

*War & Peace Summit Cluster - Spring 2017*  
*Assignment #1 - due Wednesday February 8<sup>th</sup> 2017*

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## **Introduction**

Before attempting to complete this assignment you will need to do the following:

- a. Read the text *On the Beach* by Neville Shute. This is one of the texts which is assigned for the English portion of the cluster. This assignment is being distributed at the end of the Fall semester to give you time to read this book over the winter break.
- b. Read the accompanying appendix which summarizes the history of the universe, and the most likely scenario for its future.

The assignment below is due on February 8<sup>th</sup> 2017. After getting feedback (on the 15<sup>th</sup>) you have the option of resubmitting by Feb. 22<sup>nd</sup> 2016 in order to improve your grade on the assignment by up to one grade point (B→A, etc.).

Please email your papers to both Scott and Ian, rather than bringing a hard copy to class. (Early submissions, even over the winter break will be accepted.)

## **Preamble**

In its early history the Earth did not support any life at all. The first recorded life forms appear when the Earth was about one billion years old, and we presume that life itself started some time earlier than that. Since then there has been an explosion in life on the Earth, a continuous unbroken stream of increasing complexity. Today life exists in countless forms, in almost all environments. However, in the novel *On the Beach*, Shute describes a scenario where the last humans on Earth face an inevitable demise. All the characters in the novel can do is wait for death. They will all die, and there will be no new humans to replace them. Ever. There is nothing that they can do about it, it is inevitable.

Expanding our horizons a little, we live (cosmologically) in the Age of Stars. The universe is almost 14 billion years old. If we could go back until the time when the universe was less than 500 million years old we would see an age in which there were no stars at all. The first stars formed at about that time. Since then the evolution of the cosmos mirrors that of life on Earth. We have seen an explosion in the number of stars throughout the universe, and an increasing complexity as the universe develops from a near uniform distribution of matter in its early stages, until we get the conditions that exist today with galaxies and even superstructures of galaxies.

Now imagine looking into the distant future. The best evidence we have suggests that the universe will expand forever. A fundamental law of physics (the 2<sup>nd</sup> Law of Thermodynamics) demands that at some time in the future the Age of Stars must come to an end. Stars existing at that time will die out, and there will not be any new ones to replace them. Ever. The universe

will, in effect, 'go out', mirroring the fate of the human in Shute's book. This fate is also inevitable, there is no way of avoiding it.

### **The assignment**

Imagine that you are writing a narrative about the end of the Age of Stars, around  $10^{14}$  years from now, along the lines of "On the Beach". Bear in mind that

1. ***Humans will not exist at this time***, we will have long since evolved into something very distinct from our present appearance. (Think of how much life forms on Earth have changed in the last 100 million years or so. That would take you back to the age of the dinosaurs, and the end of the Age of Stars is a million times more distant in the future than the dinosaurs are in the past.)
2. ***It is very unlikely (in the extreme) that our (evolved) descendants will be alive at this time***
  - a) it would require that we (and our descendants) do not die out for any one of a number of reasons (war, disease, loss of habitat, etc)
  - b) it would require that they have the foresight and knowledge (or sheer luck!) to know just where to be at the end of the Age of Stars, that is orbiting the last star in the universe. The resources needed to sustain highly-evolved, and so intelligent, life will make habiting any other part of the universe nearly impossible.
3. ***It is perhaps a little more likely, but still highly improbable, that there will be any life form in the right place at the end of the Age of Stars.*** We are in all likelihood considering a lifeless scenario.

It follows then that if you were to write a story set at the end of the Age of Stars, and similar to "On the Beach", then your story would have to be written from the point of view of some inanimate object.

### **Prompt**

*Write a narrative about the End of the Age of Stars*

### **Talking points**

In answering this question you might want to consider any or all of the following:

- a. How could the terms 'Anthropomorphism' and 'Anthropocentrism' be applied to the two scenarios in the prompt? Can you write a story similar to "On the Beach" about the end of the Age of Stars in which there is no intelligent life at all, no point of view to be expressed. Could individual characters (Moira, Towers, Osborne, etc) have their counterparts in a lifeless end of the Age of Stars?

- b. How does choice play a role? (Note: choice does not necessarily imply conscious thought<sup>1</sup>.) How do the terms “fate” (or “Fate”) and “hope” play a role in both the book and in the narrative that you would write? Are there similarities? Are there differences?
- c. Fear and resignation are important to Shute's book. How might you, if at all, extend these concepts to the cosmological scenario?
- d. Is the expedition to discover the source of the ‘intelligible’ radio transmissions that were detected in Australia as emanating from North America in any way comparable to SETI?
- e. Are we alone? The inhabitants of southern Australia act as if they are, but reference is also made to the Indians of Patagonia (South America) even though they never appear in the book. Why don't the Aussies and the South Americans get together to try to find a solution? If there is indeed a surviving intelligent civilization at the end of the Age of Stars would it necessarily have to be alone, and more importantly would the “beings” know that they are alone?<sup>2</sup>
- f. Can you find a way to incorporate some of the concepts introduced in the English portion of the fall semester (realism vs realistic, allusion, representation, metaphor, etc, especially irony) into a description of the cosmological fate of the universe?

This is not meant to be an exclusive list of topics to write about, just some ideas to get you started.

## Grading

The first thing to bear in mind that we want you to have fun writing this assignment. Use your imagination, try to project forward  $10^{14}$  years and imagine what the sky might look like. So, with that in mind, our principle grading criteria are

1. Originality
2. Clear parallels between the End of Stars and the End of Humans in the book
3. Originality

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1 For example, the half life of  $^{137}\text{Cs}$  is 30 years, which means that within the next 30 years half the nuclei in an existing sample will have emitted an electron and become  $^{137}\text{Ba}$ . However, you cannot predict which individual nuclei will make up the half that will decay. If you look at any one nucleus, then it might “choose” to decay in the next second, or it could “choose” to decay a billion years from now.

2 There is one difficulty to worry about. Simultaneity becomes impossible. Information travels at the speed of light (or slower) and so we see the Andromeda Galaxy (for example) not as it is “now” but as it was 2.2 million years ago. That then means that if we were today to detect an advanced civilization in the Andromeda Galaxy we would know that there was one “then” but we would not know that there is one “now”.