

Reading 4: The Upside of Down Chapter 2

One of the most important things a student should gain from any course of study is the ability to tackle material that makes absolutely no sense to them. It is all about learning to not feel panic when being completely out of your depth and how to approach understanding through research and perseverance.

Up until now, the readings have been relatively easy. Despite being written for the general public, this book by Thomas Homer-Dixon is sufficiently hard that Professors and Nobel Prize winners don't understand it – as you'll see if you visit the forums on the book's website. On the other hand, when Homer-Dixon speaks, governments, corporations and the United Nations take notice.

It currently looks like our civilisation is going to begin to decline and fall during the next twenty years during which most of you will witness nightmares not seen in three centuries. We ourselves will be fine – our generation will reach old age. However, the life expectancy of the next generation will be considerably shorter and it'll be much worse again for the following generation. In just two generations, human civilisation will have returned to the Dark Ages and a majority of our population will have died from starvation. Where there used to be six billion people, there won't be more than two billion and constant war will quickly decimate the rest.

Understanding how energy works is important for the future of our civilisation and is the source of ALL wealth. Human Happiness, indeed humans as a species is irrelevant without energy. As the chapter will explain to you, there are two kinds of energy: (i) high quality and (ii) low quality. Everything in the Universe is an ongoing separation of energy quality: all "good" things in this Universe are "*far from thermodynamic equilibrium*" (the chapter explains these terms). All life forms need energy in the form of food to survive – civilisation also needs energy to build & maintain infrastructure such as hospitals, schools and roads. This is Economics at its most fundamental.

This chapter is about how the Roman Empire collapsed from an energy exigencies¹ perspective. Because this chapter is so hard, you have just one question this week:

Q1: Give five detailed reasons why our civilisation will collapse according to this chapter

¹ An exigency is something which is imperative i.e. something urgent, hard to fix, something which recurs and can't be made to go away through solution. Basically, it's a really pressing problem which can't be solved and must be constantly be handled. For most of us, an example would be the need for enough income to feed & house ourselves for which most of us must work. Another would be that a car needs constantly refilling with petrol to make it function and so on.