

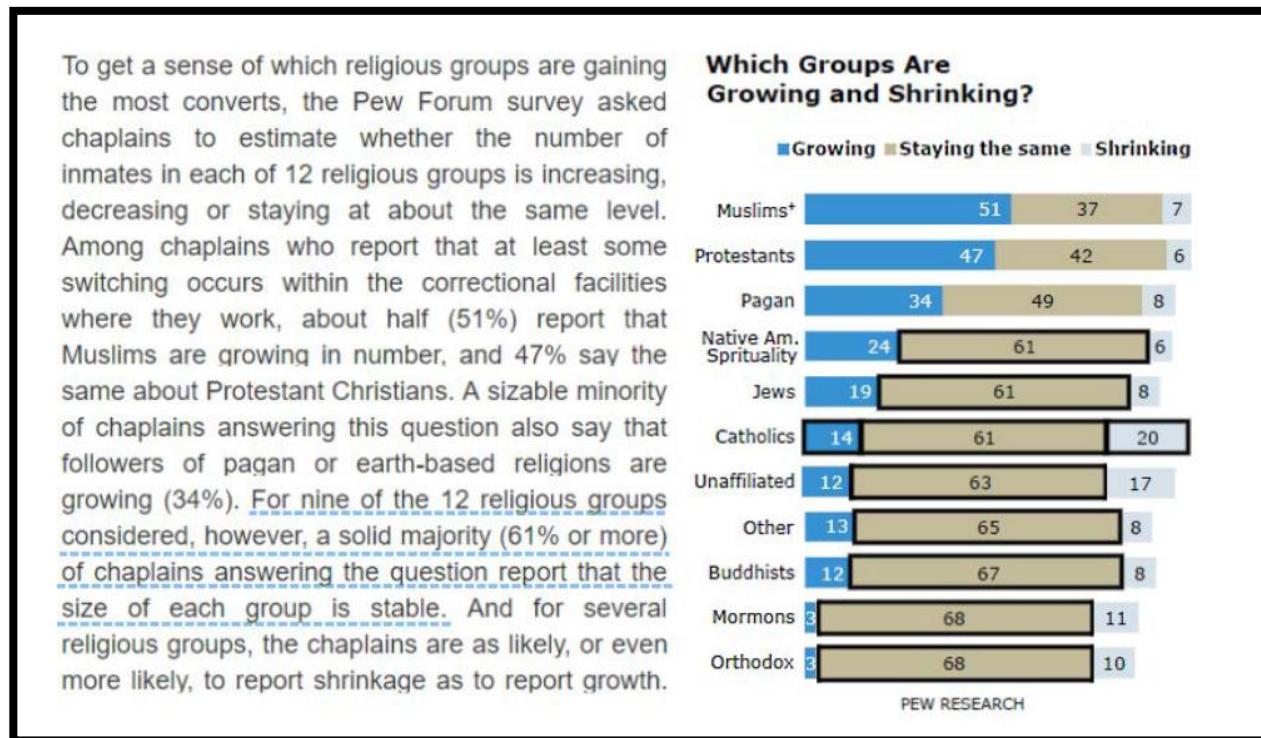
Visualizing Eye-tracking data

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Introduction

Track users gaze across the screen to find out how they process the visualization



Scanpaths

Use point marks to represent fixations

Use area to encode duration of fixation

Limitations:

- Lack the temporal aspect
 - Adding numbers is not very effective
 - Animation can help but difficult to compare
- Tend to get overly cluttered
 - Superimposing points

The image shows a screenshot of the Wikipedia article for Bill Gates. A scanpath is overlaid on the page, consisting of blue circles of varying sizes connected by lines. The circles represent fixations, and their size encodes the duration of each fixation. The scanpath starts at the top left, moves to the main heading 'Bill Gates', then to the first paragraph, and continues to various parts of the article, including the 'Contents' section and the 'Early life' section. A sidebar on the right contains a portrait of Bill Gates and a biographical summary. The Wikipedia logo and navigation links are visible at the top and left of the page.



Heatmaps

Use area marks and the color channel to encode attention

Limitations:

- Lack the temporal aspect
- Lack transitions



Ideas

- Incorporate the temporal aspect into the gaze visualization
- Visualize transitions and their number of occurrences in more discernible way
- Make it easier to identify frequently repeated patterns
- Allow for easier comparison between different gaze visualizations



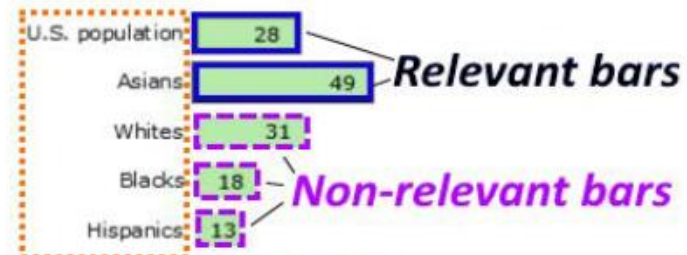
Abstraction: Areas of interest (AOIs)

The Rise of Asian Americans

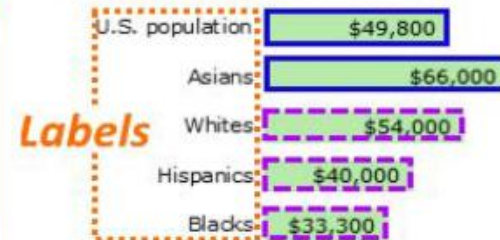
Asian Americans trace their roots to any of dozens of countries in the Far East, Southeast Asia and the Indian subcontinent. Each country of origin subgroup has its own unique history, culture, language, religious beliefs, economic and demographic traits, social and political values, and pathways into America. But despite often sizable subgroup differences, Asian Americans are distinctive as a whole, especially when compared with all U.S. adults, whom they exceed not just in the share with a college degree (49% vs. 28%), but also exceed in median annual household income (\$66,000 versus \$49,800)

Reference sentence

% with a bachelor's degree or more, among ages 25 and older, 2010 **Legend**



Median household income, 2010

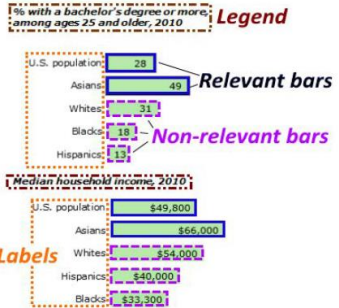


Labels

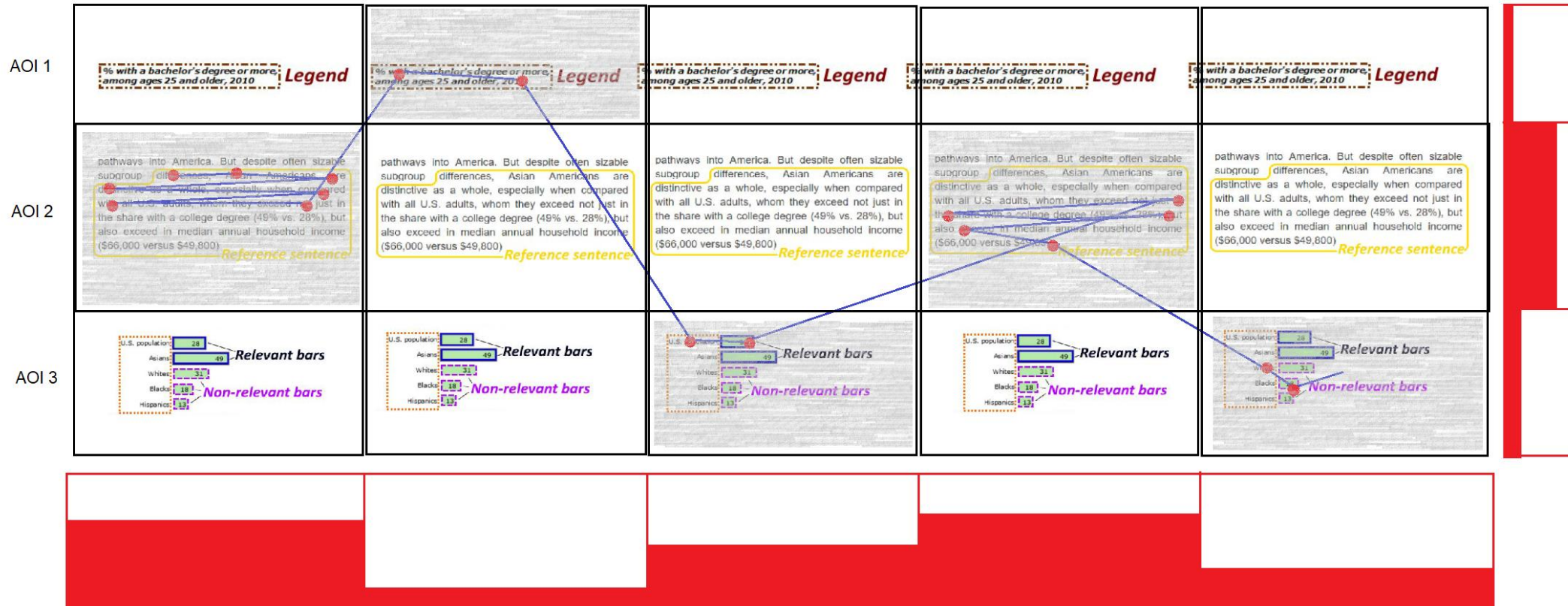


The Rise of Asian Americans

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Total time spent on each AOI



time spent on each visit to an AOI



Thank you!

