

## Evidence of Scholarly Thinking

Kuhn would not completely agree that the *Physics Today* article is an accurate representation of scientific history. Weart neither appreciates nor recognizes the processes leading up to the tipping point when extraordinary science is realized.

(Critique)

The problem with making this prediction is that the data I am basing it off of show changes made from natural cycles, and humans are causing unpredictable change to their environment.

(Limits of predictions, role of uncertainty)

...the climate is so unpredictable and what humans are doing now could affect the climate in an unpredictable way. Many other factors play into the unpredictability.

(Facing up to uncertainty)

It seems unclear where we are in the climate change paradigm shift. Some feel that it has already happened, and others feel that we have not begun a paradigm shift based on resistance and general ignorance.

(Call for clarity and precision)

I am looking at environmental change with a more investigative eye. Instead of blindly accepting someone else's opinion about the environment, I am developing my own theories by scrutinizing the data myself.

(Theory building, beyond blind acceptance)

Since the class started I think I have gotten better at finding the patterns myself rather than relying on others.

(Independent pattern recognition)

Why haven't scientists put all of the factors we have looked at, mainly the cycles of planet, ice, ocean currents, etc. and just made a rough road map of the future pattern?

(Call for modeling of our future)

Is climate beyond human influence? Is the unusual climate stability just another variant of the climate since there is a lot of variability within the rough patterns we have been able to discern? My thinking has changed in that I now approach questions such as these from many different perspectives.

(Power of multiple perspectives)

If the North Atlantic current stops and something is messed up with the sun, which would have a greater effect?

(Question that acknowledges complexity)

I can see that there are many factors and tipping points in the climate right now, and if we just tinker with one of those factors just a little bit, we can change the world's climate.

(Nature of complex systems)

Exactly how much fresh water would it take to turn off the North Atlantic current?

(Posing a research question)

Is it possible to find out how much freshwater would need to be deposited into the ocean to cross the threshold that had been disrupted during the Younger Dryas period?

(Posing a research question)

If I, as a part of the public, can't change my mind completely and put it into practice after learning all this information...how can the whole society change its mind?

(Asking the toughest questions)