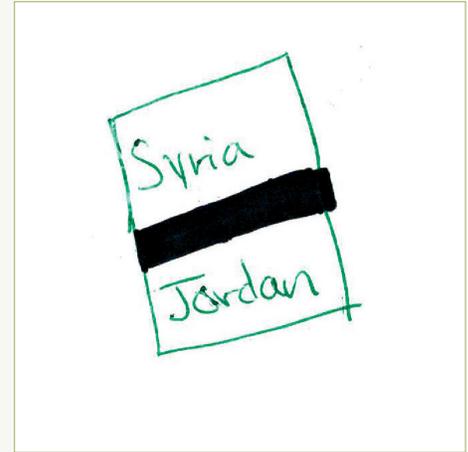


Figure 3-DD



As expected, a majority (37 of 50) of the maps used lines to represent the borders. Lines are an obvious and often default choice when choosing border dimensionality. Points were also common in depicting border-crossing locations. I was intrigued, however, to discover that roughly half of the sketches used areas to depict the border; polygons are an innovative dimension through which to explore border features. Additionally, one map did not show the border in any dimension, opting to use type—the word Syria centered in the sketch space—and type only. It was also common in over half the maps to use more than one dimensionality. For example, Figure 3-Z uses a doorway to show a border crossing point, but also uses solid, black lines to depict the remainder of the borders. Similarly, Figure 3-CC combines a polygon and a line, whereas Figure 3-H only uses a line. This combination and use of alternative feature dimensions expands the vocabulary of border features.

Sixty percent of the sketches used black ink alone, while the remaining 40 percent used color. Figures 3-D, -G, -O, -DD, for example, used two hues to nominally separate two border types. In contrast, Figures 3-H and 3-W used only one hue. I expected color, particularly red, to be

used more frequently as it elicits a sense of fear or negativity. Although red was only used four times, Figure 3-G uses a combination of a red and green to show a “stop and go” effect similar to a stoplight. Hue is a visual variable that could be used more to explore border symbolization.

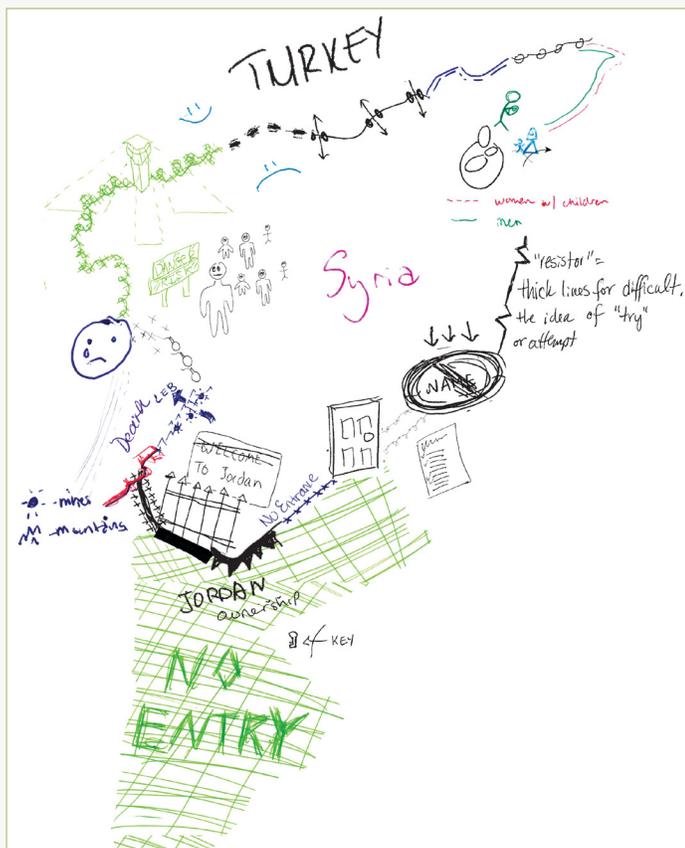
Type was an effective tool, used in 29 sketches. Twenty-one of the sketches used type for labeling purposes only, but other participants in this exploration used type in interesting and evocative ways. Figure 3-C uses type to show “danger” and “risk,” while Figures 3-AA and 3-BB use it to describe Jordan’s control of its border. Figures 3-D, -Y, and -Z use text in their legends to identify particular features. Figure 3-B uses the words “NO ENTRY” to emphasize the border as inaccessible.

As expected, solid lines were the most prominently used symbol choice (40 sketches) utilizing the visual variable of arrangement. Yet I was surprised to find that 18 sketches used dashes and 16 used both dashed and solid lines. While arrangement is a visual variable commonly used in border depictions, I was excited to see participants use a variety of other visual variables and symbolization

techniques, including shape, lightness/saturation, perspective height, and thickness.

The visual variable of shape was used in 31 sketches, eight of which were used for border crossing points. These shapes included the icons and point symbols. Although icons ranged in iconicity or the level of abstraction, participants used mimetic icons most readily. These icons varied, and included: people, bombs, mountains, doors, signs, and towers. Using people and faces was an effective cartographic choice to show emotion. In Figure 3-A, for example, the four figures are bleakly looking towards the borders and Figure 3-H shows happy and sad faces to convey a sense of joy and despair, respectively. Figure 3-F uses a combination of type and icon to show restriction based on name. Icons are extremely helpful tools to quickly and effectively convey a message.

I did not expect lightness and saturation to be used very efficiently, because participants were using ink pens. While it is difficult to shade with pen, I was happy to see this accomplished in 15 sketches. One example is Figure 3-J,

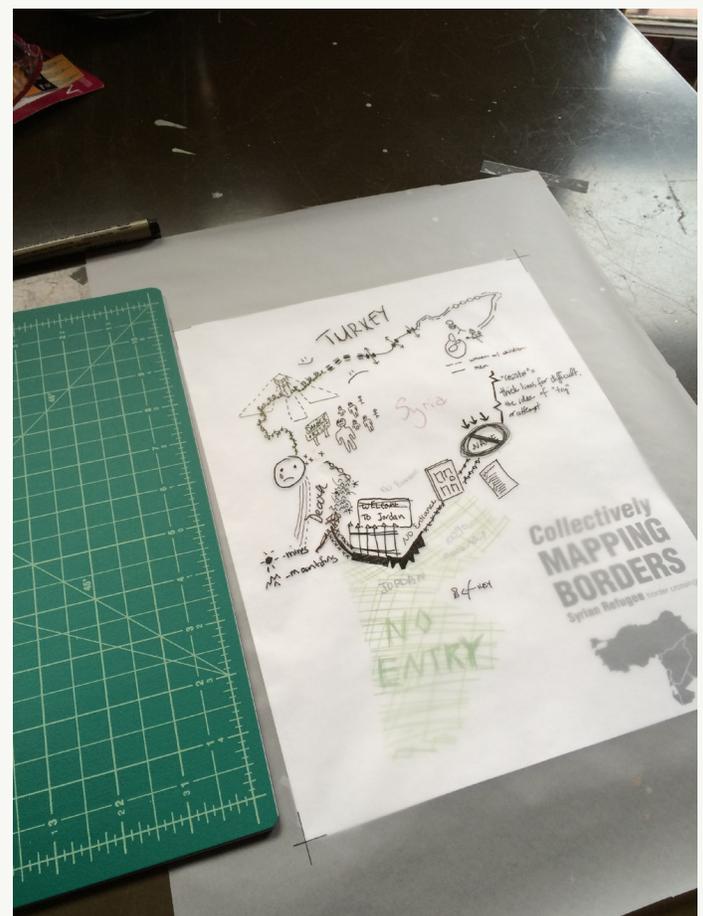


**Figure 4.** A composite representation of Syria that combines individual sketches and border symbols created by the NACIS community.

which uses a combination of a dashes and lightness. Each dash illuminates a shaded gradient in either direction.

Height was used in several maps, including Figures 3-Z and 3-AA. Height was only used from oblique perspectives, which aids in its perception. Height and the oblique perspective—used in eight sketches—give the viewer a more intimate viewing angle and are useful tools for showing on the ground experience. Thickness—and particularly varying thickness—also proved to be an effective tool, particularly for showing difficulty. Figure 3-N shows a gradient of thickness, which reflects the fluctuating border control and degree of difficulty for individuals in crossing. Overall, the participants in this exploration expanded the use of visual variables beyond the usage of arrangement (solid and dashed lines). It is important to continue to explore these “other” visual variables to expand the representation and symbolization of border experience.

After analyzing the cartographic techniques used by participants at NACIS, I created a composite representation



**Figure 5.** A photo mid-process that shows my ink tracing on top of the composite representation of Syria.

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of Syria using Adobe Photoshop and Illustrator to the combine the techniques used by the NACIS community (Figure 4). I then retraced each sketch using ink and sketch paper before returning to Photoshop for final touch-ups (Figures 5 and 6). This new alternative map nudges cartography forward by asking cartographers (professional and amateur alike) to *collectively* rethink borders and their symbolization. By focusing on border symbolization, participants—myself included—collectively expanded our visualization and cartographic vocabulary to better reflect the experiences of those crossing and interacting with borders. My brief analysis of the visual variables used by participants creates new questions and opportunities

for further analysis. Additionally, it is my hope that this collective mosaic calls attention to the Syrian conflict and those most affected. In this light, I return *Collectively Mapping Borders* to the NACIS community. Thank you to all that have contributed, specifically Margaret Pearce for her help in brainstorming the idea!

## REFERENCE

Kelly, Meghan. 2016. "Mapping Syrian Refugee Border Crossings: A Critical, Feminist Perspective." Master's thesis, Department of Geography, University of Kansas.

*Visual Fields* focuses on the appreciation of cartographic aesthetics and design, featuring examples of inspirational, beautiful, and intriguing work. Suggestions of works that will help enhance the appreciation and understanding of the cartographic arts are welcomed, and should be directed to the incoming section editor, Matt Dooley: [mathew.dooley@uwr.edu](mailto:mathew.dooley@uwr.edu).