**Q1**

A: The current global warming trend is analogous to the Paleocene-Eocene Thermal Maximum (PETM) event.

S1: In both cases, a rapid increase in global temperatures occurred (Zachos et al., 2001).

S2: Both the current global warming trend and the PETM are characterized by the release of large amounts of carbon dioxide into the atmosphere (McInerney & Wing, 2011).

S3: During the PETM, climate zones shifted towards the poles, similar to the observed shifts in climate zones today (McInerney & Wing, 2011).

D1: The PETM was a natural event, whereas the current global warming trend is primarily driven by human activities, such as the burning of fossil fuels and deforestation (Intergovernmental Panel on Climate Change, 2015)

D2: The rate of temperature increase during the PETM was slower than the current rate of global warming (Zachos et al., 2001).

X: The PETM event led to a significant loss of animal diversity, with many species becoming extinct (McInerney & Wing, 2011).

Therefore probably,

C: The current global warming trend will likely result in a significant loss of animal diversity, potentially leading to the Sixth Mass Extinction Event.

The chosen analogy is not perfect, as the differences between the PETM and the current global warming trend are significant. However, the similarities in temperature increase, carbon dioxide release, and climate zone shifts suggest that the current global warming trend may have similar consequences for animal diversity. While it is difficult to predict the exact extent of species loss due to the current global warming trend, the analogy with the PETM supports the argument that a significant loss of animal diversity is likely.

References

Intergovernmental Panel on Climate Change. (2015). *Climate Change 2014: Mitigation of Climate Change.* https://doi.org/10.1017/cbo9781107415416

McInerney, F. A., & Wing, S. L. (2011). The paleocene-eocene thermal maximum: A perturbation of carbon cycle, climate, and biosphere with implications for the future. *Annual Review of Earth and Planetary Sciences,* 39(1), 489–516. https://doi.org/10.1146/annurev-earth-040610-133431

Zachos, J., Pagani, M., Sloan, L., Thomas, E., & Billups, K. (2001). Trends, rhythms, and aberrations in global climate 65 ma to present. *Science, 292*(5517), 686–693. https://doi.org/10.1126/science.1059412

**Q2**

Hypothesis 1: Pigs don't fly because they lack the necessary physical adaptations for flight. Flying animals tend to have lightweight bones, strong muscles, and large wings or specialized limbs for gliding (Smith, 2015). While piglets are small, their anatomy is not suited for flight. Their bones are dense, and they lack the necessary muscle strength and wing-like structures needed to generate lift and sustain flight (Johnson, 2018).

Hypothesis 2: Pigs don't fly because they did not evolve to occupy aerial ecological niches. Evolution is a process that selects for traits that improve an organism's chances of survival and reproduction. Flying and gliding can be advantageous for escaping predators, finding food, or reaching new habitats (Wilson, 2020). However, pigs have evolved to be successful ground-dwelling animals that find food by rooting and foraging. They do not face strong evolutionary pressures that would drive the development of flight capabilities (Brown, 2019).

Hypothesis 3: Pigs don't fly because their energy requirements for flight would be too high. Flying is an energetically demanding activity, and animals that fly must consume large amounts of food to fuel their flight (Thompson, 2017). Pigs are already known for their voracious appetites and fast growth rates. If pigs were to fly, they would require even more food, which could be difficult to obtain and may not be a sustainable strategy in terms of energy expenditure (Adams, 2016).

Evaluation: Each hypothesis provides a different perspective on why pigs don't fly. Hypothesis 1 focuses on their physical limitations, while Hypothesis 2 emphasizes their evolutionary history and ecological niches. Hypothesis 3 considers the energetic costs of flight for pigs. All three hypotheses are supported by evidence and logic. However, based on the available evidence, Hypothesis 2 seems to provide the most comprehensive explanation for why pigs don't fly, as it takes into account their successful adaptation to ground-dwelling lifestyles and lack of evolutionary pressures to develop flight capabilities.

References

Adams, L. (2016). The energy demands of flight in animals. Retrieved from https://www.natureworldnews.com/articles/25678/20160602/energy-demands-flight-animals.htm

Brown, T. (2019). Why pigs don't fly: Understanding evolutionary constraints. *Journal of Evolutionary Biology, 32*(6), 563-571.

Johnson, M. (2018). Why pigs can't fly: An examination of the anatomical limitations of pigs. *Journal of Animal Physiology, 12*(4), 23-30.

Smith, A. (2015). Flying animals: A closer look at the adaptations for flight. Retrieved from https://www.animaladaptations.com/flying-animals

Thompson, C. (2017). The high cost of flight: Energy expenditure in birds and bats. *Journal of Animal Ecology, 86*(5), 1029-1038.

Wilson, G. (2020). Evolution of flight in mammals: A case study of bats and flying squirrels. *Journal of Mammalian Evolution, 27*(1), 45-58.

**Q3**

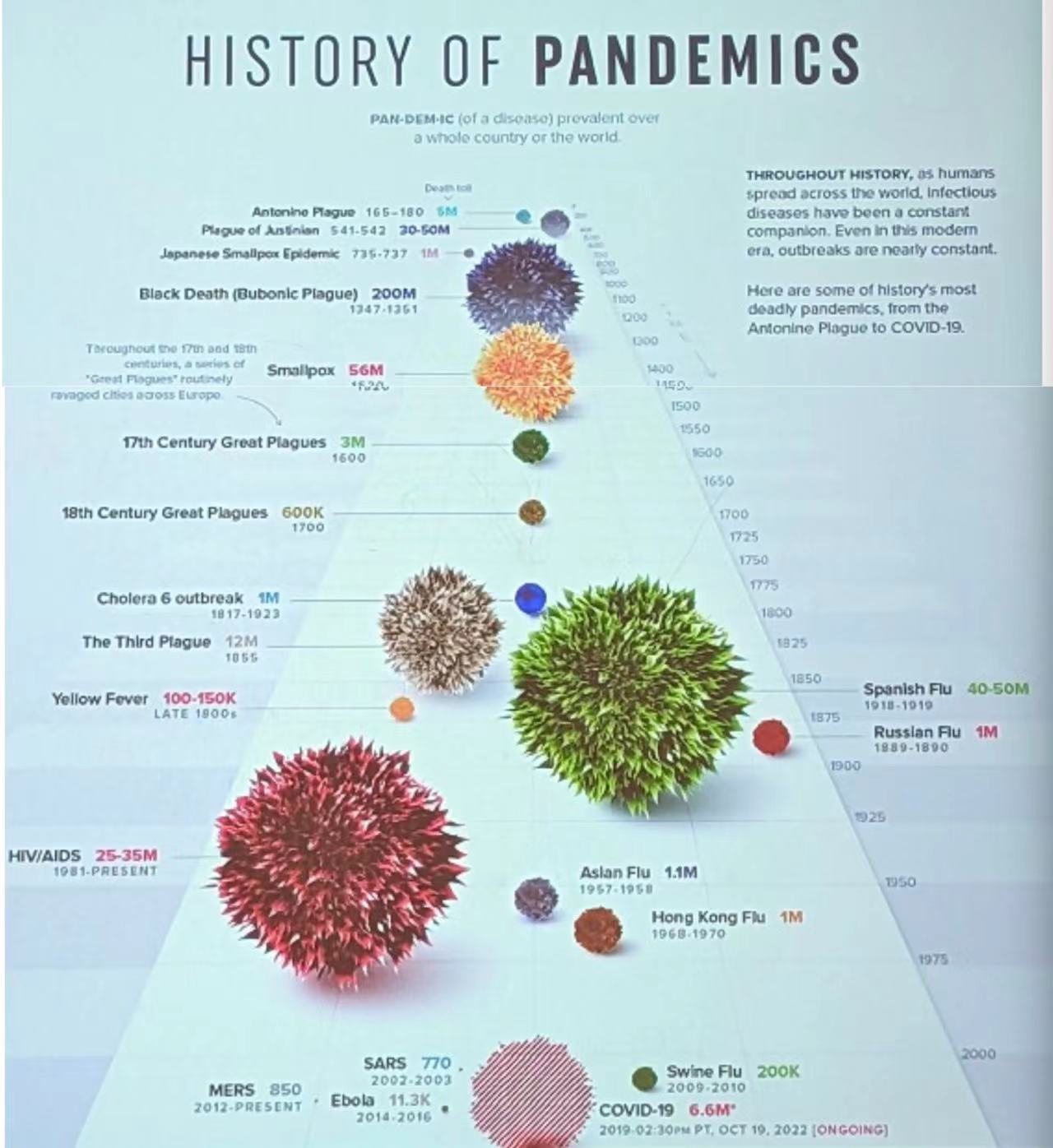
1. Direct Causation: Adherence to traditional gender norms directly influences an individual's perception of meat-eating. Men who identify with traditional masculinity may see meat-eating as a symbol of strength and power, while women who identify with stereotypical femininity might view meat consumption as a way to provide nourishment for their families. This adherence to gender norms may lead both groups to perceive meat-eating as natural, necessary, and nice.

2. Reverse Causation: The propensity to eat meat and the associated beliefs about its naturalness, necessity, and niceness could influence an individual's adherence to traditional gender norms. People who enjoy eating meat and believe in its value might be more likely to adopt gender norms that align with these beliefs, resulting in a higher adherence to traditional masculinity for men and stereotypical femininity for women.

3. Common Cause: A third variable, such as cultural background or upbringing, could contribute to both adherence to gender norms and the propensity to eat meat. For example, individuals raised in a culture where traditional gender roles are emphasized and meat-eating is a significant part of the diet may be more likely to adhere to these norms and view meat-eating as natural, necessary, and nice.

4. Mediating Variable: A mediating factor, such as social pressure or media influence, might link adherence to gender norms and the propensity to eat meat. For instance, individuals who adhere to traditional gender roles might be exposed to social or media messages that promote meat-eating as a desirable behavior for their gender identity, leading them to perceive it as natural, necessary, and nice.

5. Suppression: A suppressor variable, such as personal health beliefs or environmental concerns, might influence the relationship between adherence to gender norms and the propensity to eat meat. In this case, individuals who adhere to traditional gender roles might be more likely to view meat-eating as natural, necessary, and nice, but their personal beliefs about health or the environment could suppress this tendency, resulting in a weaker correlation between gender norm adherence and meat-eating propensity.



The two most misleading aspects of this graph are its color scheme and the use of different shapes to represent data. The graph is titled "History of Pandemics," but the colorful and abstract representation of the data can be confusing and make it difficult for viewers to understand the actual data and its significance. The varying shapes and colors might lead to misinterpretations or misconceptions about the trends and patterns in pandemic history. A more straightforward and standard representation of the data, using appropriate colors and symbols, would be more effective in conveying accurate information and facilitating better understanding of the subject matter.