

Figure

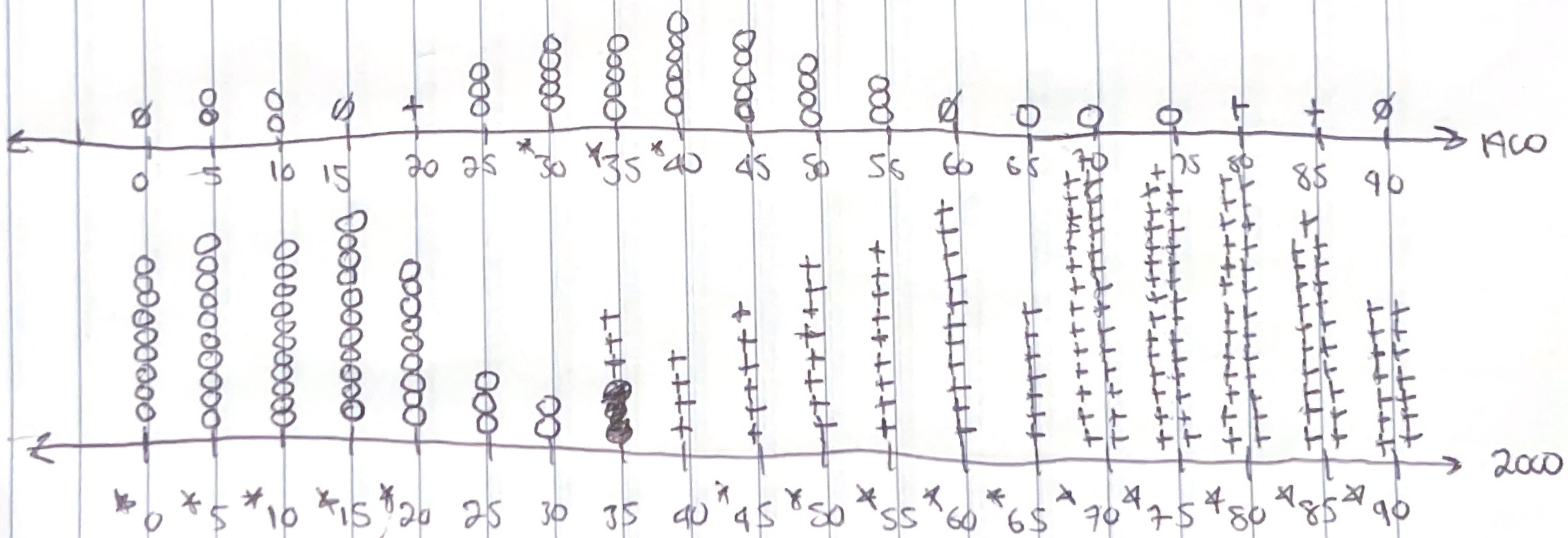
- Difference in male and female population for a given year and age bracket

$\theta = 50$ m.s.m

+ = 50 more women

$\phi = \text{convolve}$

* = poor as 1915 year in
Brazil.



Sketch A paragraph

I wanted this sketch to quickly delineate the differences in population between the genders for all age brackets and years. I hoped the verticality of a number line would catch the eye and quickly resolve certain age brackets of a given year as having the greatest difference, and I think this was achieved. I was hoping it would communicate 2 things: women, on average, live longer than men, and, that the quality of life of men was superior in the 20th century, and owed to more men surviving into their later years (on average) back then, thus subtracting the biological expectation that women live longer. This visual does a good job at achieving both, I think, when comparing the 2 plots. So the medium worked well, but I could have paid better attention to spacing, choice of symbols, and clarity of the magnitude in population difference for the age brackets. All things which may be resolved on subsequent drafts.

\odot = 100 times bigger than year 1900's total population

\circ = 10 times bigger than year 1900's total population

\cdot = year 1900 pop.

* Results are rounded to nearest whole number, $\frac{\text{year 2000 pop}}{\text{year 1900 pop}}$

Year 1900 population

Year 2000 population

$$\begin{aligned} & \odot + \odot \\ & + \odot \\ & + \cdot + \cdot + \cdot + \cdot + \cdot \end{aligned}$$

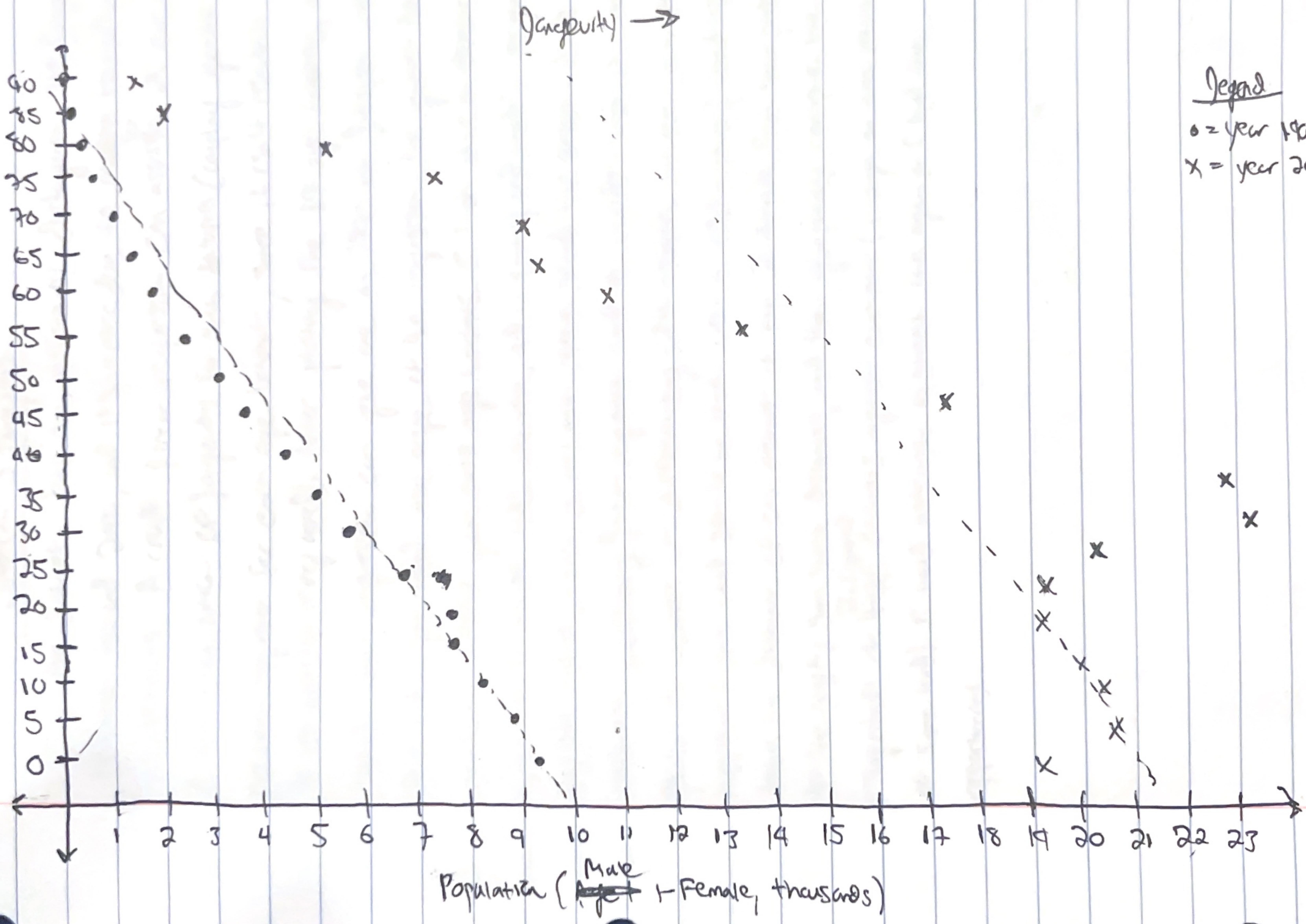
Sketch 2 paragraph

Looking at just the numbers tabulated in the datasets is not sufficient for capturing the scalar difference in the human population from the year 1900 to the year 2000, and if you were to simply compare the^{two} summed scalar values, it doesn't give any "spatial appreciation" for the difference in the values. Because the difference is significant,^{is} it is best to represent the year 2000 in terms of the year 1900's value, as opposed to comparing the two values side-by-side (and graphically). I think the visual effectively communicates just how much ~~smaller~~^{smaller} 76,450 (year 1900 pop) is when compared to 102,816,900 (year 2000 pop), while still maintaining a decent representation that isn't too "cluttered". Spatial representations should be balanced in my view. However, subsequent drafts could benefit from more polish, and testing different ways of symbolically representing magnitude, and finding methods to reduce the necessity for descriptive text on the visualization..

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Age
(brackets)



Sketch 3 paragraph

The ~~1900~~ dataset does not effectively distinguish the ~~1900~~ between 1900 and 2000, and it's increase due to modern technological advancements. A crude linear regression can assist in easily & clearly visualisation of ~~1900~~ for even datasets (joining gender population together for each age bracket, since it isn't relevant to the question being asked). After plotting the 1st age brackets, a simple linear regression can give one an idea of lifespan increase; the more right-hand the angle of the regression, the greater the population in that year across age brackets. I think it is an effective, quick way to encode this information, and is quickly and readily perceptible by the viewer, which is my main motive behind this sketch. More accurate, painstaking linear regression could be in order, since it is not particularly accurate or differentiating with a sketch. However, a better approach (which would greatly be best with a CAD approach) would be to take the distance of each member of the 2 datasets from their points to the origin, sum these distances, and then graphically compare the magnitude of these ^{2 summed} distances against each other (through an area relationship of some kind). I would attempt to sketch this again if I had the opportunity.