

## Progress Report

**Model Goal:** Simulate the cultural assimilation model of 2<sup>nd</sup> Generation Asian Americans using real world statistics to find out how different ethnic groups disperse or group together. Might possibly generalize it to all races since it's not all too different from general cultural assimilation models.

**\*Important:** For now the visible races will be random colors (red, blue, green, etc.) to make the model more generic. This report is written under the assumption that it is using real world stats and races in its configuration.

### Agent Behavior:

Turtles represent people. These people will have the attributes age, cultural identity levels for the different ethnicities, economic status, and current place of residence. Every year the agents will have the possibility of moving to a higher or lower socio-economic area which depends on a variety of factors like age, cultural identity (Potentially link with parents to move with them), and economic status. Also economic status will change based on the other attributes. If the agents are under 25 (tentative transformative age limit) every year they will also experience a change in their cultural identity levels (White, Black, Asian, etc) depending on proximity to other races. These people will have different colors depending on cultural identity, and hopefully can be configured to be colored based on economic status if a setting is switched. Once the people reach a certain age, they will die. Potentially gender will also be an attribute and change up how people act.

Patches will represent land. The only attribute for each patch will be socio-economic status (represented by different shades of green). Every year the social economic status (denoted by a level) will shift depending on the status of the turtles on and around the patch.

**System Behavior:** The system will spawn a large number of people of different cultural identities (configurable). It will also create patch masses of different economic status (configurable). Every year the people will age and potentially move. New people will also be spawned randomly from people over the age of 25.

**Rationale:** Most people, once they reach a certain socio-economic status, will attempt to move to wealthier areas. In addition to that, children born into certain ethnic families will have a higher chance of reaching those socio-economic statuses. As a result, these different ethnic groups tend to group together in different areas of a state or country. Right now having 25 years old as the age where cultural identity stops changing is arbitrary, and subject to change.

**Model Output:** For the output of the model users will be able to see whether a cultural divide physically appears in the land or perhaps a cultural mix is formed where the different lands blend into one, and people mix their identities and economic status. Perhaps different configurations will change the result between the two.

### Questions:

How can I make sliders interact with each other?

Do I want to implement linking between children and parents and how would I do that?

Is there a way to have mixed identities (ex. half white half black)?  
What factors can be quantitative and what factors can be qualitative?  
How do I set the years to a particular number of ticks?  
Should I generalize it to all cultures instead of just Asian American? (I'm leaning towards it)

#### Next Steps:

Coding coding coding I'm going to now start writing out the model. First I will implement the people and patches with just socio-economic status. It will be static so there will not be an age factor until I get this working. I will also make them move around the map in simple manners.

Next I will implement age and cultural identity, and hopefully get the changes to economic status and identity through time working.

Third step is to make the model dynamic and introduce breeding (including spawning stats) and make the model continuous. Through its output.

Anything after that will be implementing extra functions such as linking and gender.

Model Analysis: I hope to be able to draw conclusions about how race and cultural differences affects the distribution of races in the world. Hopefully I'll find out that it's likely the model will blend together different cultures relatively easily when fed real world statistics, but questions related to that are those I hope my model can answer.

#### Big Changes:

1. There is more direction to the model now that age is the "time keeper" of the agents.
2. Like mentioned above, I will avoid using real world cultures for now and make the spawn stats of the different ones in the model configurable (such as percentage of increasing status, percent chance of assimilating, percentage of population, etc.).
3. This model's goal is to be a continuous display of its world with new generations constantly being born.
4. I had cultural identity as one dynamic level but now each cultural identity has its own levels.