

Project 3: Expressive Data Visualization

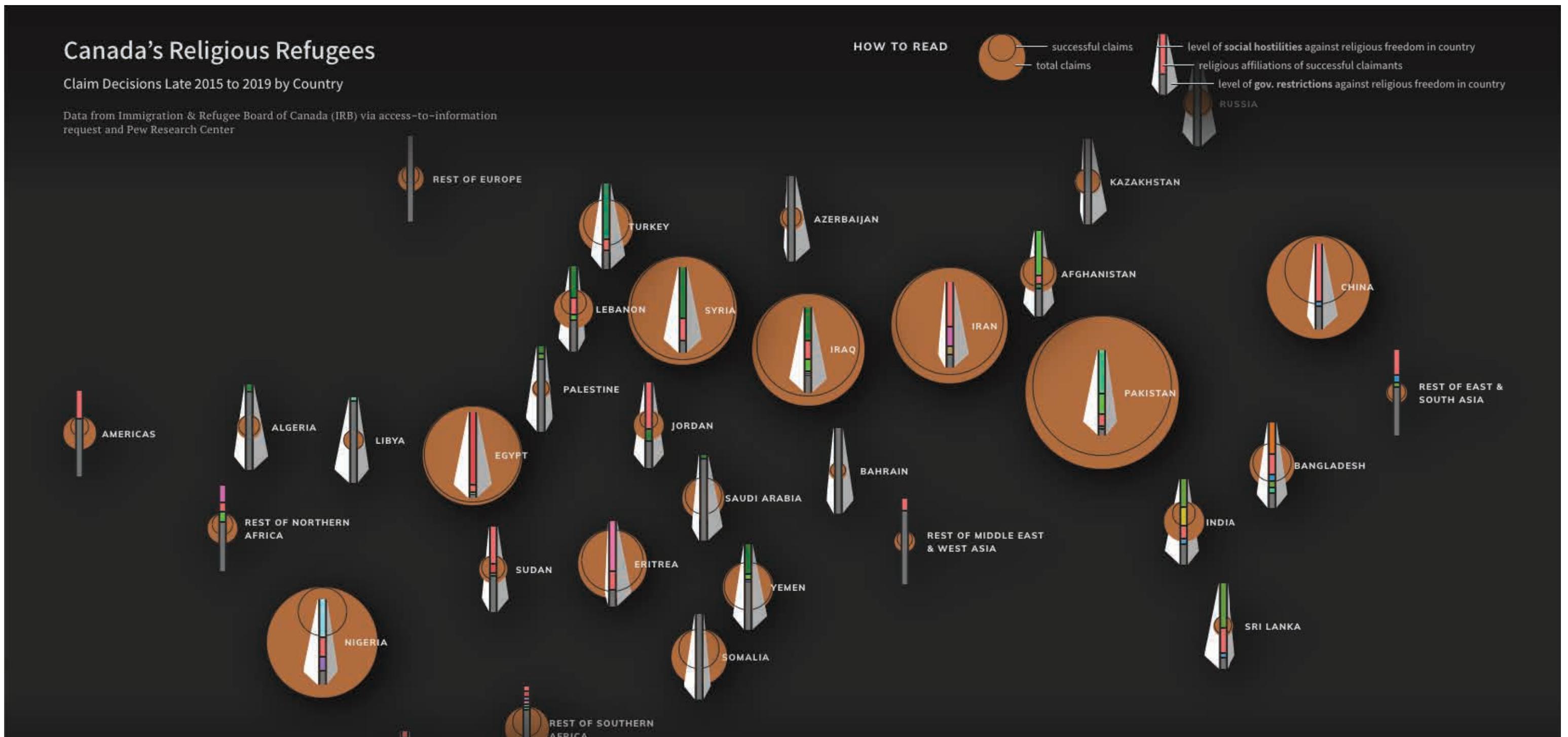
**Justin Chiu
217129628**

**DESN2021 Lab 2
Lucy Bilson**

FINAL WEBSITE LINK

justin-chiu.github.io/canada-religious-refugees/

Note: The visualization is not yet fully responsive for laptop and tablet screen sizes, and is currently best viewed on desktop-size displays.



BRAINSTORMING IDEAS

Self statistics

- Web browsing activity
- Keystroke tracking

Making connections

- Celebrity dating relationships
- Food corporations
- U.S. political families

Magnitude

- Counting use of divisive buzz words on Twitter
- Using AI tools to measure tone of divisive tweets
- Charitable giving in Ontario
- Republican/Democratic corporate donors for the 2020 election
- Hollywood movie box office earnings vs. movie ratings

Tracking a process over time

- The fall of prominent evangelical leaders
- Black people in justice systems
- The Raptors' path to a championship
- NBA injuries and COVID-19 infections during the 2021 season
- The fall of the WE charity
- Gambling growth in Ontario - OLG and Ontario Trillium
- Refugee and asylum claims to Canada

BRAINSTORMING SKETCHES

Order of sketches by page from top to bottom:

First page

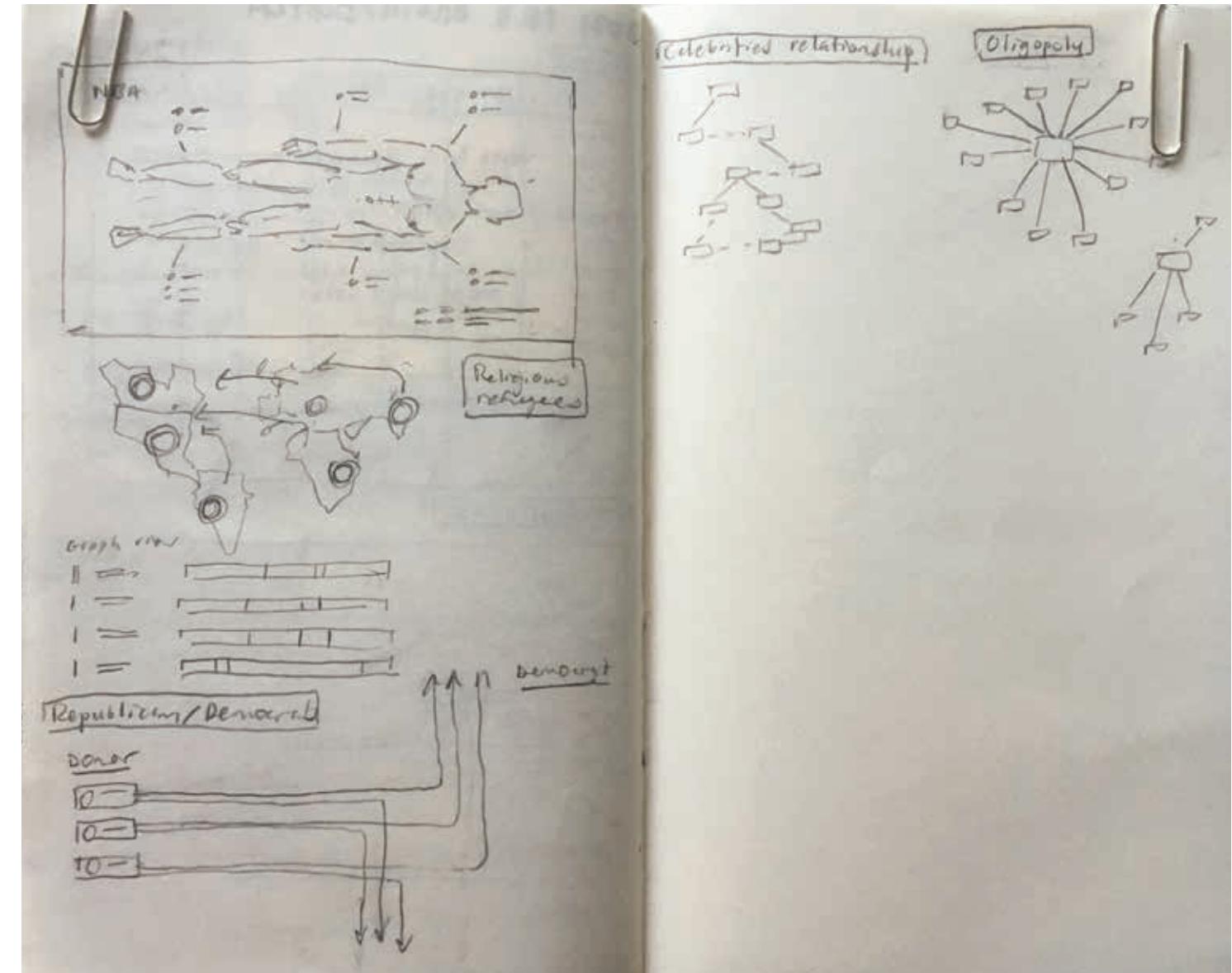
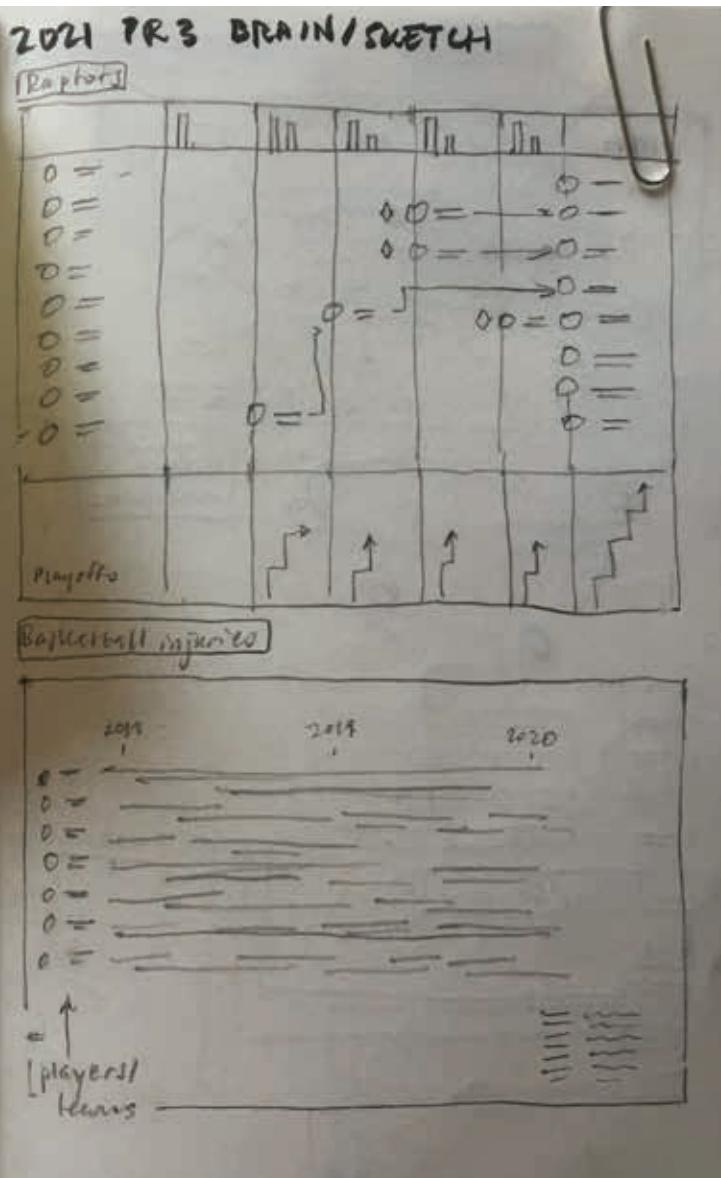
- Raptors' path to a championship
- NBA injuries and COVID infections in the 2020-2021 season

Second page

- NBA injuries
- Religious refugees by continent or country group
- Republican/Democratic corporate donors

Third page

- Celebrity relationships
- Food corporations



CHOSEN TOPIC: RELIGIOUS REFUGEE CLAIMS

Of all the brainstormed ideas, the religious refugee claim data set had the most relevance in real-life.

I also recognized the potential for unexpected, counter-intuitive insights, since this topic is seldom covered by Canadian media and not at the forefront of our cultural consciousness.

Furthermore, there is a significant human component, as each of the claims in the data set represent people and families who may be facing persecution for their religious beliefs.

BACKGROUND RESEARCH SOURCES

Canada.ca refugees and asylum seekers information

<https://www.unhcr.org/canada.html>

How claims work

https://www.canada.ca/en/immigration-refugees-citizenship/news/2017/03/claiming_asylum_incanadawhatthappens.html

Irregular crossings

<https://www.canada.ca/en/immigration-refugees-citizenship/campaigns/irregular-border-crossings-asylum/no-automatic-stay.html>

The process

<https://www.canada.ca/en/immigration-refugees-citizenship/services/refugees/claim-protection-inside-canada.html>

Types of refugee/asylum seeker programs

<https://www.canada.ca/en/immigration-refugees-citizenship/services/refugees/canada-role.html>

Eligibility

<https://www.canada.ca/en/immigration-refugees-citizenship/services/refugees/help-outside-canada.html>

Human and religious freedom in the world

https://www.uscirtf.gov/sites/default/files/USCIRF%202020%20Annual%20Report_Final_42920.pdf

<https://www.cato.org/human-freedom-index/2020>

<https://www.pewforum.org/essay/religious-restrictions-around-the-world/>

<https://www.pewforum.org/2019/07/15/a-closer->

After deciding on my topic, I did some background research on Canada refugees and the claim process. Although I did not write any notes, here are all the sources I looked at.

[look-at-how-religious-restrictions-have-risen-around-the-world/](https://www.pewresearch.org/fact-tank/2020/11/10/government-restrictions-on-religion-reach-highest-level-globally-in-more-than-a-decade/)

<https://www.pewforum.org/2020/11/10/in-2018-government-restrictions-on-religion-reach-highest-level-globally-in-more-than-a-decade/>

<https://www.pewresearch.org/fact-tank/2020/11/10/government-restrictions-on-religion-around-the-world-reached-new-record-in-2018/>

<https://www.pewresearch.org/fact-tank/2019/07/16/how-religious-restrictions-around-the-world-have-changed-over-a-decade/>

SOURCES OF DATA

Main data set - from Immigration and Refugee Board of Canada (IRB) access-to-information request

[\(USED IN FINAL\)](https://drive.google.com/file/d/1aeiYAYL7MUV9TPua_dZqJi2Eg0l7AKeqc/view?usp=sharing)

Overview of asylum claims

[\(USED IN FINAL\)](https://www.canada.ca/en/immigration-refugees-citizenship/services/refugees/asylum-claims/asylum-claims-2021.html)

2017 Jan-Sep Claims (alternate data set)

[\(USED IN FINAL\)](https://www.cbc.ca/news/canada/asylum-seekers-overview-data-1.4503825)

Religious Freedom Index

https://govdata360.worldbank.org/indicators/hd6a18526?indicator=41930&viz=line_chart&years=1975,2018

<https://fundalib.org/wp-content/uploads/2016/04/World-Index-of-Moral-Freedom-web.pdf>

<https://www.cato.org/human-freedom-index/2020>

<https://www.pewforum.org/2020/11/10/in-2018-government-restrictions-on-religion-reach-highest-level-globally-in-more-than-a-decade/>
(USED IN FINAL)

<https://www.pewforum.org/2019/07/15/a-closer-look-at-how-religious-restrictions-have-risen-around-the-world/>

Country Religions

<https://www.weforum.org/agenda/2019/03/this-is-the-best-and-simplest-world-map-of-religions>

I also looked for some sources of data to complement my main data set, including reports of religious freedom in the countries of the world.

<https://www.pbslearningmedia.org/resource/sj14-soc-religmap/world-religions-map/>

<https://www.cia.gov/the-world-factbook/field/religions/>

<https://data.un.org/Data.aspx?d=POP&f=tableCode%3A28>

Religious diversity index

<https://www.pewforum.org/2014/04/04/religious-diversity-index-scores-by-country/>

<https://www.pewforum.org/2014/04/04/global-religious-diversity/>

MAIN DATA SET

Excel Workbook – All Tables

<https://drive.google.com/file/d/1aeiYAYL7MUV9TPua dZqJi2Eg0l7AKeqc/view?usp=sharing>

Research Questions

What are the statistics for:

- Acceptance/rejection rate
- Number of applications filed and/or resolved per year
- Percentage breakdown based on country
- Percentage breakdown based on claim religion
- Average time elapsed between application and result

Which countries have many claimants, few claimants?

What is the relationship between conditions in the country and the refugee claims?

Which religious groups have the most claims or are the most persecuted?

DATA ANALYSIS

Overview stats on claims by decision type (“explanation”) and claims by year

Claims by Explanation	Count of Claims	Percentage of Claims
Positive	6372	54.4%
Negative	2848	24.3%
Expedited Positive	1958	16.7%
Withdrawn	243	2.1%
Abandoned	191	1.6%
Neg. No Cred Basis	76	0.6%
Deceased	11	0.1%
104.(2)(a)	10	0.1%
Administrative	9	0.1%
104.(2)(b)	3	0.0%
Grand Total	11721	100.0%

Date referred to RPD	Count	Date of RPD decision	Count
2007	1	2015	113
2010	4	2016	2415
2011	30	2017	3433
2012	325	2018	3285
2013	6	2019	2475
2014	89	Grand Total	11721
2015	908	Grand Total	11721
2016	3594		
2017	4527		
2018	2184		
2019	53		

DATA ANALYSIS

Cross-tabulating claim religions and decision type

Religions by Explanation	Explanation		Positive		Negative		Expedited Positive		Withdrawn		Abandoned		Neg. No Cred Basis		Deceased		104.(2)(a)	
			Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	▼	▲																
Alevi			111	63.1%	33	18.8%			22	12.5%	8	4.5%	1	0.6%			1	0.6%
Apostasy			156	61.2%	16	6.3%			80	31.4%	2	0.8%	1	0.4%			0	0.0%
Bahai			61	64.2%	6	6.3%			26	27.4%	2	2.1%	0	0%			0	0.0%
Buddhist			28	71.8%	9	23.1%			0	0%	0	0%	0	0%			1	2.6%
Chieftaincy and Fetish Priests			34	11.2%	246	80.9%			1	0.3%	6	2.0%	7	2.3%			10	3.3%
Christian			1510	51.4%	874	29.7%			397	13.5%	70	2.4%	54	1.8%			25	0.9%
Christian – Coptic			278	34.4%	22	2.7%			495	61.2%	8	1.0%	3	0.4%			0	0.0%
Christian – Pentecostal			173	66.5%	26	10.0%			39	15.0%	7	2.7%	10	3.8%			5	1.9%
Hindu			55	65.5%	26	31.0%			0	0%	1	1.2%	2	2.4%			0	0.0%
Muslim			49	53.3%	39	42.4%			0	0%	1	1.1%	3	3.3%			0	0.0%
Muslim – Ahmadi			889	84.1%	29	2.7%			114	10.8%	13	1.2%	8	0.8%			0	0.0%
Muslim – Shia			572	65.8%	217	25.0%			47	5.4%	13	1.5%	11	1.3%			6	0.7%
Muslim – Sunni			593	45.1%	122	9.3%			551	41.9%	34	2.6%	9	0.7%			0	0.0%
Sikh			11	25.6%	24	55.8%			0	0%	6	14.0%	1	2.3%			1	2.3%
Traditional			100	27.0%	254	68.5%			0	0%	4	1.1%	13	3.5%			0	0.0%
Varied/Other			1752	58.2%	905	30.1%			186	6.2%	68	2.3%	68	2.3%			27	0.9%
Grand Total			6372	54.4%	2848	24.3%			1958	16.7%	243	2.1%	191	1.6%			76	0.6%
																11	0.1%	
																10	0.1%	

DATA ANALYSIS

Cross-tabulating religion of claims from countries and decision type

Country of Persecution	Explanation												
	Positive	Negative	Expedited	Positive	Withdrawn	Abandoned	Neg.	No Cred	Basis	Deceased	104.(2)(a)	Administrative	104.(2)(b)
Pakistan	1633	307		152	23	20			5	4	2		
Christian	205	34		29	1	3							
Muslim – Shia	419	150		6	11	7			4	1	2		
Muslim – Sunni	8	26											
Varied/Other	121	77		3	1	2			1				
Muslim – Ahmadi	880	20		114	10	8				3			
Iran	876	145		173	25	7							
Apostasy	147	10		80	2	1							
Bahai	61	6		26	2								
Christian	510	95		59	16	3							
Varied/Other	158	31		8	5	3							
Muslim – Ahmadi		3											
Iraq	739	148		234	16	5			6	3		1	
Apostasy	1												
Christian	159	54		49	5	3			4	2		1	
Muslim	3	1											
Muslim – Shia	103	31		24	2				2				
Muslim – Sunni	291	29		133	8					1			
Varied/Other	182	33		28	1	2							
Nigeria	218	842			10	26			14		2		
Christian	49	216			2	5			4				
Muslim – Shia		1											
Traditional	100	244			4	13							
Varied/Other	37	161			2	1					2		
Chieftaincy and Fetish Priests	32	220			2	7			10				
Syria	380	47		599	27	11			1	2			
Christian	60	9		188	5	1				2			
Muslim	320	37		411	22	10							

DATA ANALYSIS

Cross-tabulating countries, acceptance rate, government restrictions index (Pew), social hostilities index (Pew)

<https://www.pewforum.org/2020/11/10/in-2018-government-restrictions-on-religion-reach-highest-level-globally-in-more-than-a-decade/>

Count	Explanation 	Positive	Expedited Positive	Grand Total	Grand Total (All Claims)	Acceptance Rate	Government Restrictions	Social Hostilities
Country of Persecution								
Pakistan		1633	152	1785	2146	83.2%	High	Very High
Iran		876	173	1049	1226	85.6%	Very High	Moderate
Syria		380	599	979	1067	91.8%	Very High	Very High
Iraq		739	234	973	1152	84.5%	Very High	Very High
Egypt		319	537	856	894	95.7%	Very High	Very High
China		432		432	960	45.0%	Very High	Moderate
Eritrea		257	94	351	429	81.8%	Very High	Low
Nigeria		218		218	1112	19.6%	High	Very High
Yemen		108	105	213	227	93.8%	Very High	High
Turkey		172	27	199	265	75.1%	Very High	High
Somalia		148		148	285	51.9%	Moderate	High
Bangladesh		138		138	183	75.4%	High	High
Saudi Arabia		113	10	123	159	77.4%	Very High	Moderate
Afghanistan		70	18	88	117	75.2%	High	High
Russia		67		67	76	88.2%	Very High	High
Lebanon		63		63	139	45.3%	Moderate	High
Kazakhstan		56		56	63	88.9%	Very High	Low
Sudan		49	4	53	69	76.8%	High	Moderate
India		52		52	148	35.1%	High	Very High
Algeria		41		41	53	77.4%	Very High	High
Libya		37	1	38	39	97.4%	High	Very High
Azerbaijan		37		37	50	74.0%	Very High	Low
Jordan		32		32	80	40.0%	High	High
Sri Lanka		31		31	39	79.5%	Moderate	Very High
Palestine		25		25	32	78.1%	Moderate	High
Angola		21	2	23	36	63.9%	Moderate	Low
Bahrain		21		21	28	75.0%	High	Moderate
Ethiopia		16		16	26	61.5%	Moderate	High

INSIGHTS FROM THE DATA

Overall

- Overall acceptance rate for refugee claims with a basis of religious persecution is about 71.1%
- Accepted claims with a basis of religious persecution peaked in 2017, with over 3,400 positive decisions.

Religions

- Coptic Christians have the highest acceptance rate at 95.6%, followed closely by the Ahmadiyya Muslim, Bahai, and Apostasy categories.
- The Chieftancy and Fetish Priests category has the lowest acceptance rate at 11.5%, with Sikh at 25.6%, and Traditional (folk religions) at 27.0%. No other category has an acceptance rate under 50%.
- In terms of share of total accepted claim decisions, the Varied/Other, Christian, Sunni Muslim, and Ahmadiyya Muslim categories make up 23.3%, 22.9%, 13.7%, and 12.0% respectively.

Countries

- Pakistan, Iran, Iraq, Nigeria, Syria, and Egypt make up a combined 67.7% of all accepted claims.

Comparison

- Number of accepted and total claims is moderately correlated with government restrictions on religion and social hostilities in the country
- Number of claims has very little correlation with religious diversity in the country
- Acceptance rate is somewhat correlated with Government Restrictions and Social Hostilities for countries with at least 30 claims.

INSIGHTS TO DISPLAY IN THE VISUALIZATION

What I decided to focus on for my visualization:

- The correlation between government restrictions, social hostilities, and acceptance rate
- The breakdown of accepted claim religions (vs. breakdown of country religions if time permits)
- Share of claim religions (if time permits)
- Acceptance rate by religion (if time permits)

The number of claims, acceptance rate, government restrictions, and social hostilities were the most worthy statistics to visualize because of the correlation among them in the data.

For each country, I broke down the claims by the religious affiliation of the claimant. However, only successful claimants were included in this breakdown to more accurately correlate with the conditions of religious freedom in the country.

VISUALIZATION APPROACH IDEAS

Claim decisions by year (A)

- broken down by country, or
- broken down by religion

Claims by country on a world map or in some other logical layout (B) – chosen approach

- broken down by religion
- compared with religious freedom index
- compared with religious diversity index
- compared with prevalence of religions in each country or dominant religion

Claims by country on a world map (C)

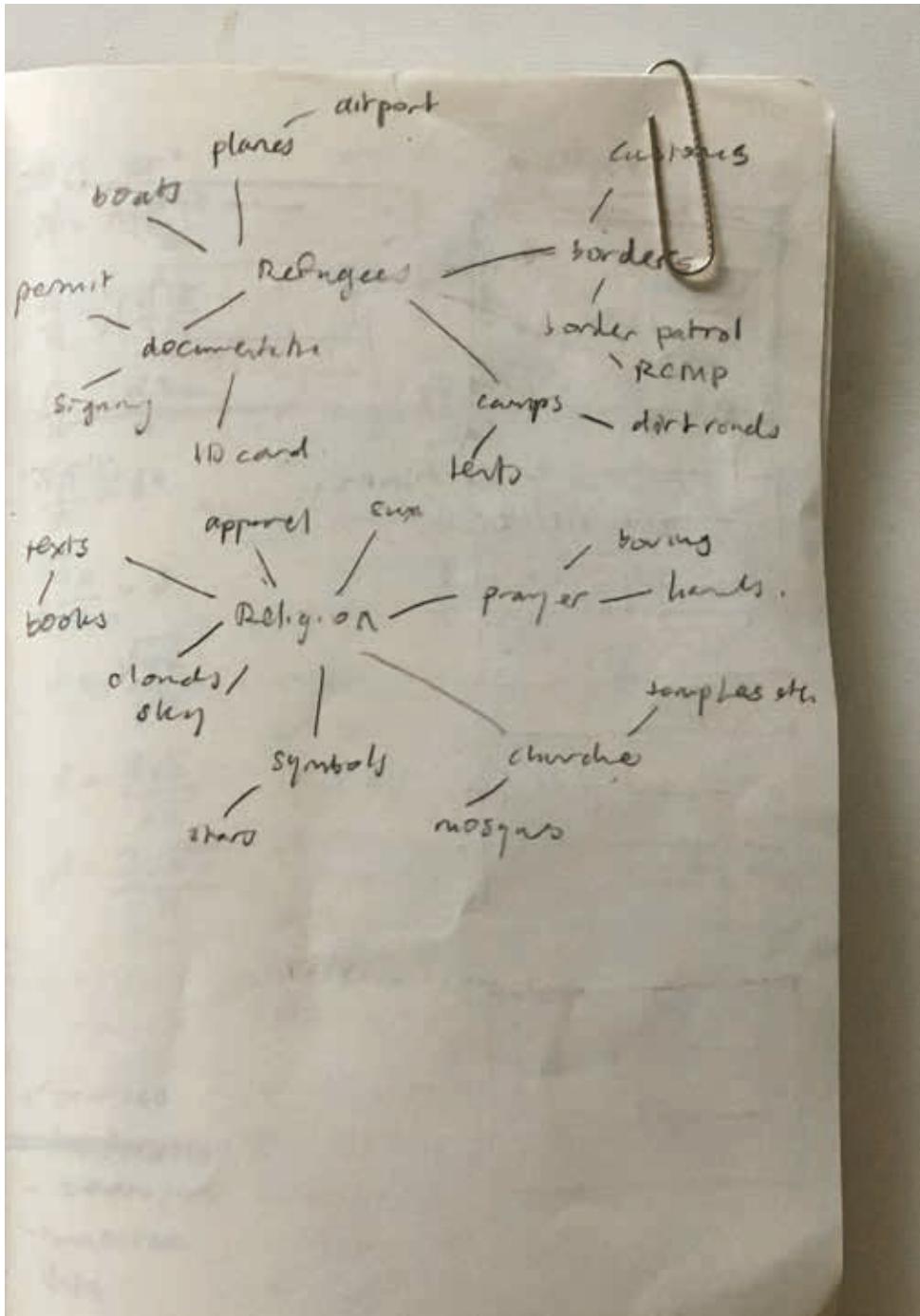
- broken down by acceptance/rejection
- further broken down by religion

Claims by religion (D)

- broken down by country
- compared religious freedom/diversity index

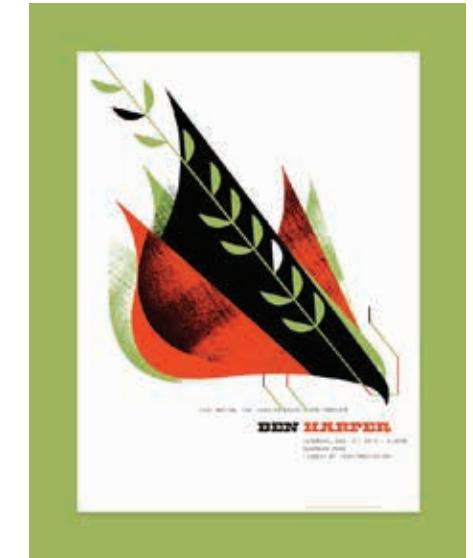
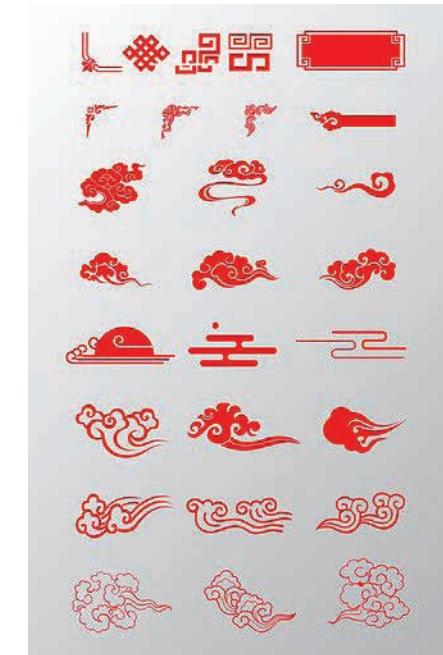
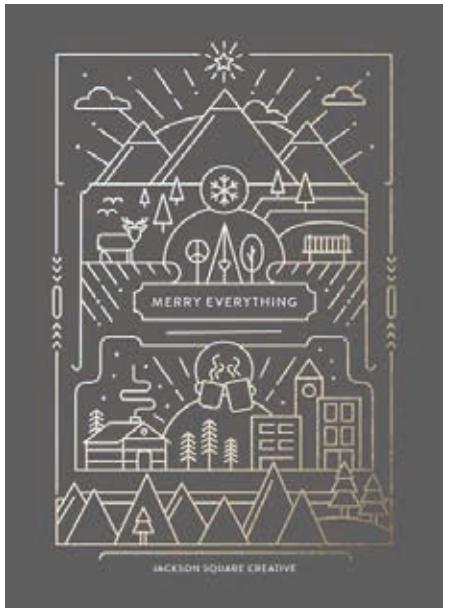
Although I explored other approaches, the geographical/spatial approach proved best because it fit people's mental models about where countries are located and gives the viewer a frame of reference.

DESIGN MIND MAPS



One of the things I wished I focused on more throughout the design process was the visual design of the visualization and its connotations. However, I did do some mind mapping, and used key words from this exercise to derive my typeface, colour, and style choices.

INSPIRATION RELIGION – VISUAL STYLE/IMAGERY

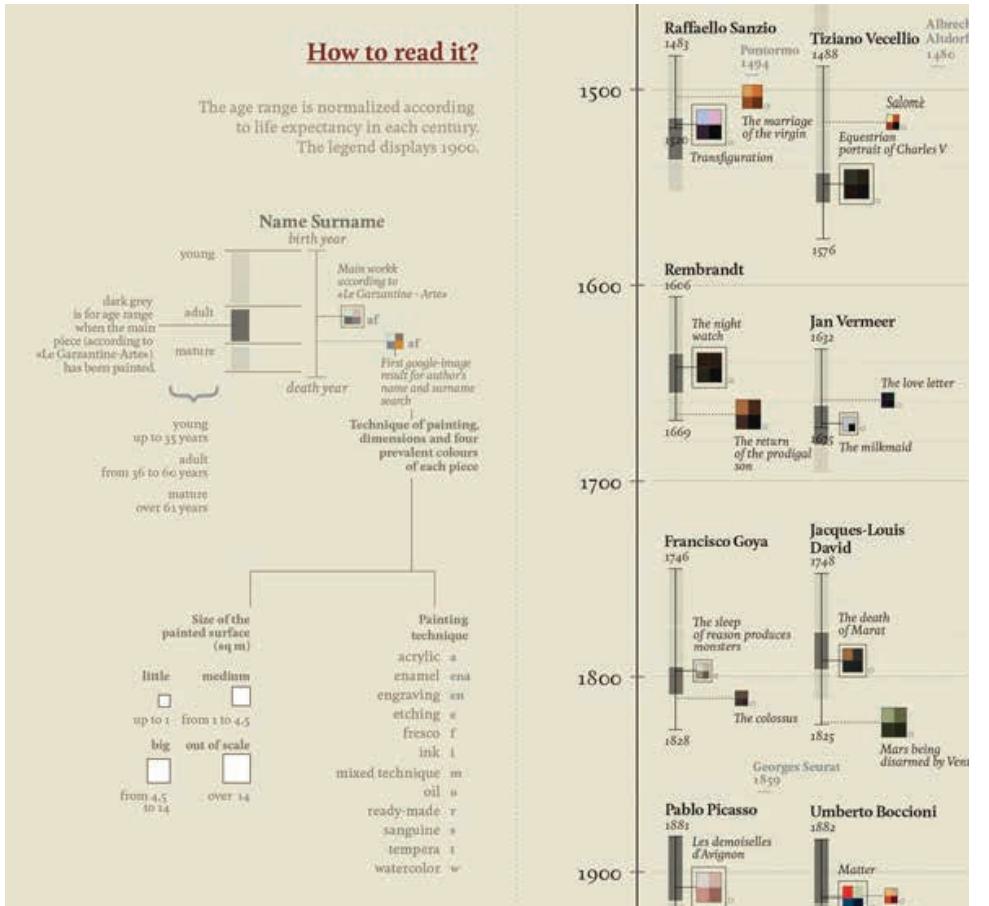
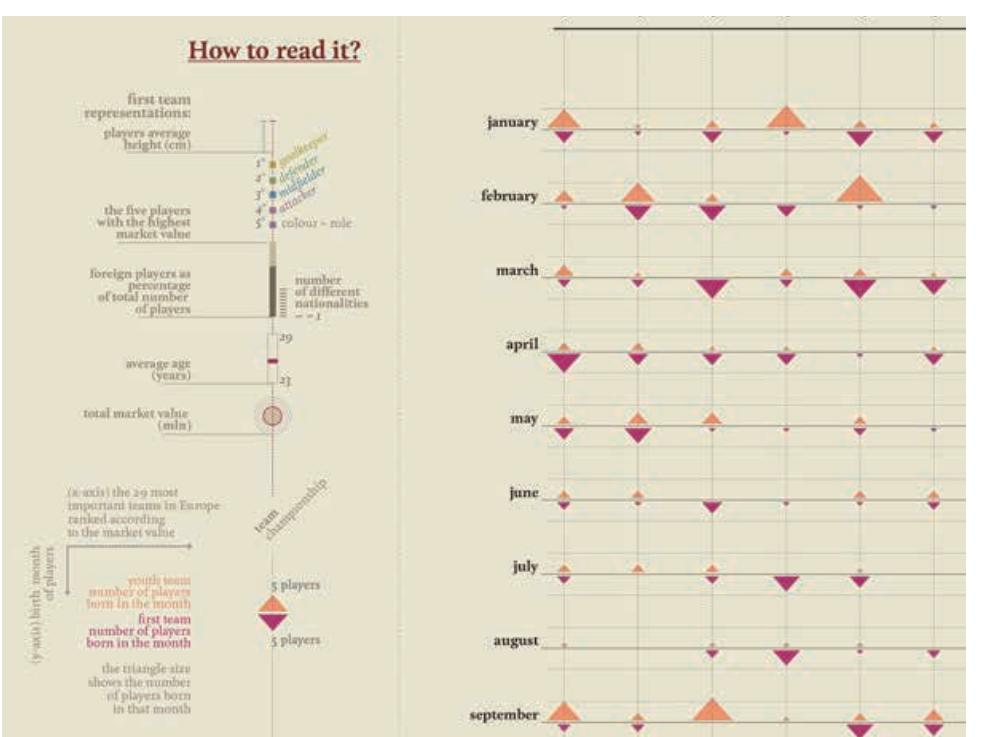
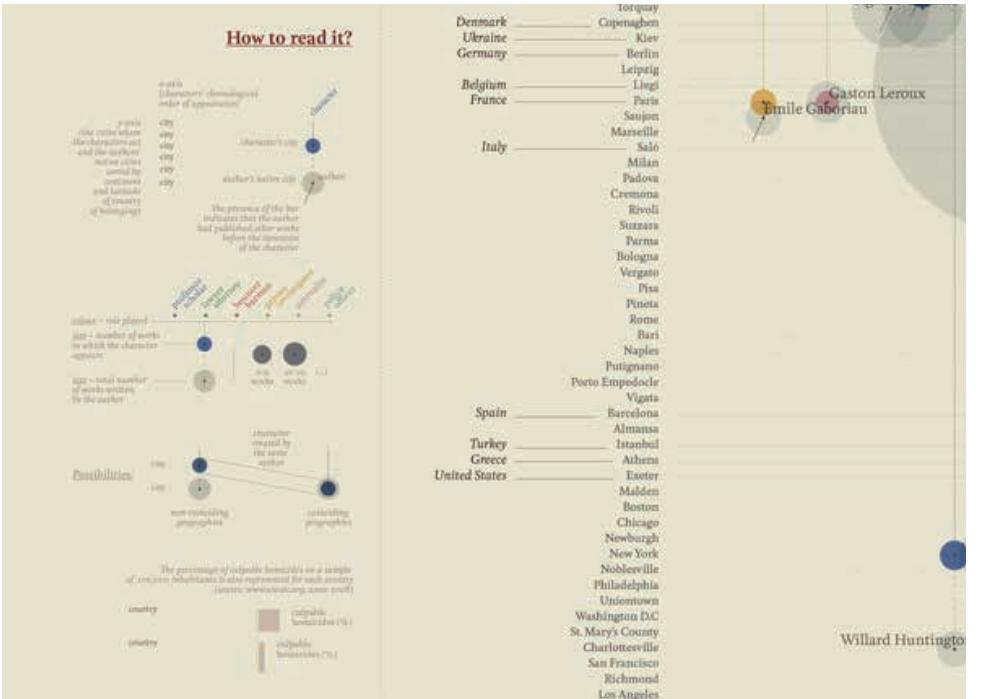


Lineal style

Vector style

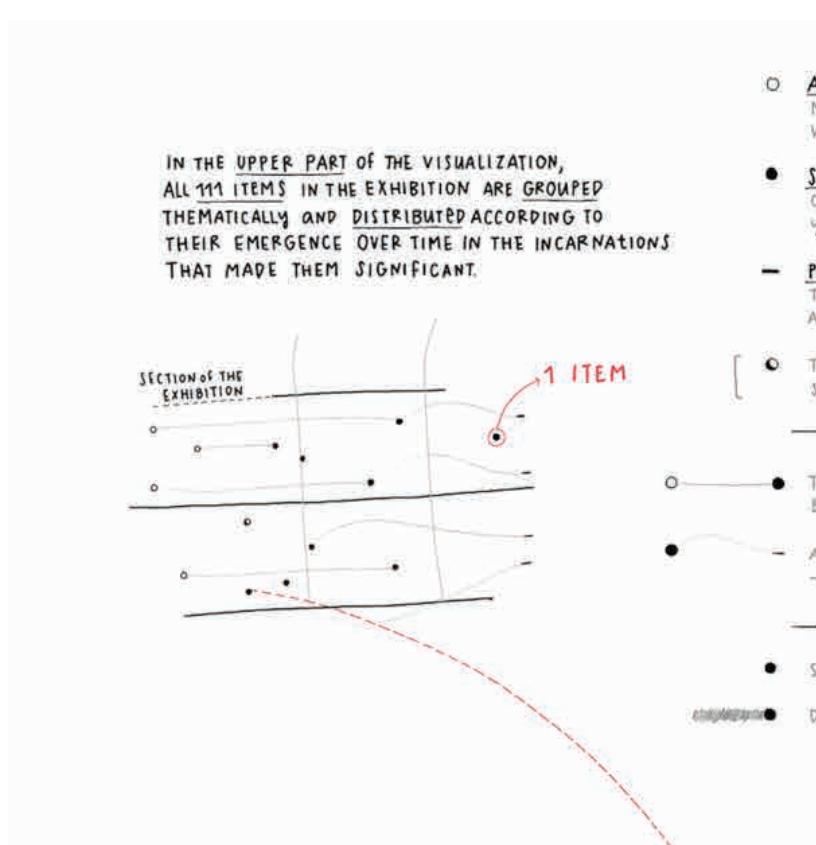
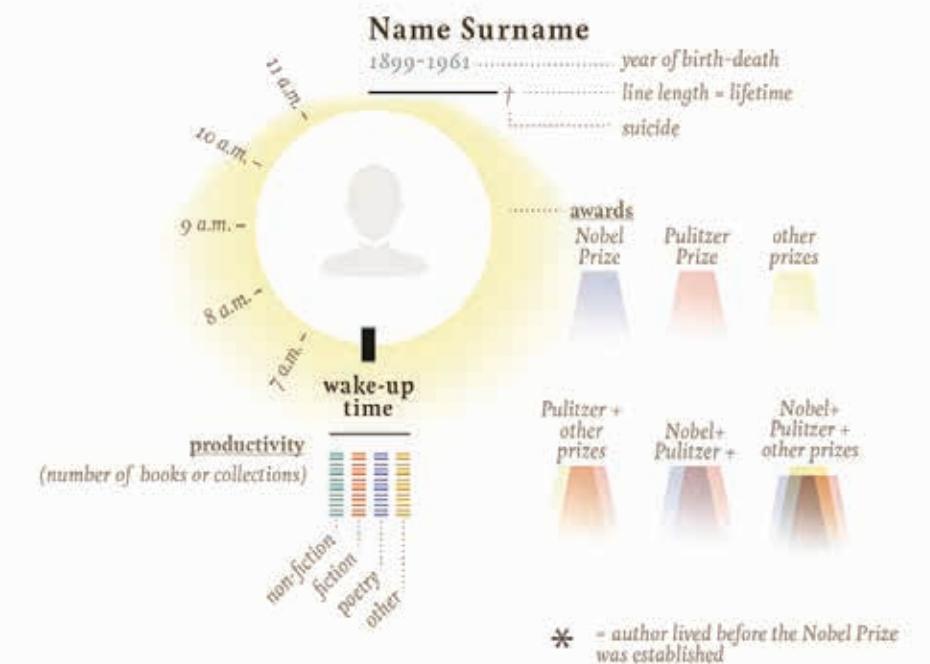
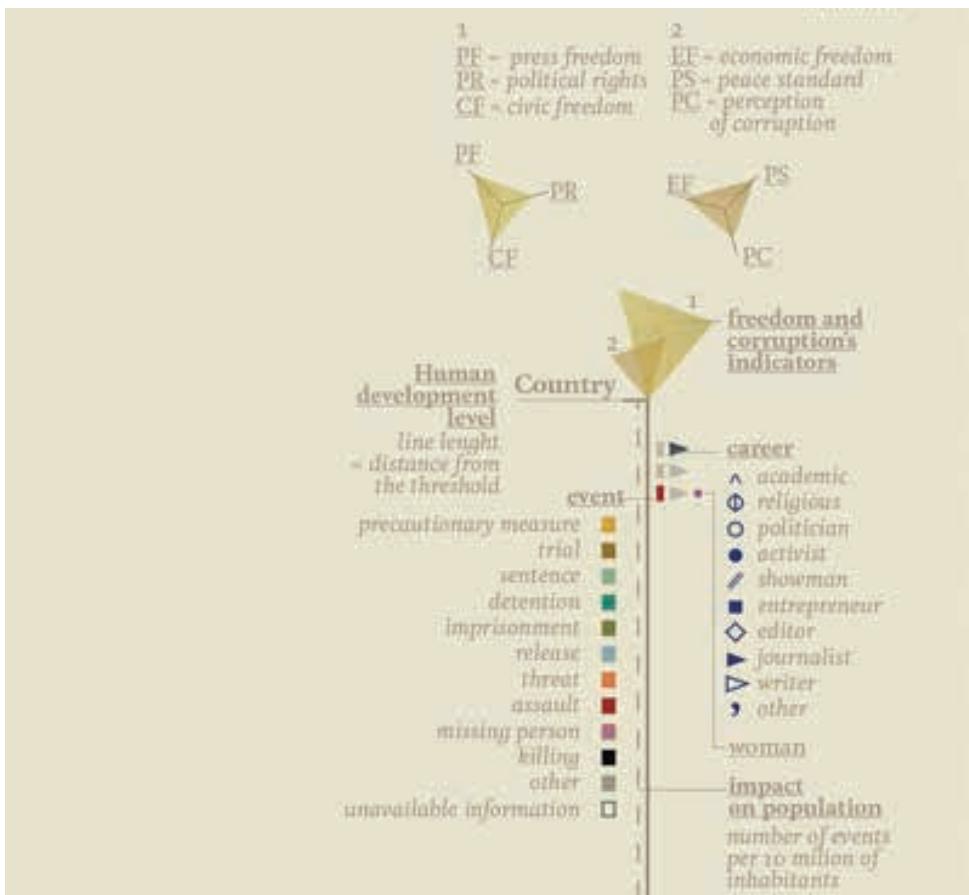
Two styles (lineal and vector) fit the religious theme well. Also evident in these designs is the warm, vibrant colour palettes and the distressed textures.

INSPIRATION SYMBOL SYSTEMS – GIORGIA LUPI



My desire for a strong symbol system for my visualization led me to look extensively at Giorgia Lupi's designs, especially their legends. I looked closely for different ways to use shape and line to convey information.

INSPIRATION SYMBOL SYSTEMS – GIORGIA LUPI



○ ARCHETYPE
NOTHING ARISES IN A VACUUM; EVERYTHING WE WEAR HAS A PREDECESSOR; SOMETIMES MANY

● STEREOTYPE
CLOSE YOUR EYES; WHAT APPEARS WHEN YOU THINK OF EACH ITEM OVER THE LAST CENTURY?

- PROTOTYPE
TIME TO REINTERPRET, REIMAGINE, RETHINK, AND RECALIBRATE FOR THE NEAR AND FAR FUTURE

○ THE ITEM HASN'T CHANGED SUBSTANTIALLY SINCE ITS ANCIENT ORIGINS

○ THE ORIGIN OF THE ITEM CAN BE TRACED BACK TO AN ARCHETYPE

- A PROTOTYPE WAS COMMISSIONED - OR LOANED - FOR THE SHOW

● SPECIFIC DATE

● DECADE OR PERIOD

TYPE / THE ITEM IS:
A GARMENT
AN ACCESSORY/OTHER

ORIGIN / THE ITEM:
ORGANICALLY AND SPONTANEOUSLY EVOLVED
IS A MASS-MARKET, BRANDED PRODUCT
IS AN ORIGINAL PIECE CREATED BY A FASHION HOUSE

SYMBOL OR CONSEQUENCE / THE ITEM:
IS SYMBOLIC OF A CULTURAL OR SOCIAL MOVEMENT
IS THE PRODUCT OF A CULTURAL OR SOCIAL TENSION AT A SPECIFIC MOMENT

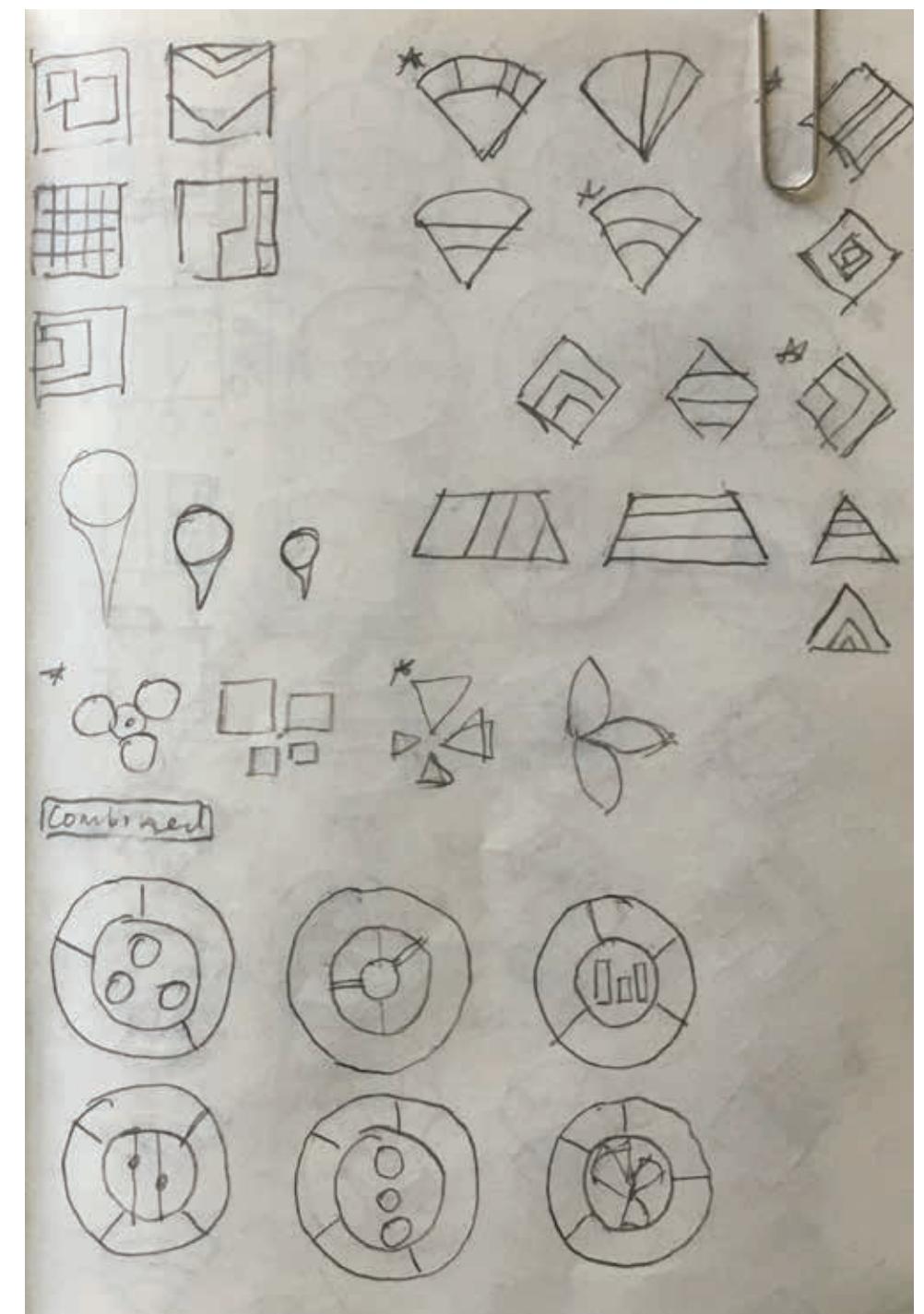
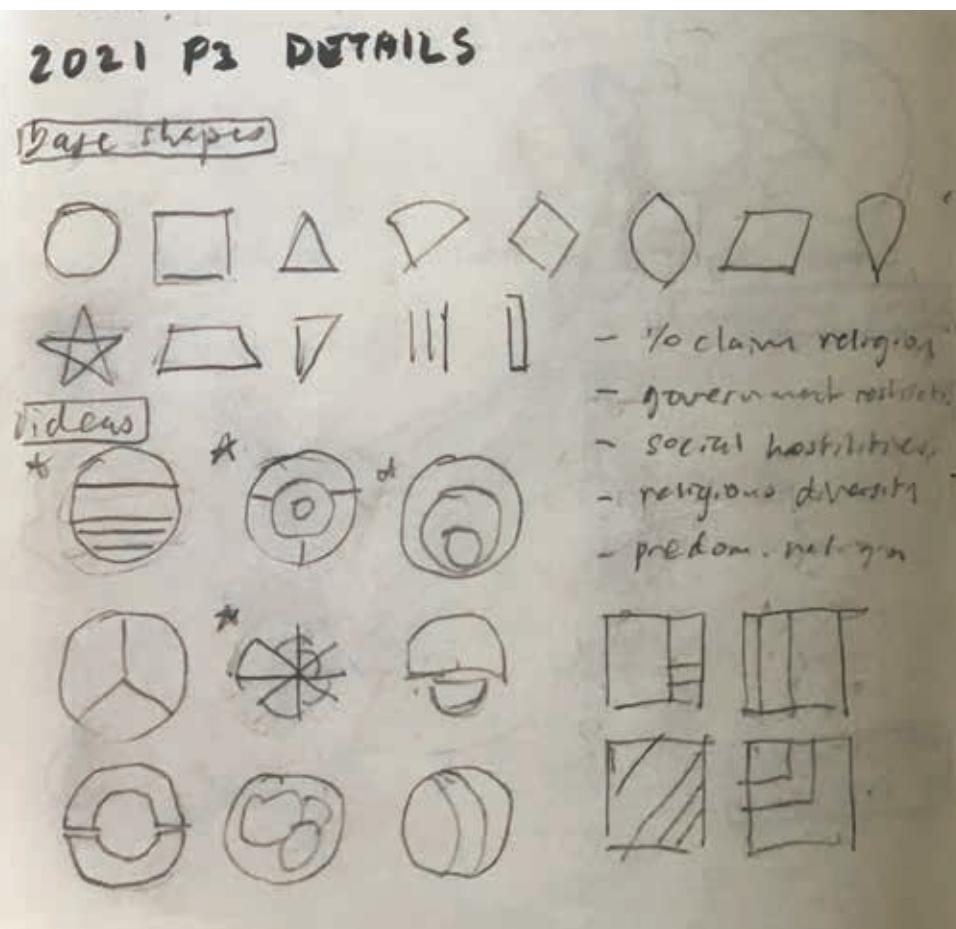
MEDIUM VERSUS MESSAGE / EACH ITEM
IS COMPLEX BUT ITS STEREOTYPE HIGHLIGHTS:
ITS FUNCTIONAL FEATURES
WHAT IT SYMBOLIZES

WHICH TYPE OF MEDIUM? / THE ITEM IS ICONIC FOR:
ITS TECHNICAL OR PRACTICAL QUALITIES
ITS AESTHETICS OR HISTORY

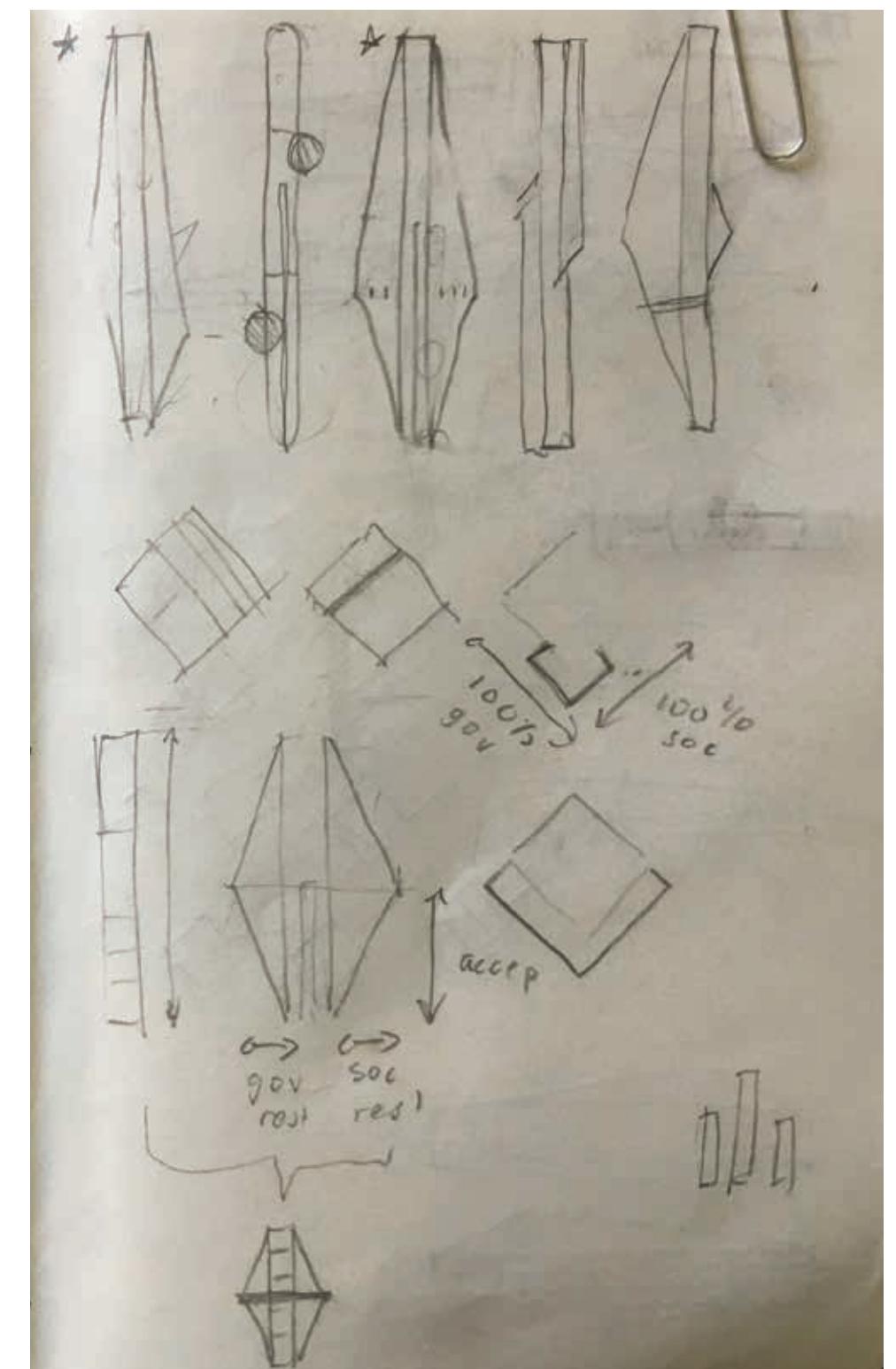
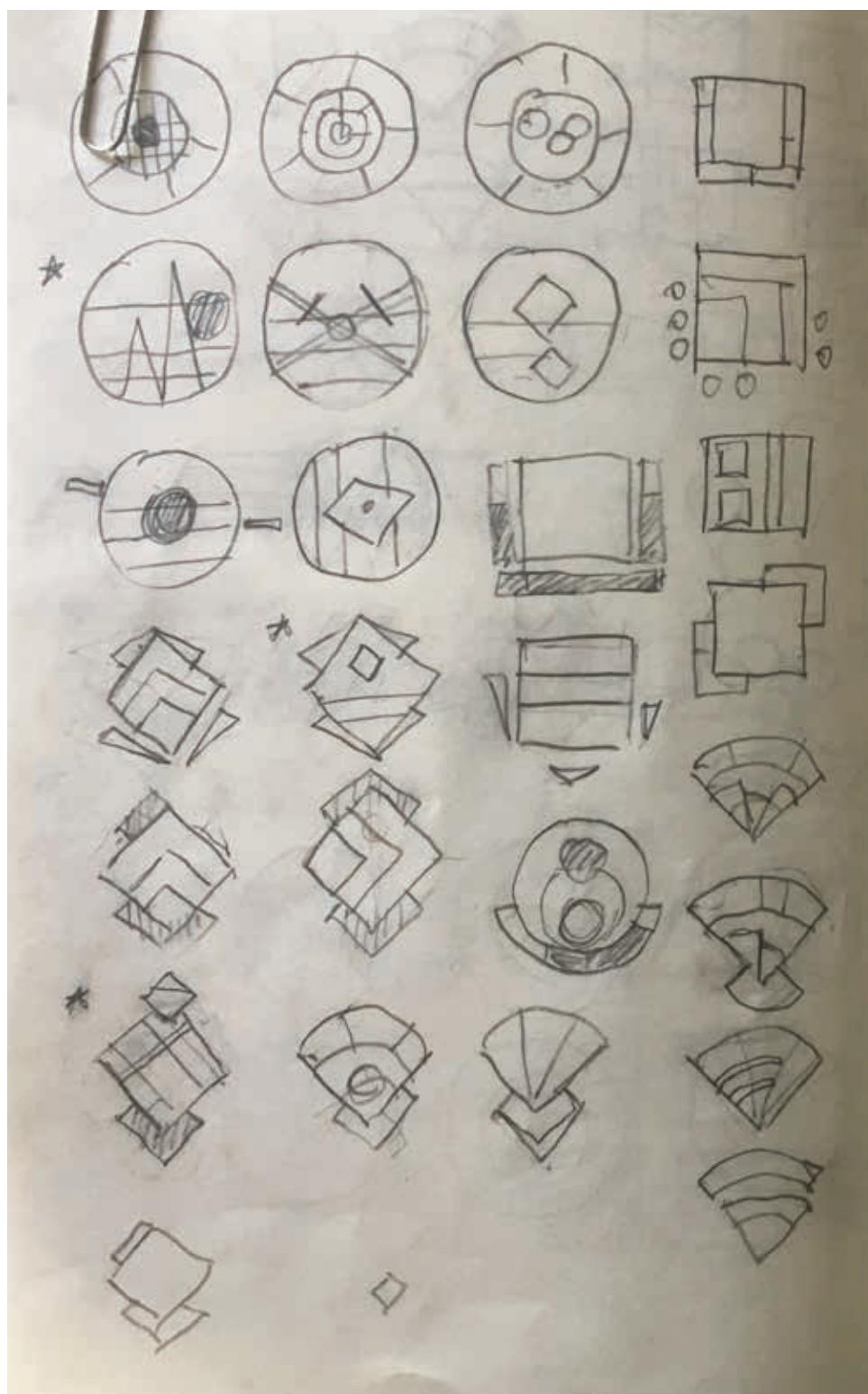
WHICH TYPE OF MESSAGE? / THE ITEM SYMBOLIZES:
BELONGING TO A SPECIFIC GROUP OR CULTURE
REBELLION OR EMANCIPATION
STATUS, UNIQUENESS, OR ACHIEVEMENT

SYMBOL SYSTEM – SKETCHES

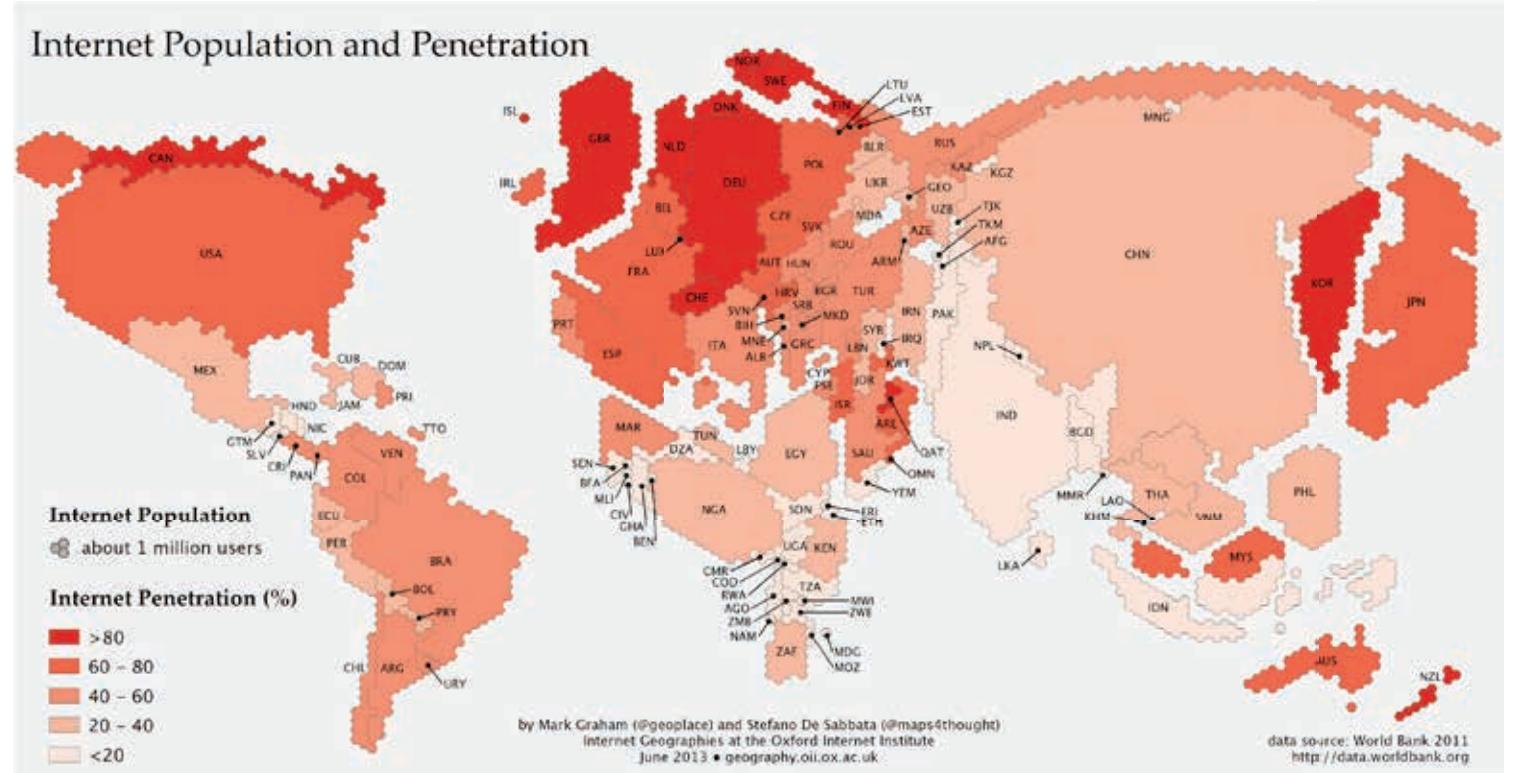
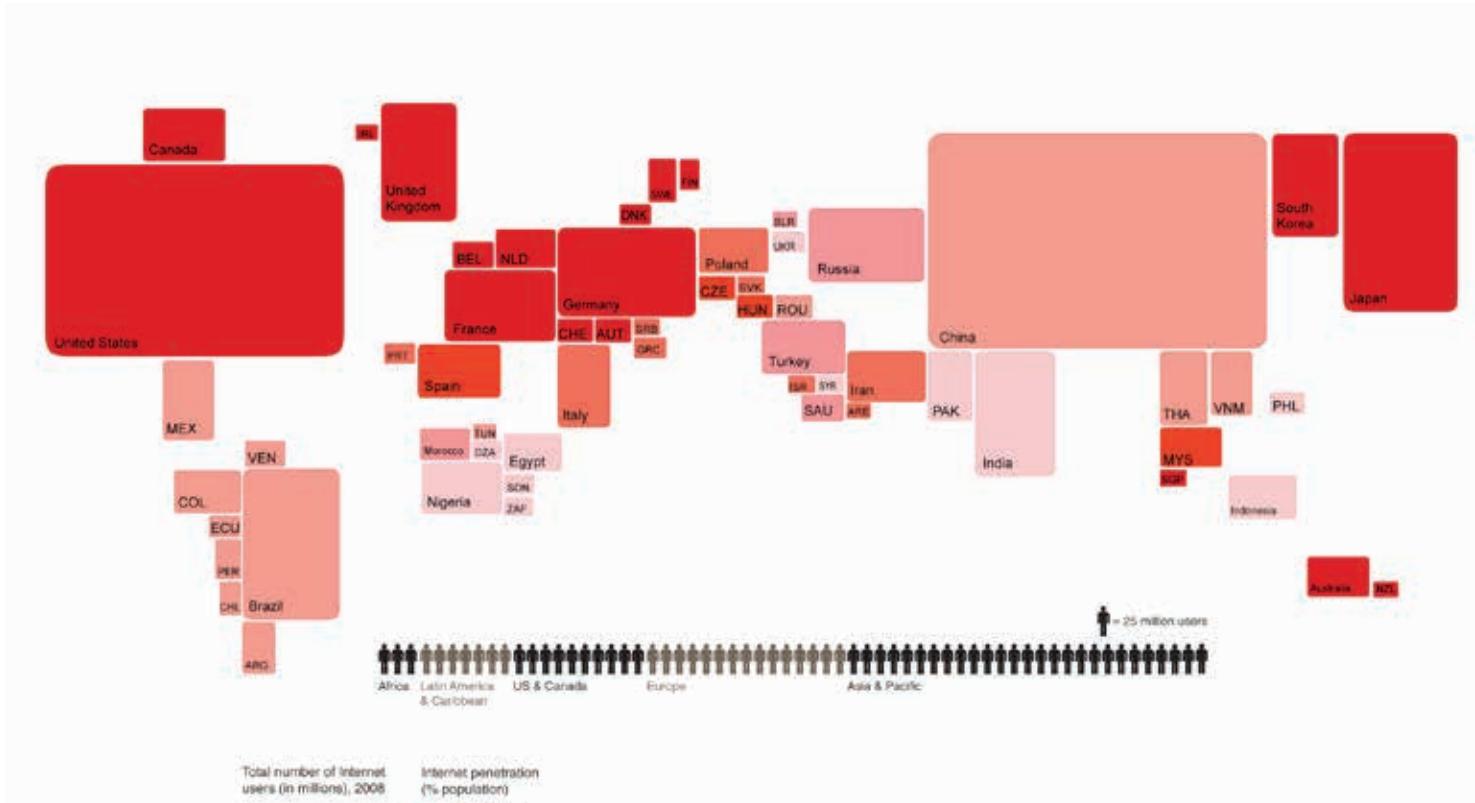
As you can see, I starred symbol designs that I liked most. I looked for combinations of shapes that had cosmic or spiritual connotations. Symbol systems with diamonds and triangles were better in this respect.



SYMBOL SYSTEM – SKETCHES



VISUALIZATION LAYOUT INSPIRATION WORLD MAPS – DISTORTED



VISUALIZATION LAYOUT INSPIRATION AIRPORTS

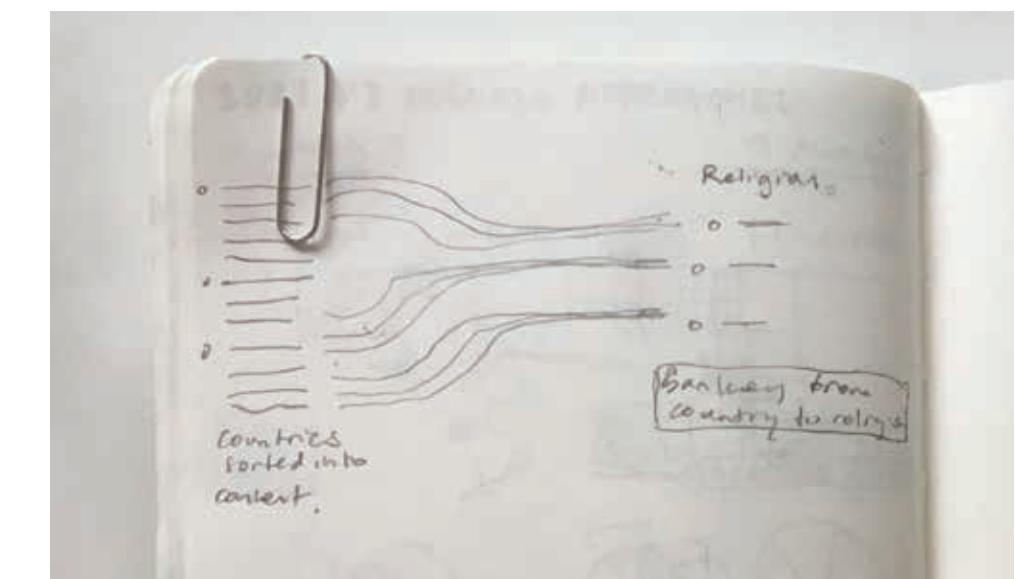
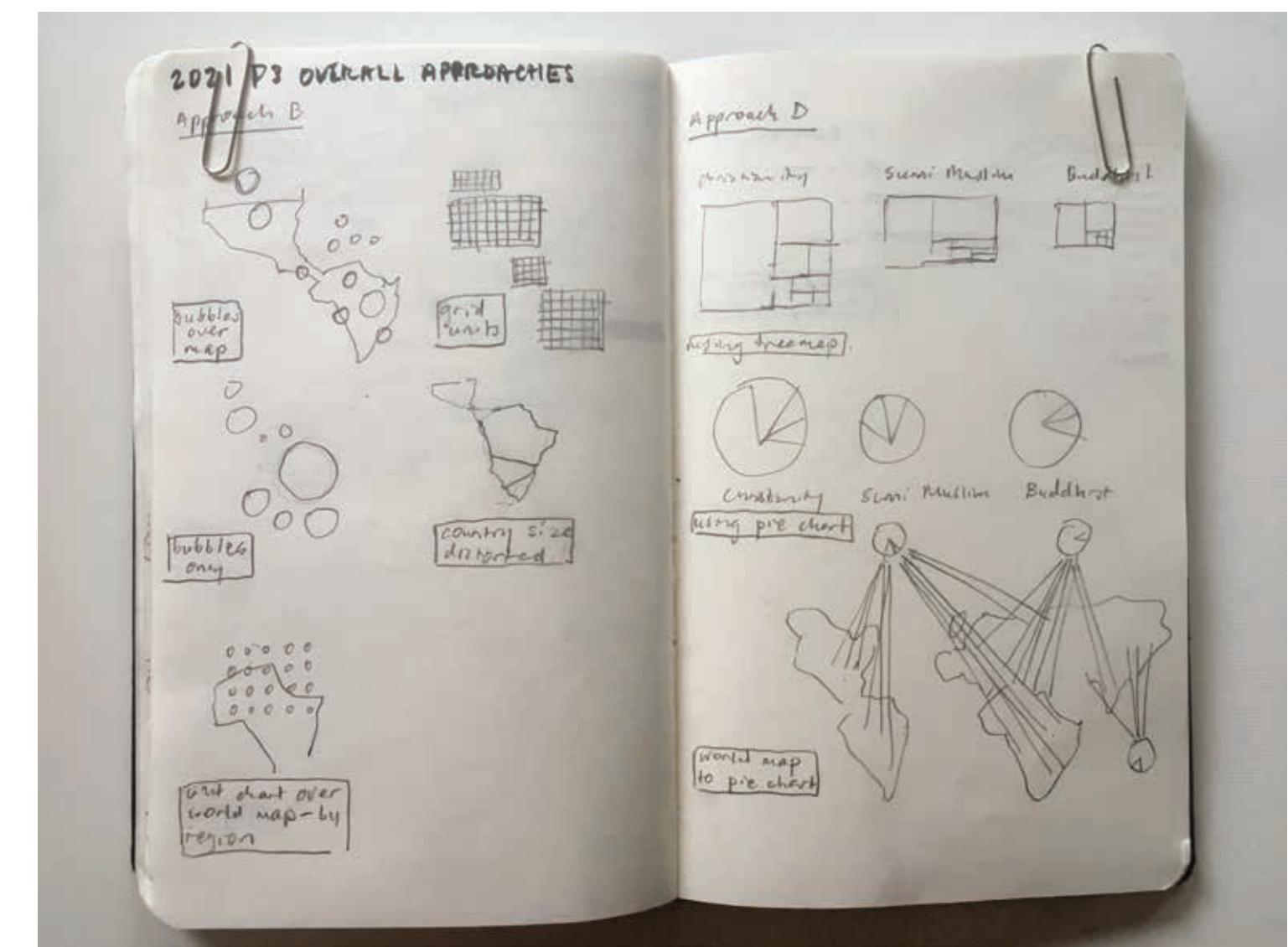
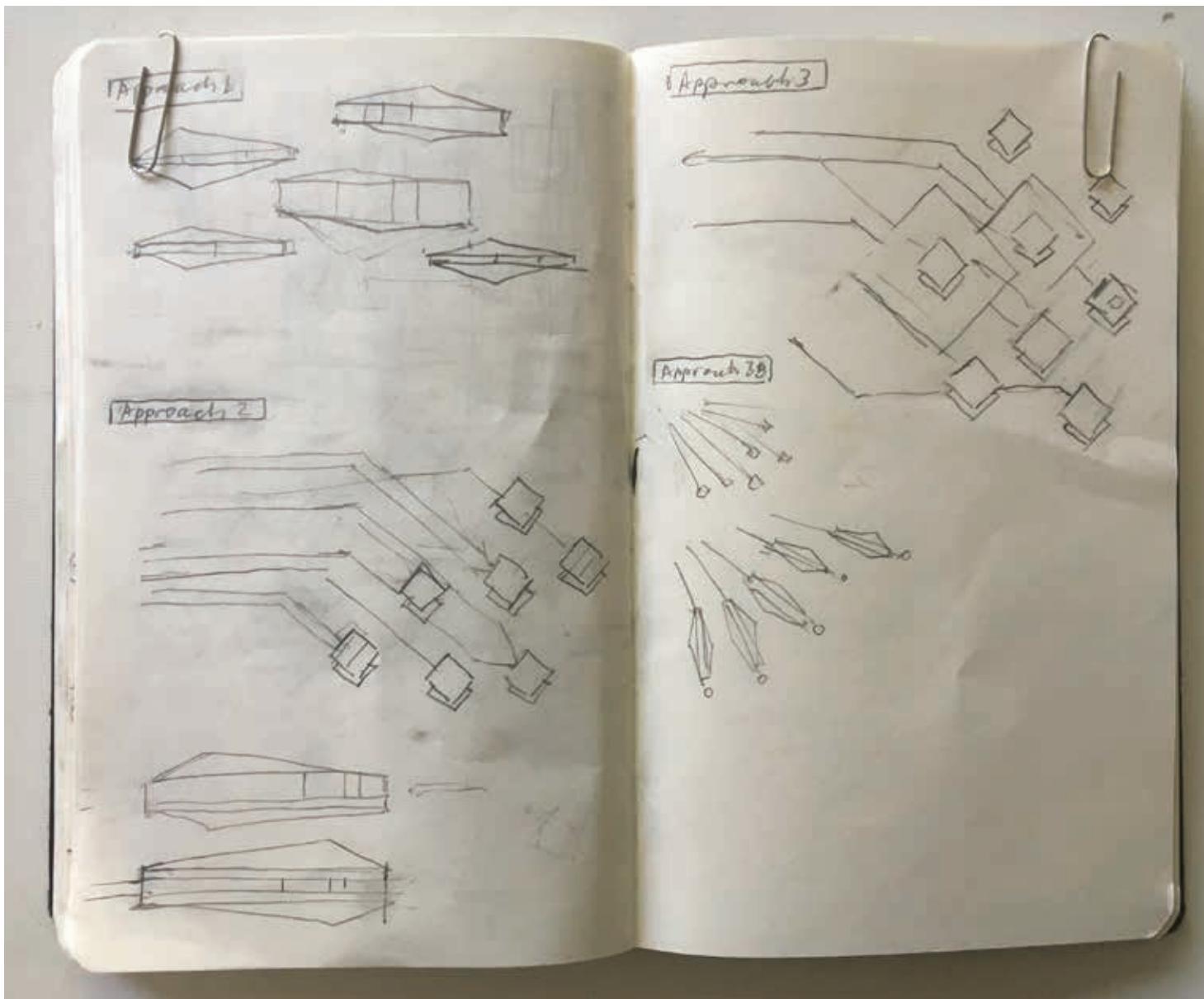


The word “refugee” has connotations of air travel, so I explored designs with a layout similar to an airport terminal.



LAYOUT SKETCHES

Taking inspiration from the airport terminal and other world map infographic, I created a list of possible visualization approaches.



SCROLLING WEBPAGE IDEA

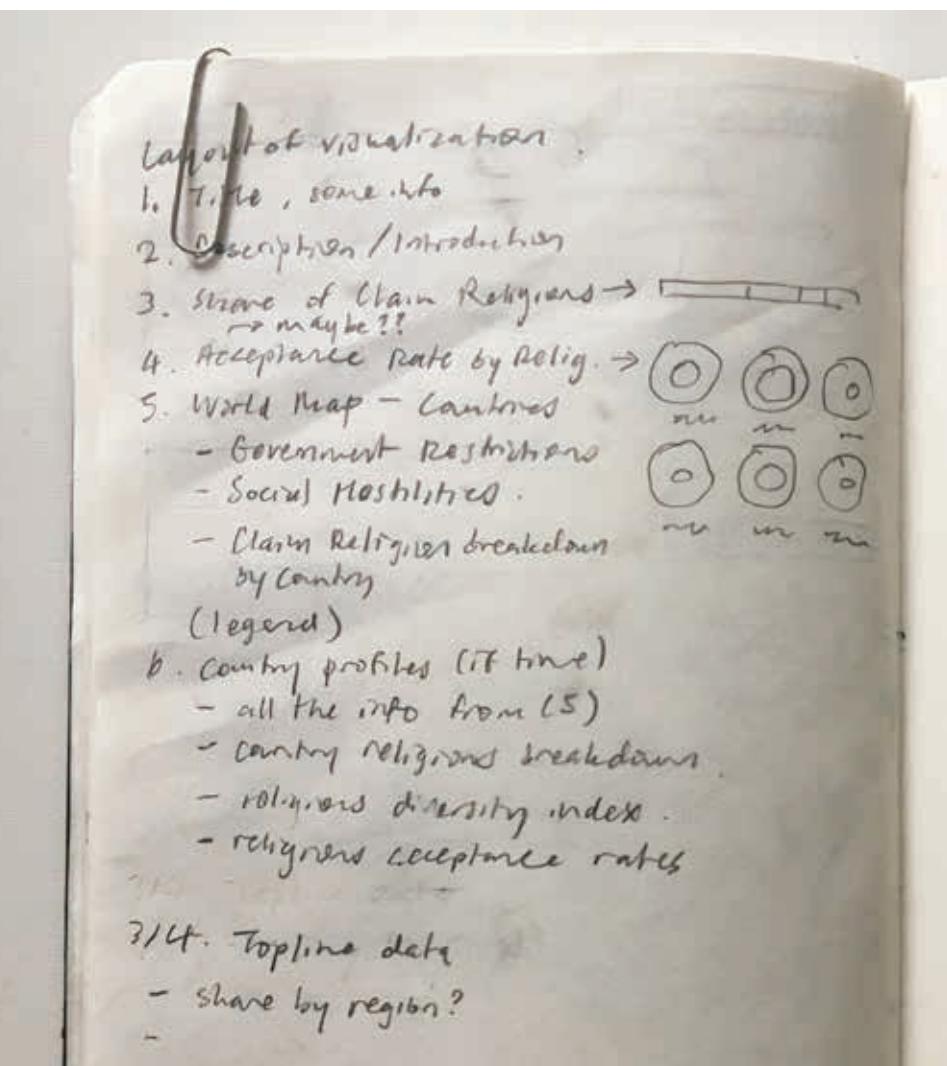
Inspiration sources

<https://www.awwwards.com/inspiration/2oc-earth-storytelling>

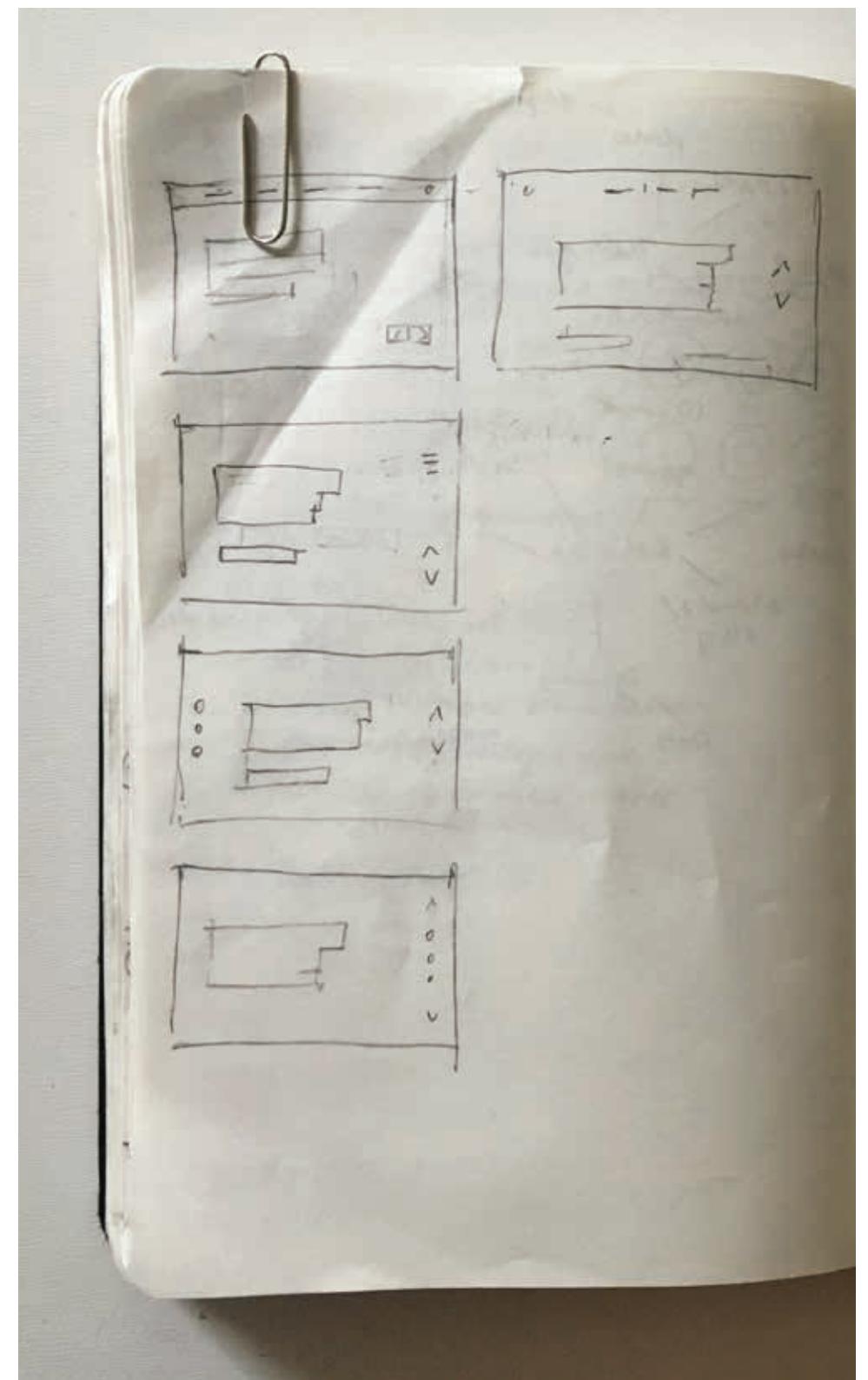
<https://www.awwwards.com/inspiration/scrolling-storytelling-fishing-the-feed>

Although my final design did not have an introduction and some explanatory paragraphs in a scrolling format, I would add this if I were to continue with the project, since it would better contextualize my visualization and make it easier to understand.

Outline

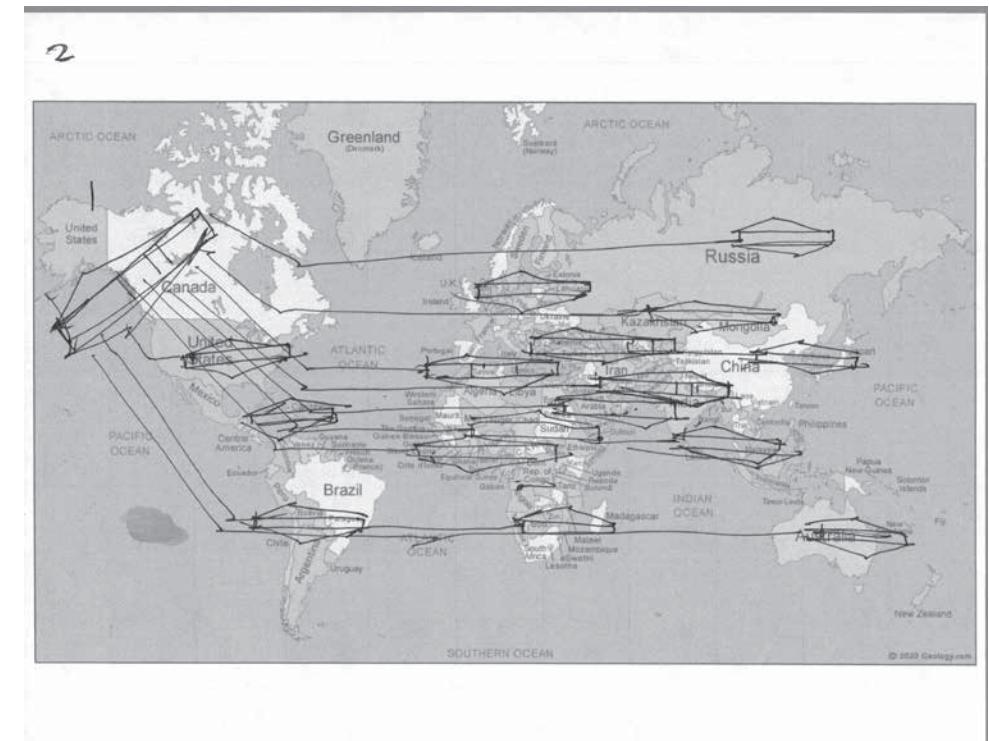
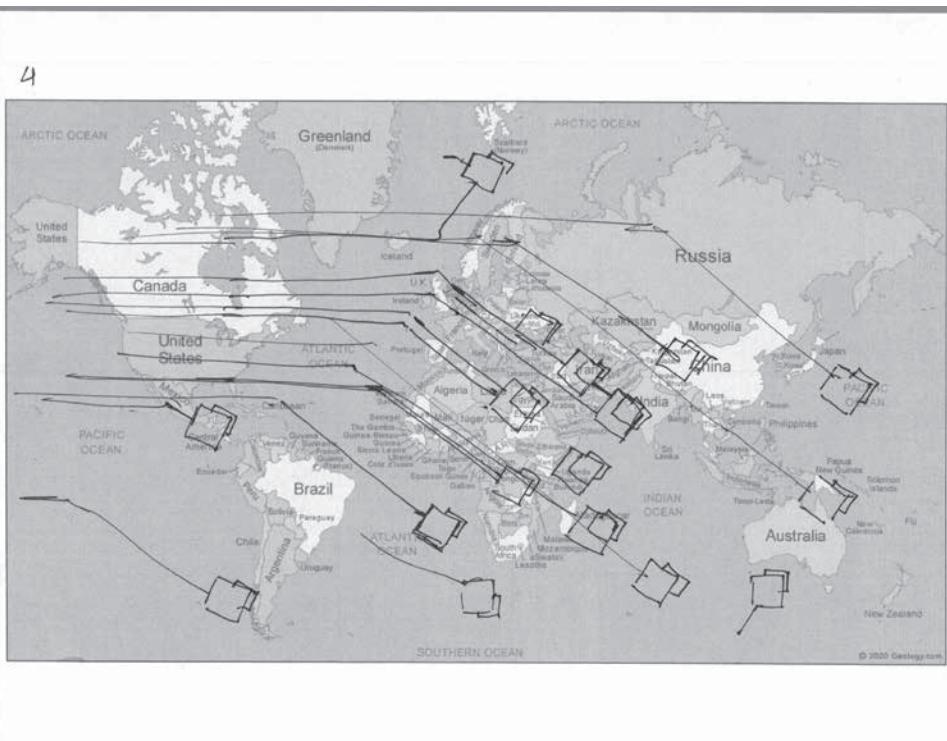
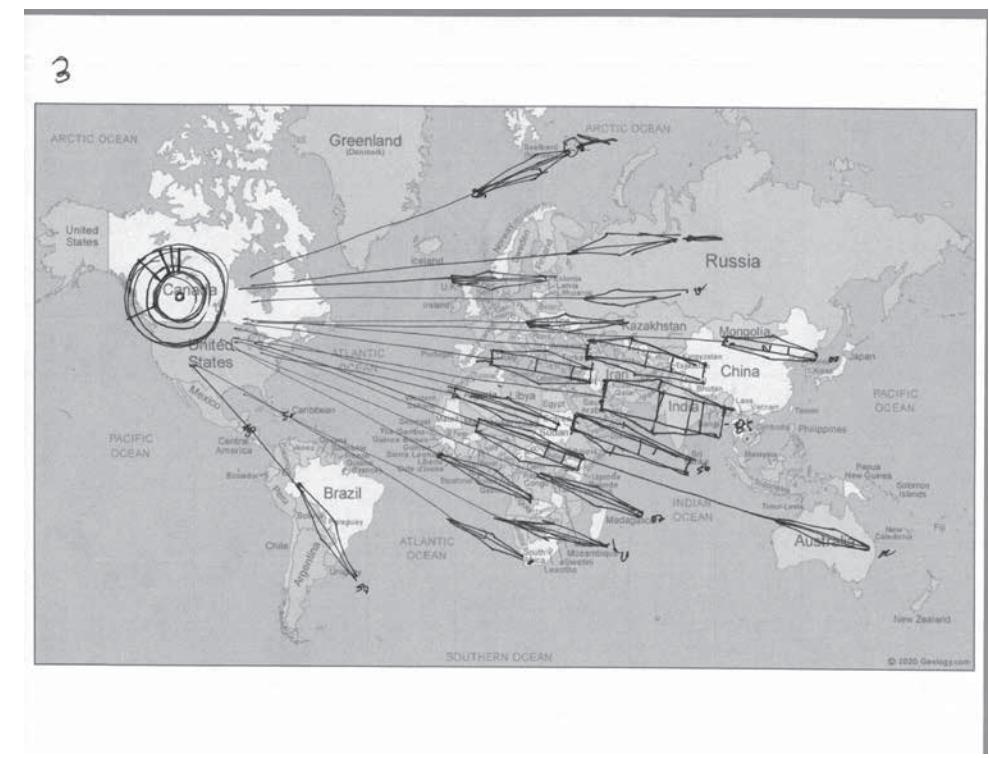
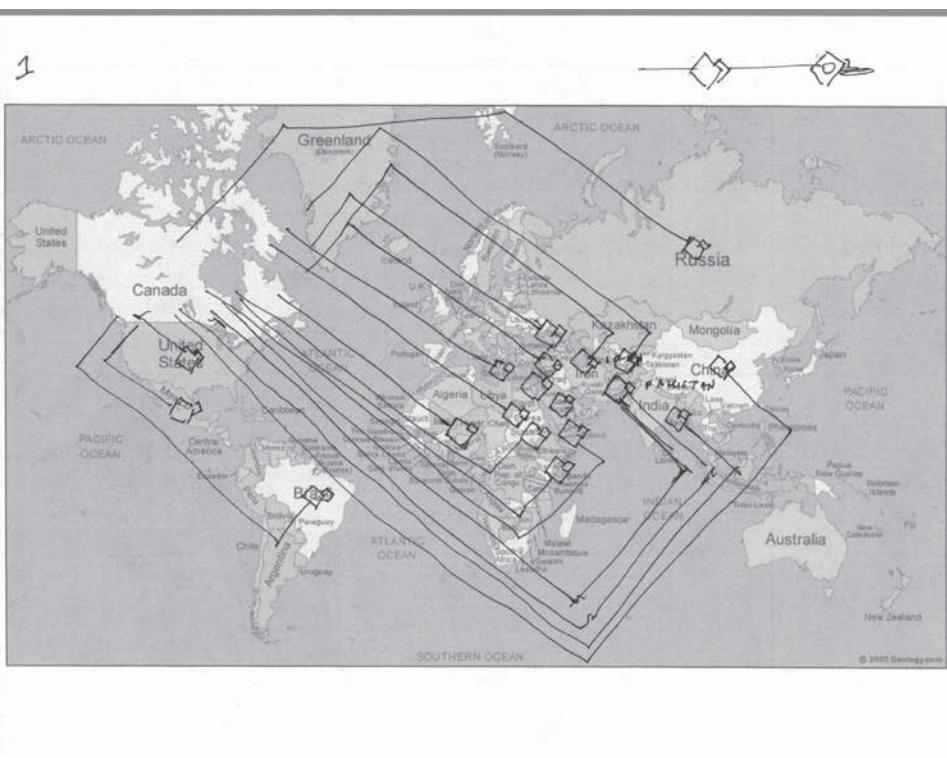


Sketches

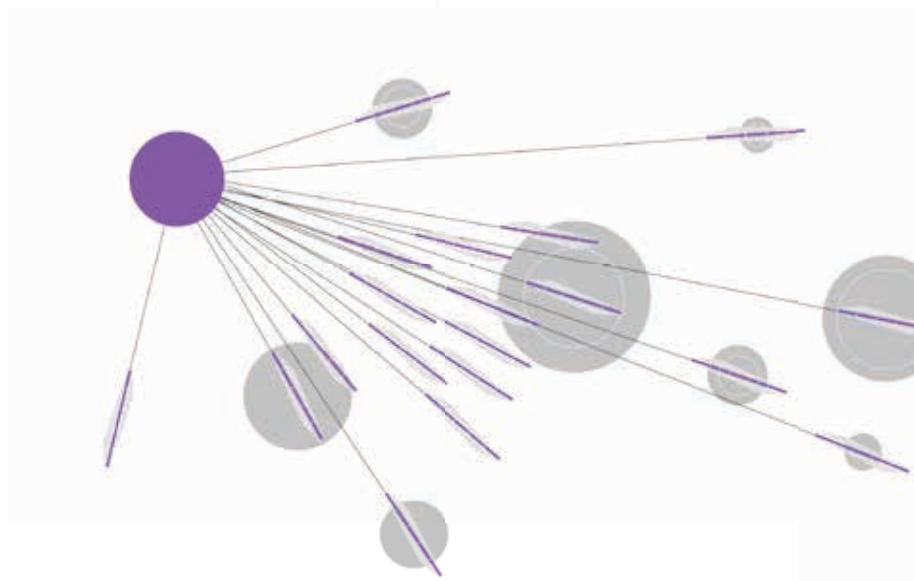
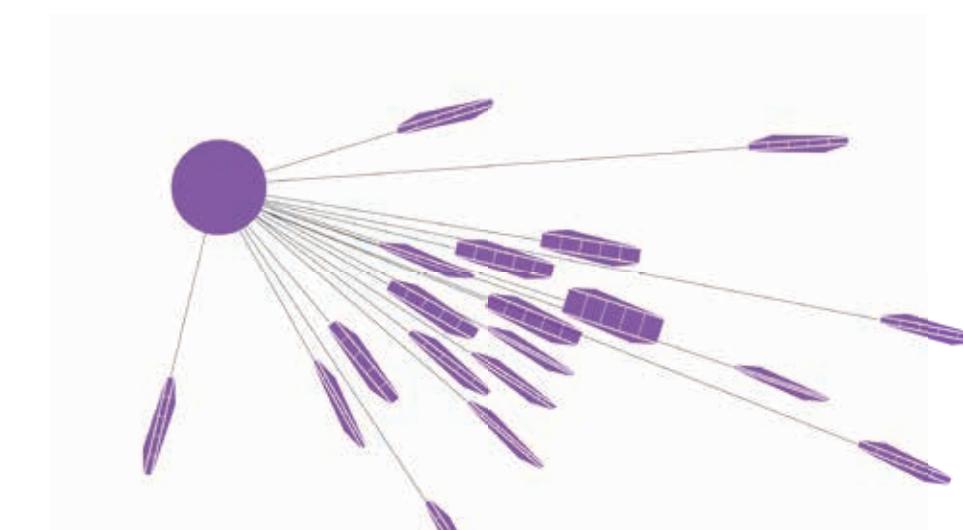
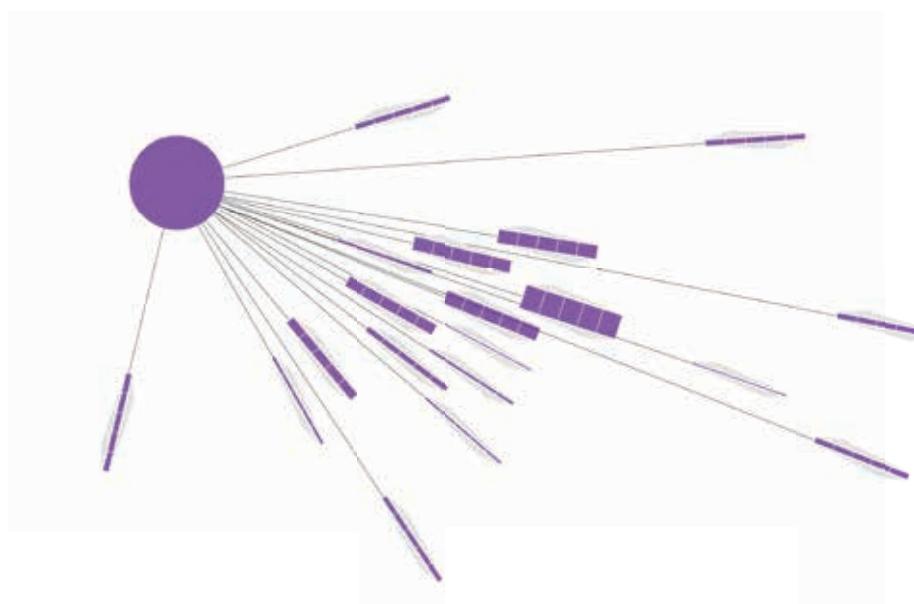
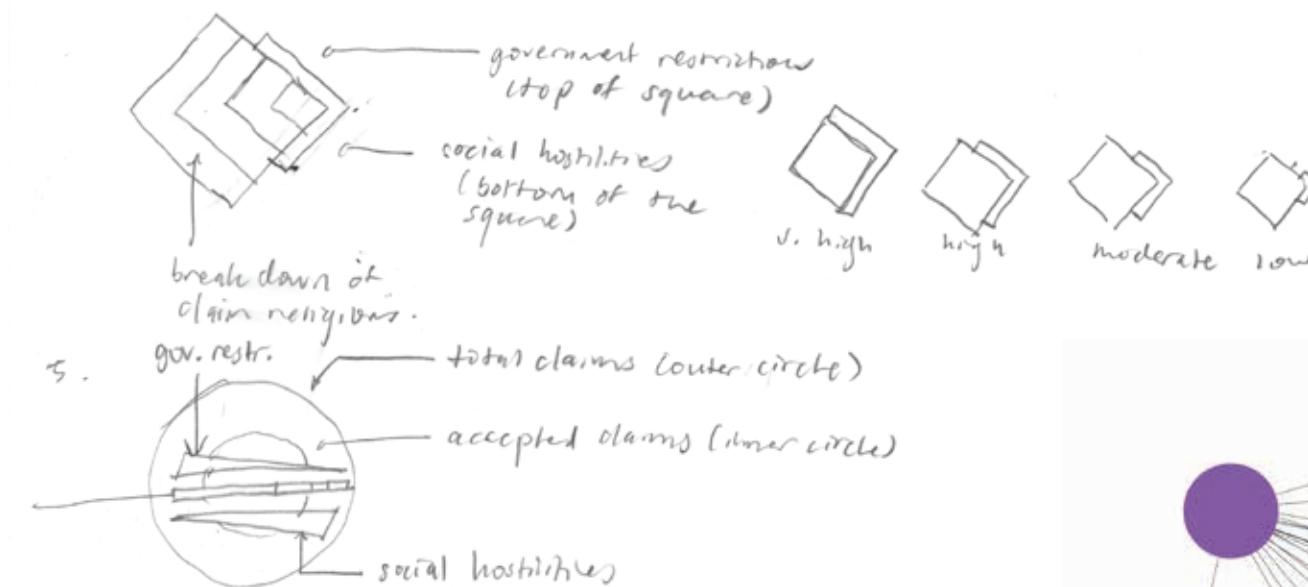
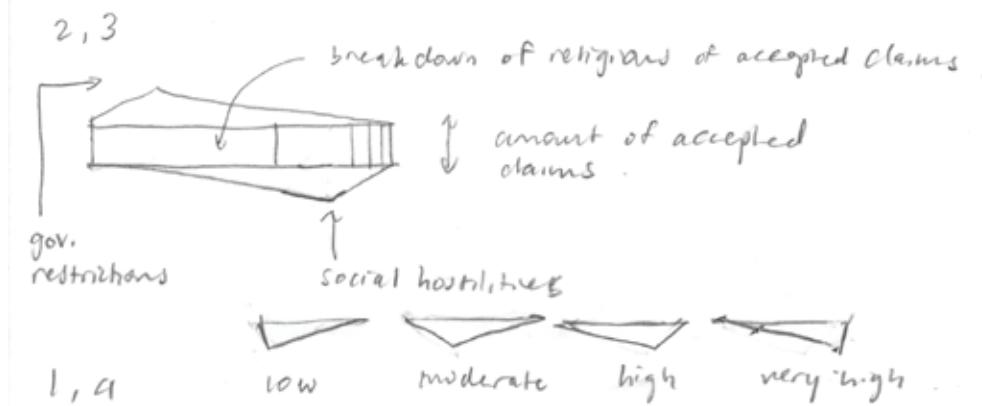


LAYOUT DRAFTS

As you can see, I drew lines from each data point or “country”, leading back Canada to emulate the migration of refugees from their home country to Canada. However, I was stumped on how to represent the country of Canada on the map, and whether it would be depicted with the same symbol system as the rest of the countries.



VISUALIZATION TESTS



When I first tested my visualization digitally, I had the height of the bars represent the claim count and the width stay consistent (see legend to the left). However, with this approach I was not convinced by the size and weight contrast, so I added a circular element to each country or “data point” to differentiate them by scale.

TYPEFACE PAIRINGS

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Neue Haas Unica
Kepler

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Varta
Mulish
Meta Serif

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Varta
Minion

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Varta
Source Serif

Religious Refugees

in Canada from 2016-2019

GOVERNMENT RESTRICTIONS

Pakistan • Iran • Syria

Paragraph lorem ipsum dolor sit amet

Assistant
PT Serif
Mulish

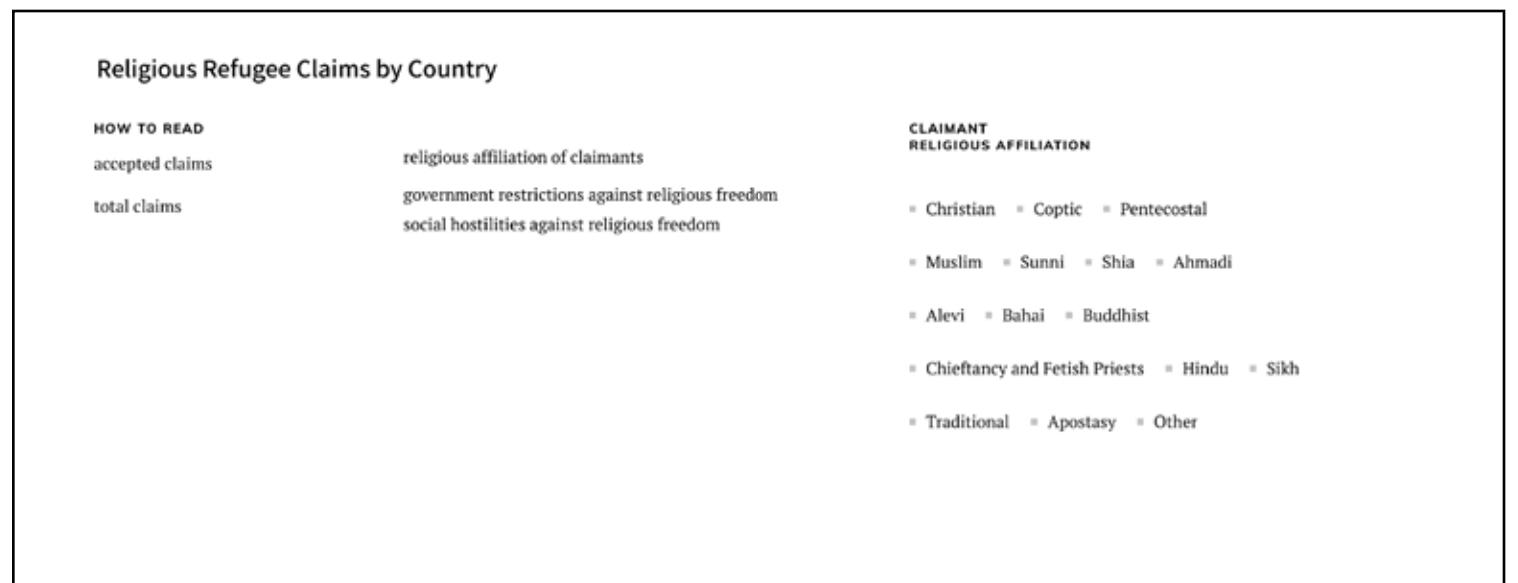
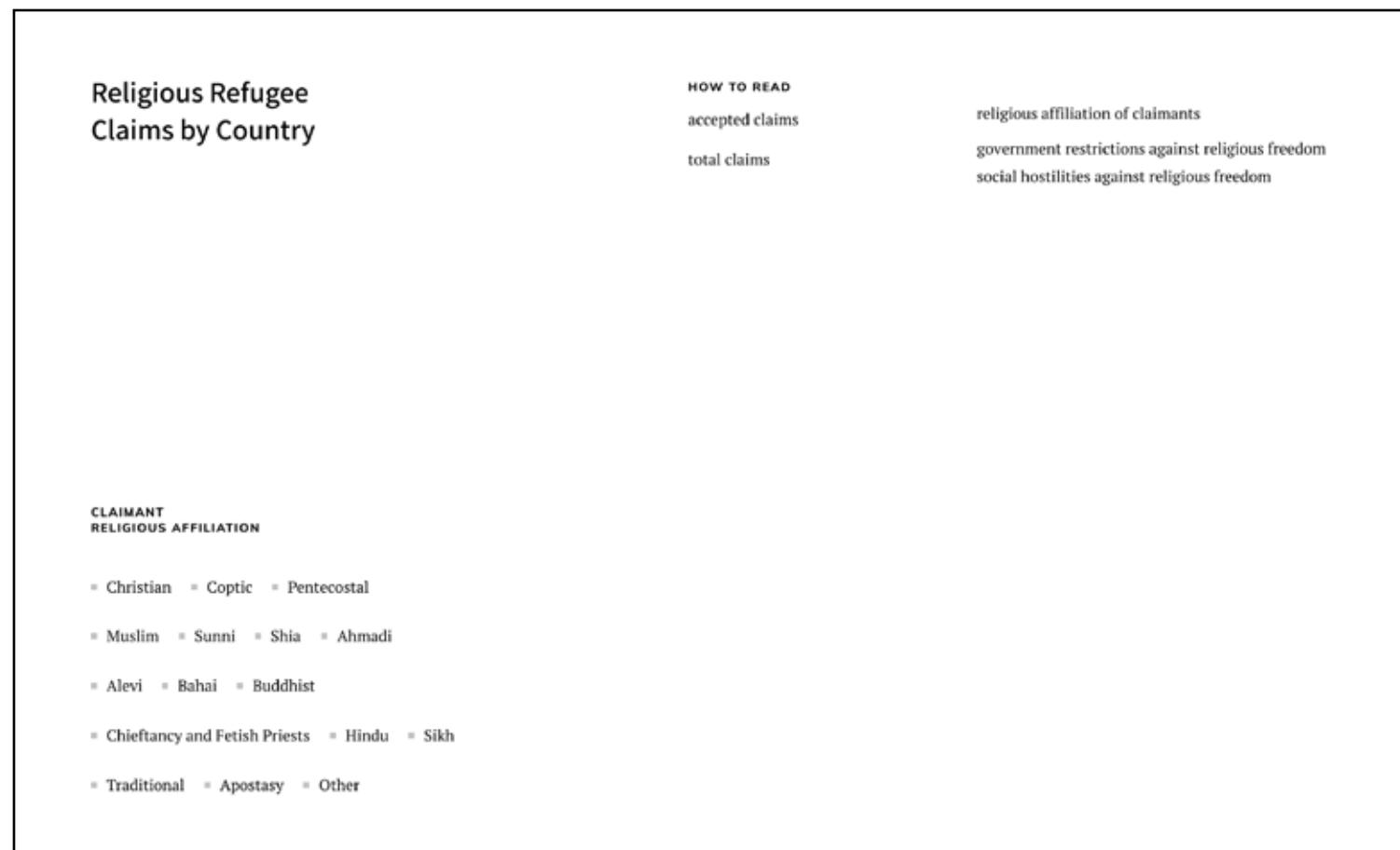
Chosen pairing

I initially experimented with an Swiss-International typeface pairing. However, the best pairing was one that combined an sans serif with connotations of airport concourses (Assistant) and a serif with a softer, journalistic feel (PT Serif).

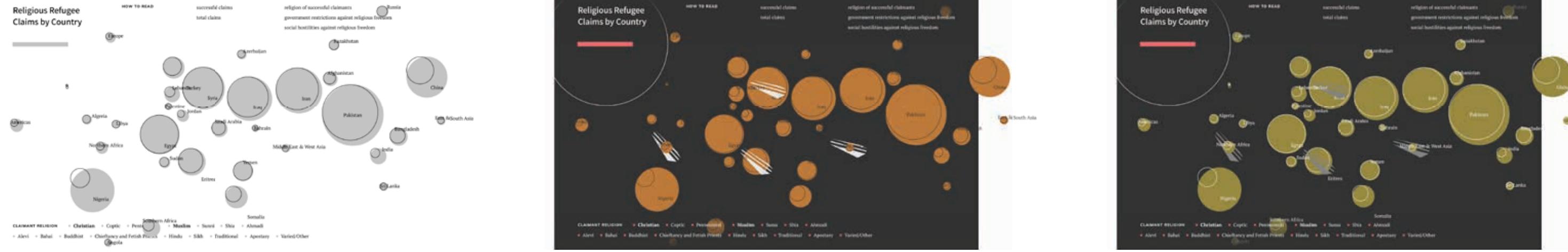
I was inspired by publications such as South China Morning Post, which rely on pairings with similar-looking sans serifs and serifs.

LEGEND LAYOUT

My main objective for the legend was to save enough space for the bulk of the visualization. Hence, the best approach was actually to separate the legend into two components that would hug the top and the bottom of the viewport (bottom right).



VISUALIZATION DRAFTS + COLOUR EXPERIMENTATION



I laid out the circles on the map based on their location relative to each other, using a world map overlaid temporarily for reference.

For colours, the warm orange had the strongest connotations of religion, as many faiths use the colour orange in one way or another.



RELIGION COLOURS

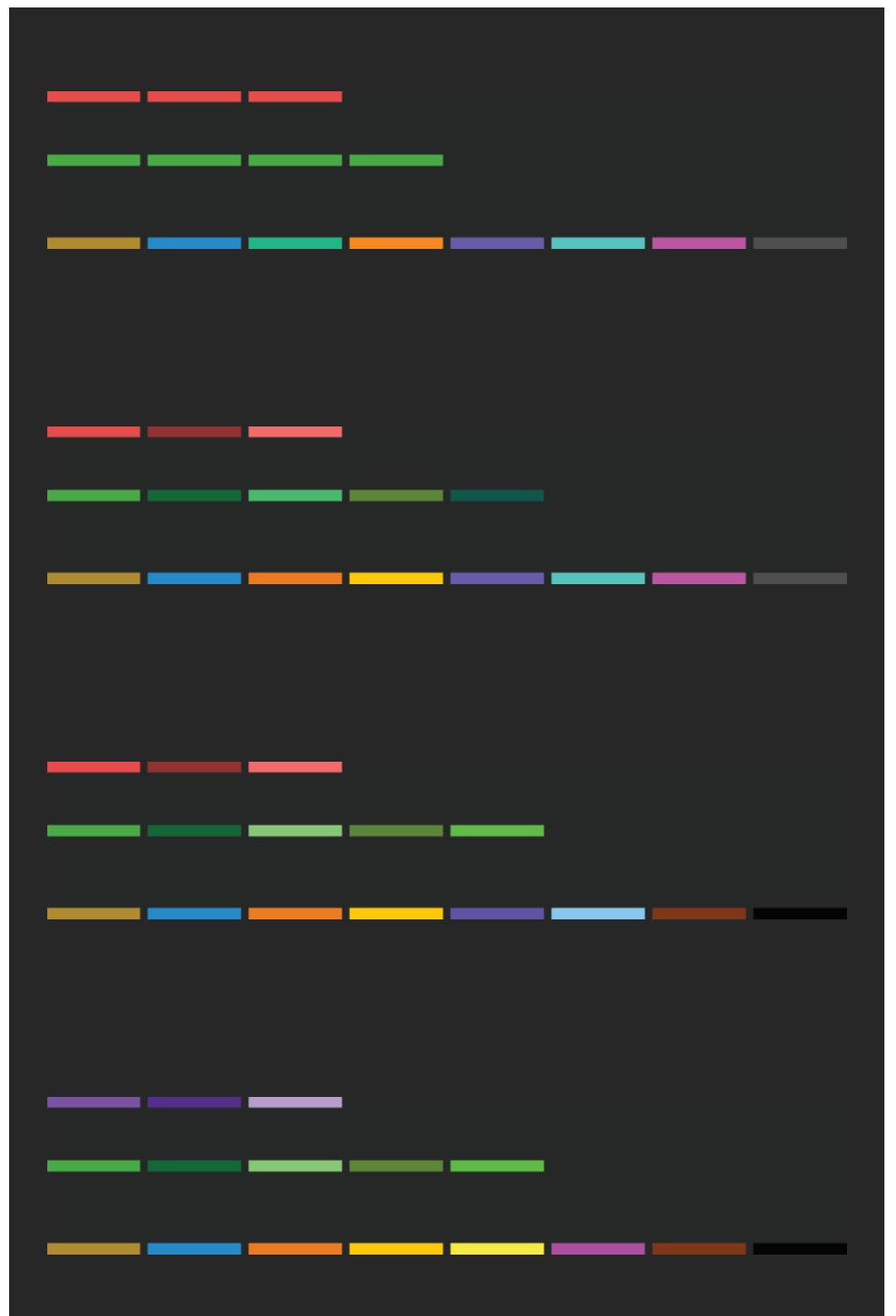
Quick Google search about the colours for each religion:

- Christian - blue, red, or purple
- Islam - green
- Bahai - ?
- Buddhism - light blue
- Chieftancy and Fetish Priests
- Hinduism - orange
- Sikh - royal blue, orange, or yellow
- Traditional
- Apostasy
- Varied/Other

I knew that to be able to cover all the religions in my data set (which I had already reduced by combining several categories), I would need to use a lot of colours.

Based on the colours traditionally used to represent each religion, I developed a scheme that would show well on a dark background and at small sizes. With so many different colours, it was hard to get them to harmonize yet contrast each other at the same time.

I was also aware that if I used orange, I would need to make it sufficiently different from the orange used on the circles.



FINAL DATA SET

<https://drive.google.com/file/d/1aeiYAYL7MUV9TPua dZqJi2Eg0l7AKeqc/view?usp=sharing>

Top 26 countries + the rest combined into regions:

- Americas
- Europe
- Rest of Northern Africa
- Rest of Southern Africa
- Rest of Middle East & West Asia
- Rest of East Asia & South Asia

Each country includes:

- Country Number (most total claims to least) – determines stacking order on webpage
- Country Name
- Inner Order – stacking order of elements within the country
- Position – as percentage on a fixed-size map canvas
- Accepted Claims
- Total Claims
- Acceptance Rate
- Government Restrictions Index (Pew)
- Social Hostilities Index (Pew)
- Claim religions ranked in order of greatest to least

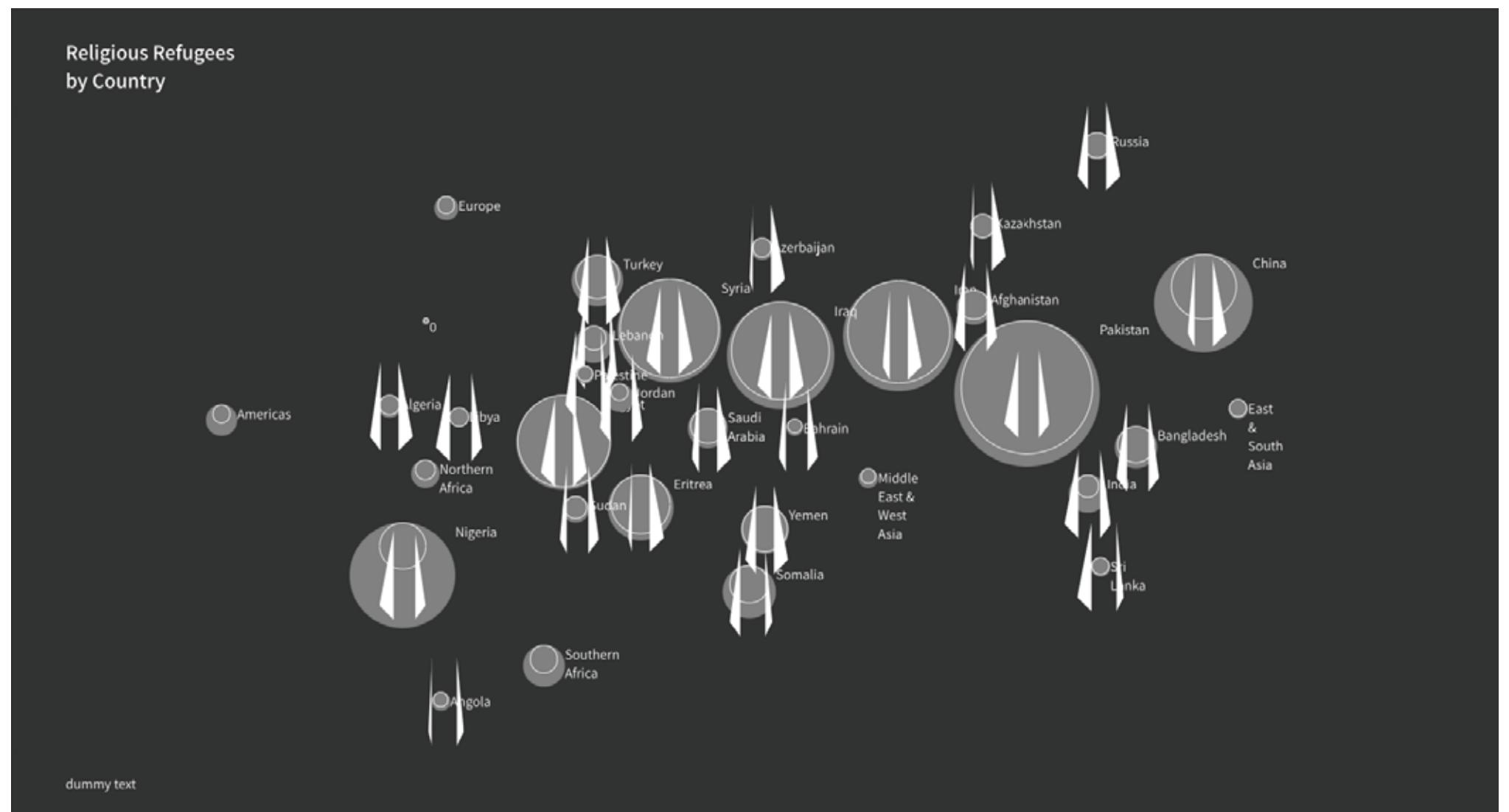
number	country	region	description	innerOrder	positionX	positionY	acceptedClaims	totalClaims	acceptanceRate	governmentRestrictions	socialHostil
0	Pakistan				66.2	37.7	1785	2146	83.2%	High	Very High
1	Iran				57.2	32.53	1049	1226	85.6%	Very High	Moderate
2	Iraq				47.8	35.29	973	1152	84.5%	Very High	Very High
3	Nigeria				15.2	66.9	218	1112	19.6%	High	Very High
4	Syria				39.5	31.3	979	1067	91.8%	Very High	Very High
5	China				82.5	29.1	432	960	45.0%	Very High	Moderate
6	Egypt				25.7	47.4	856	894	95.7%	Very High	Very High
7	Eritrea				36.1	60.7	351	429	81.8%	Very High	Low
8	Somalia				42.4	71.4	148	285	51.9%	Moderate	High
9	Turkey				36.2	25.2	199	265	75.1%	Very High	High
10	Yemen				45.9	64.2	213	227	93.8%	Very High	High
11	Bangladesh				81.3	51.4	138	183	75.4%	High	High
12	Saudi Arabia				43.1	55.1	123	159	77.4%	Very High	Moderate
13	India			TRUE	75.5	57.7	52	148	35.1%	High	Very High
14	Lebanon			TRUE	34.5	34.9	63	139	45.3%	Moderate	High
15	Afghanistan			TRUE	65.9	31.3	88	117	75.2%	High	High
16	Jordan			TRUE	39.9	47.9	32	80	40.0%	High	High
17	Russia			TRUE	76.8	13.3	67	76	88.2%	Very High	High
18	Sudan			TRUE	29.5	63.5	53	69	76.8%	High	Moderate
19	Kazakhstan			TRUE	69.5	21.9	56	63	88.9%	Very High	Low
20	Algeria			TRUE	13.2	48.4	41	53	77.4%	Very High	High
21	Azerbaijan			TRUE	49.7	26	37	50	74.0%	Very High	Low
22	Sri Lanka			TRUE	78.8	70	31	39	79.5%	Moderate	Very High
23	Libya			TRUE	20.3	50	38	39	97.4%	High	Very High
24	Angola			TRUE	23.8	85.9	23	36	63.9%	Moderate	Low
25	Palestine			TRUE	33	44.6	25	32	78.1%	Moderate	High
26	Bahrain			TRUE	53	53.5	21	28	75.0%	High	Moderate
27	Americas			TRUE	1.5	48.6	34	97	35.1%		
28	Europe			TRUE	24	21.6	30	59	50.8%		
29	Northern Africa			TRUE	11.2	59	41	82	50.0%		

I discovered six main clusters of countries based on religious makeup and derived my region categorizations according – see PBS map:

<https://www.pbslearningmedia.org/resource/sj14-soc-religmap/world-religions-map/>

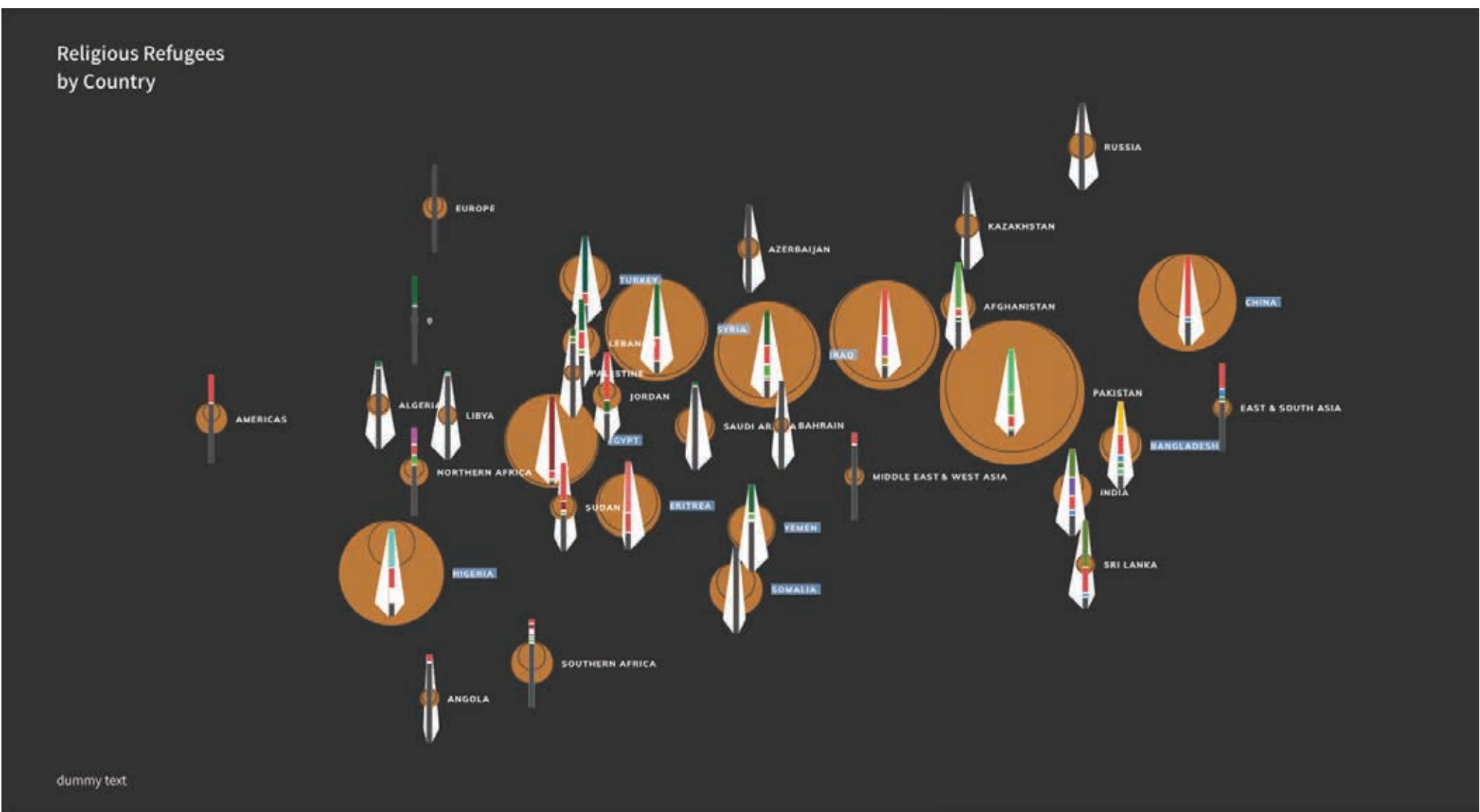
WEBPAGE PROCESS – V2

- automated insertion of circular and triangular HTML elements using JavaScript and the my final spreadsheet converted into JavaScript object format.



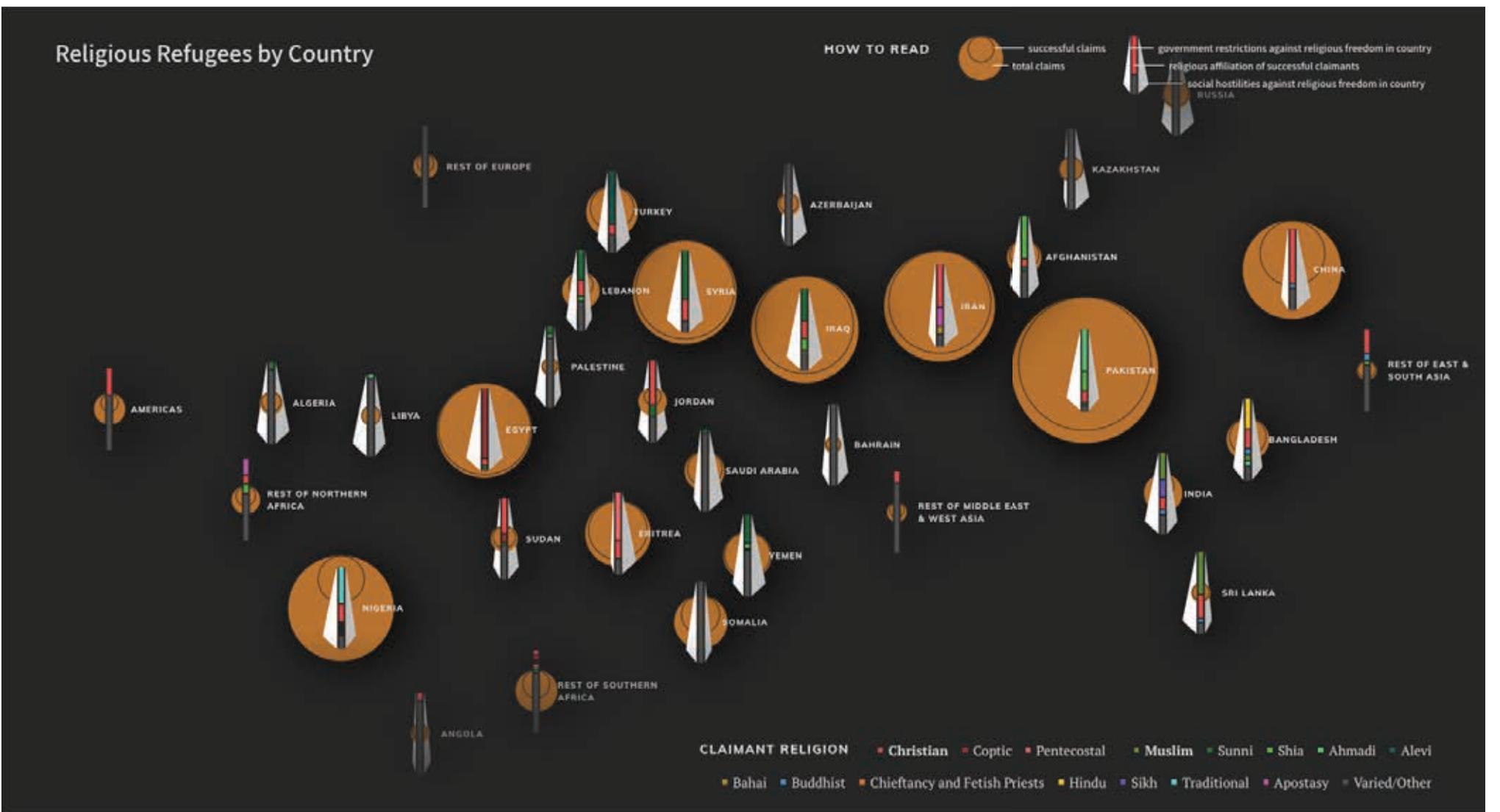
WEBPAGE PROCESS – V3

- automated the claim religions breakdown in the middle of each country
- added original coloru scheme
- adjusted type from Assistant to Mulish all-caps for legibility at small sizes



WEBPAGE PROCESS – V4

- added legends
- increased spacing of the overall map
- added drop shadows for a sense of space in the design.
- added gradient background for legend so that it wouldn't look like it is constricting the space of the main visualization, but still allow for some differentiation between spacial zones.
- I was wary of using a solid or semi-transparent background for the legend, because it would look overly heavy on the design and make the visualization area seem really small

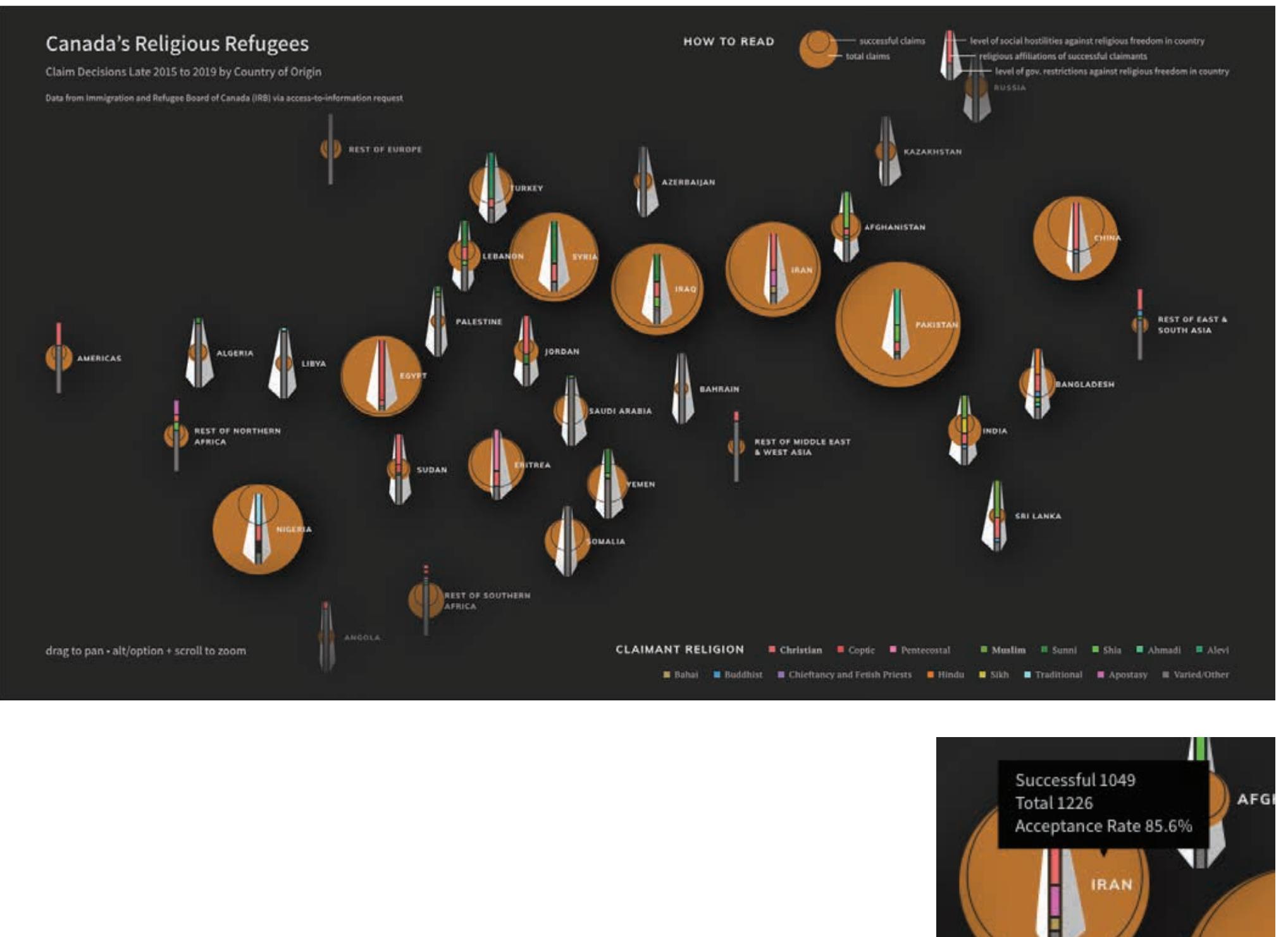


WEBPAGE PROCESS – V5

- added pan, zoom features
- added hover pop-ups for accepted claims, total claims, and acceptance rate.
- adjusted religion colour values to be brighter and more vibrant, contrasting its surroundings better

Critique feedback

- orange circle colour needs adjustment – either make it brighter orange or more pastel
- use typefaces (especially serif) more throughout the design for consistency
- top-right legend got mistaken for a part of the main visualization, didn't notice
- visibility of small proportions of religions is poor – make the dark lines thinner or allow zooming



REFLECTION

Through this project, I gained insight into my own visualization style and how it can help or hamper the delivery of information.

As detailed on the next page, I realized that my abstract-shape approach, using code and automation (which I very much enjoy), was effective at depicting the data, but only in an abstract way. Some of the context and humanity of data was lost and I did not find a way to add it back.

The most telling indicator that I had failed in that respect was that the process of developing a sophisticated, automated visualization had not enabled me to connect emotionally with the data as I would with a news article.

However, through the process of making this visualization, I learned some interesting things about the topic of religious refugees:

Muslims can persecute other Muslims

- I was surprised to see large contingents of Muslims from Muslim-majority countries being accepted into Canada as refugees fleeing religious persecution
- Usually only Muslims of one sect were persecuted in each country – in the Middle East, it was Sunni Muslims who were being accepted as refugees, while in West Asia, it was Shia Muslims.

The majority of refugees come from the Middle East and West Asia

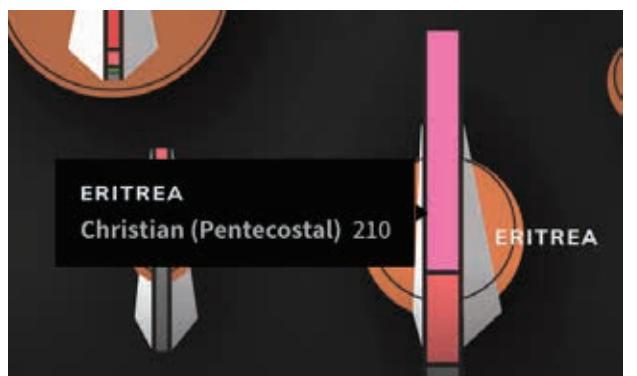
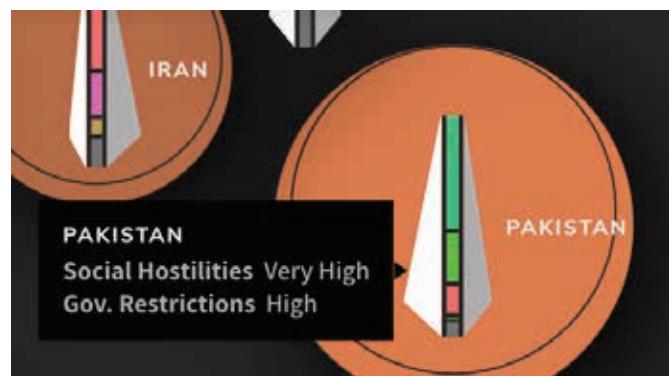
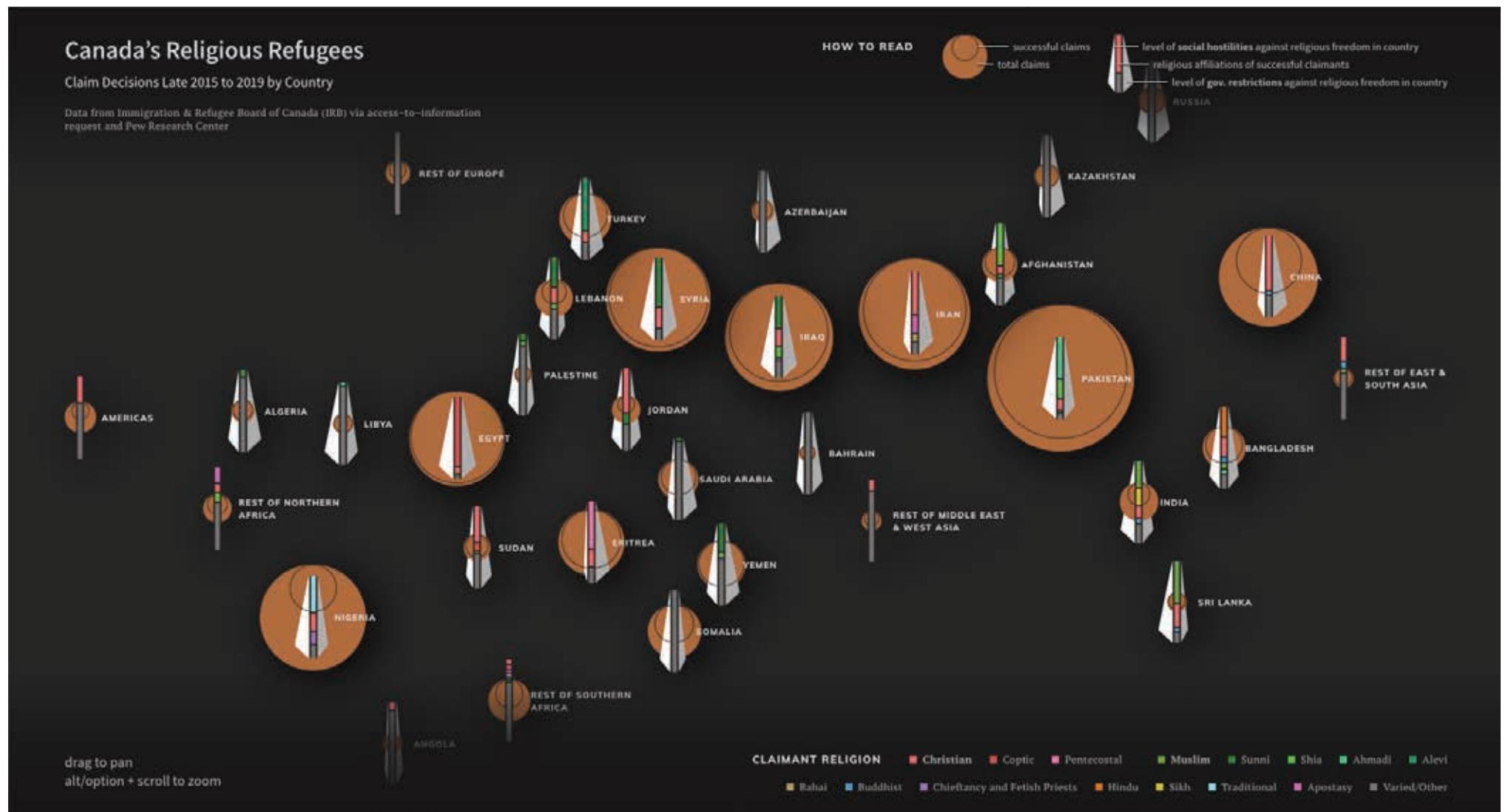
- The Americas, Europe, and Southern Africa had so few claims that I combined most countries into one data point

Catholics don't seem to be persecuted

- Relative to the huge populations of Catholics in the world, I was surprised that no claims were labeled specifically “Catholic”, and that very few claims came from majority-Catholic countries.

FINAL

- darkened the gradient on the legends to further differentiate from the main visualization area – may need to be differentiated further
- changed the orange slightly – may need additional work because I didn't change it that much
- used PT Serif in top-left as well as bottom right for consistency
- added hover interactions for the white/grey triangles as well as the religions breakdowns



IMPROVEMENTS

How I could/could have improved my visualization

Dedicate more of the design to explain terms that might be misunderstood,

- e.g. “Chieftaincy”, “government restrictions”, and “social hostilities”

Incorporate more storytelling into my webpage design

- Although I've represented my data in a decently effective manner, it may be hard to understand and a lot to take in.
- If I made a scrolling webpage with introductory and explanatory paragraphs about religious refugees, the Canadian refugee claim system, and how to read my infographic, users would enter my visualization experience with more confidence and context.

More instructions

- Users may not know that they are able to pan the webpage, or may still miss the legend altogether.

Humanize the data

- The data is represented well in an abstract manner, but it fails to communicate the real-life implications for claimants and the severity of religious persecution in some countries of the world
- The user does not understand on a visceral level that these circles and bars represent people whose lives may be on the line
- Maybe images, descriptions, or quotes from claimants for each country can appear on certain interactions

Other minor improvements

- Scale or colour contrast issues for gov./social indexes and religion breakdowns
- Differentiation between data points that are countries and those that are regions that include many countries combined
- Visibility of the legend still a problem – people may still miss it because the gradient change is not obvious enough
- Circle orange colour may still need adjustment

Nice-to-have features

- Responsiveness for small screen sizes
- Hover over a religion in the bottom-right legend and have all instances of that religion flash on the main visualization
- loading screen to avoid flash of unstyled content