



Malthus and the Red Queen

"It takes all the running you can do, to keep in the same place" is how the Red Queen explained progress to Alice in *Through the Looking Glass*. Little did she know that this is the clue for escape from the Malthusian Trap. In his 1798 *Essay on the Principle of Population* Thomas Malthus asserted that "the power of population [*growth*] is indefinitely greater than the power in the earth to produce subsistence for man". He felt he had just cause to be concerned: the world population had just reached 1 billion. With 7 billion today, what would Malthus say?

As every Namib toktokkie knows, at times when there are plenty of resources and times are good, birth rates and survival increase and their populations grow until they have reached the resource limit. With the unusually high rains and grass, 2011 was an excellent year for beetle populations to grow. Toktokkies also know that when resources are depleted, many will go hungry, birth rates and survival decrease, and populations decline. But people do not want to hear the word "decline" in relation to humans. There have been many pessimistic warnings, but despite devastating setbacks, our population continues to increase. The upcoming Namibian population census will update the details.

What we are up against in the Red Queen's race are limits of resources that sustain us, and the processes that enable earth to continue being viable. We share our planet with nature, comprising functional ecosystems, plants, animals, bacteria, fungi and other organisms, and we need them. Not only are they resources or part of a functional system from which we draw sustenance, they are also very much part of the world we can live in.

It turns out that 213 years ago, Malthus had underestimated the resourcefulness of human ingenuity. People are inventive, brimming with ideas, particularly when challenged. We have achieved previously un-dreamt of increases in efficiency as well as craftily finding alternative resources to meet ever-growing demands. This has taken us so much further than Malthus thought possible. Although it therefore may appear that we are faring ever better and better in the Red Queen's race, we are actually pushing the limits of our finite world. Now that we have engulfed the entire globe, earth's viability is teetering, while our population is still growing. Unless we restore balance between us and nature, there will be an almighty crash. The Red Queen's principles require us to pace developments to allow earth to cope, so we can continue to hold our place on earth.

The biologist Edward O. Wilson elegantly summarizes the precondition for post-Malthusian hope: "The drive towards perpetual expansion – or personal freedom – is basic to the human spirit. But to sustain it, we need the most delicate, knowing stewardship of the living world that can be devised." This prompts Moralesi to add: without a functioning healthy ecosystem out there, Malthus' Trap will trump the Red Queen's solution. Let's look after our Desert.

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