

# Until 2100 there is a Plenty of Hope at the Bottom of Society and Out There in the Cosmos

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## Solastalgia in the unique worlds of individuals

The universe of matter-energy unlike its apparent complexity could be extraordinary simple. For example, if you would like to know how much matter-energy can be squeezed into a volume of space as in a star without it shrinking under its own gravitational pull and turning into a blackhole you can solve Einstein's field equations of curved spacetime to arrive at a simple equation that has been named after the physicist Hans Adolph Buchdahl who discovered it. The maximum mass-energy allowable inside a sphere to ensure a static Star is obtained from Buchdahl's Theorem; that is providing a theoretical upper limit:

$$M(\max)=4/9*R/G*c^2$$

Carroll (2004) points out that “if we try to squeeze a greater mass than this inside a radius R, general relativity admits no static solutions; a star that shrinks to such a size must inevitably keep shrinking, eventually forming a black hole.”

But despite its apparent simplicity, the universe of people on Earth can be extraordinarily complex. For example, although you may want to know how many more people Earth can carry without collapsing and turning into a dystopia, you will not be able to discover and solve any agreed upon equation.

Malthus' pessimistic perspective on the exponential rise of population versus limited resources was followed in the famous publication of *The Limits to Growth* by the Club of Rome using system dynamics of MIT which only reveal the focused efforts of experts to understand the globe population limit in order to raise the alarms well in advance of a catastrophe ahead. Optimists on the contrary point out that more people will translate to more brains and more “factors of production”, even more hopeful agents that may provide more just distribution of power and wealth therefore provide rapid solutions to the challenges facing humanity.

However, today the world population is one of the most important indicators that professional futurists often monitor and attempt to estimate. But the human nature of limited needs and unlimited wants in addition to the changing values throughout the history of civilization make it extremely difficult to know the relationship between more people and more pressure on the limited resources of Earth.

Global Foresight Books by Michael Marien reports that Population Reference Bureau (PRB.org) in 2003 put its forecast of 2050 at 9.198 billion people. In 2008 it rose to 9.352 billion and

in 2013 the projection was 9.727 billion. Given better health care and high fertility rates a 10 billion people globe by 2050 could be well on the horizon.

Yet what remains to be known is the maximum of Earth carrying capacity. Will a more crowded world only result in destruction or alternatively help save the planet or better to say allow us to save ourselves from Earth and settle in other planets across the vast number of galaxies in the cosmos?

Estimating the future world population in 2050 as done by PRB.org, which is approaching to 10 billion people, without having a clear idea about a ceiling could be not helpful and may serve only as a basis for self-altering prophecies. Every new forecast or projection will definitely, as psychologists say, anchor our thoughts, pushing up the ceiling. Add to this another psychological bias: it may reinforce our getting used to bad conditions, thus lowering our expectation of having a high quality life. In a less populated world we are used to living in big houses, in a more populated one, we will get used to living in small apartments, and perhaps in a super populated world we will eventually get used to living instead in some sort of a virtual world.

According to a document published by UNEP one study even put the limit of Earth's carrying capacity at 1,024 billion people! Using pure geometry one can say that given an Earth surface area of 510,072,000 km<sup>2</sup>, with 29% known to be land, if we exclude the possibility of going down or up, we can perhaps fit them all on the surface, giving, on average, 500 m<sup>2</sup> personal kingdom to each individual!

Albrecht, a philosopher and professor of sustainability at Murdoch University, has coined a term, Solastalgia, to describe "the climate depression", a psychological condition which is not yet very well recognized.

Solastalgia, according the Albrecht definition, is a combination of the Latin word solacium (comfort) and the Greek root -algia (pain). It is "the pain experienced when there is recognition that the place where one resides and that one loves is under immediate assault." Smith (2010) gives some evidences of Solastalgia among the residents of the Upper Hunter Valley, a 6,000-square-mile region in southeastern Australia; a region where today more than 100 million tons of black coal are extracted from it each year. The coal industry millionaires and the ultra rich in Australia are directing a scene in which blasts occur several times a day, sending plumes of gray dust to settle thickly onto roofs, crops and the hides of livestock. Smith reports that local people, distraught over the spread of coal mining in the Upper Hunter, are beginning to feel hopeless and depressed as their rivers and streams are polluted and they are forced off the land where they really love to live.

Mason (2010) has also reported instances of Solastalgia from elsewhere in the world. Take for example Pelourinho, a tourist attraction in Salvador da Bahia in Brazil where he "encountered pregnant women high on drugs, old drunken men wielding screwdrivers as weapons and seven year olds with pocket-knives and guns." Mason points out that Brazil was the first place in the world he saw that indifference is the opposite of love.

Countering hopelessness, depression and indifference by making a new English word to highlight the climate depression is a brilliant idea. But, as a Persian, I can recall lots of Persian poetry in which you see a firm association between the beauty of love and the beauty of the surrounding nature.

There are numerous instances of Persian couplets composed by Hafez, Nezami, Saadi, among many others, that in the first one you see an exquisite praise of your

love and in the second one you read some natural features and context that shaped your memory of that love, either metaphorically or literally.

Therefore, each time you read most of such poems you not only miss the loved one or the lovely scene you had with him or her but also feel a great longing for the environment in which your story happened. In other words, human love and nature love make up a gestalt. You cannot separate them now and will remember both of them in the future.

A very well-known example of such poetry is the works of Rudaki, the first great literary genius of Modern Persian. See this couplet for just a glimpse of a too rich literature of Solastalgia and Soliphilia:

Farsi (Persian): Booye Jooye Moolian Ayad Hami

English: Here comes the scent of Moolian brook

Farsi (Persian): Yade Yare Mehraban Ayad Hami

English: Here comes memory of the good comrade

Building a nonkilling ecology in which we do not destroy our fragile lovely planet is not an easy endeavor. Slaughter (2010), in his new foresight work, narrates a totally different story of our environment while helping us make sense of its future sustainability and calls for accelerated psychic development. Lombardo (2011) develops even further the concept of accelerated psychic development and shows how advanced values may transform a typical futurist into a wise person. In his view, however, one big thing missing from this growing knowledge enterprise is a synthesis of Western and Eastern schools of thought. While the former focuses on science, reason, and analytical thinking, the latter highlights insight, intuition, and holistic thinking.

Also, I admit that we have lost our trust and hope in the current leaders of the world and their powerful institutions. But I suggest that perhaps we are looking for hope or a desired change in wrong places.

## **Candles of hope among the ordinary**

A strange story unfolded from the bottom of society and had a huge internet age impact in 2009. A provincial woman from Scotland, Susan Boyle, became a YouTube sensation. The 47-year-old lady, who lacks our lavish standard of attractive appearance, stunned both the audience and the tough judges on a “Britain’s Got Talent” reality TV show. The clip of her marvelous and awe-inspiring performance has already drawn tens of millions of visitors.

When she appeared on the stage and introduced herself to the three judges, Susan Boyle was facing the greatest challenge ever, a gathering of unbelievably cynical people. Part of this was because her cheap dress, untidy hair, and thick eyebrows left no doubt that this bag with a “cheeky grin”, as described by judge Pieter Morgan, definitely will not make it and people would have fun ridiculing her.

But the moment she opened her mouth and began to perform a rendition of “I dreamed a dream” from “Les Miserables” almost everybody’s jaw dropped and the skeptical and smirking judge, Simon Cowell, had to shut up. People gave a standing ovation to this single unemployed church volunteer who although “never been kissed” was confident that someday she will become a professional singer as famous as Elaine Paige.

Nobody would have guessed that it would take her only two minutes to get shot from just “a face in the crowd” who lives in the middle of nowhere to top global superstardom. The unfashionable woman with her astonishing angel-like voice brought tears to the eyes of many visitors. Their hearts were touched deeply by this incredible performance which was beyond any expectations. The hot pretty judge, Amanda Holden, sighing in awe, was absolutely right that it was “a complete privilege” listening to her. Very soon news outlets, TV channels, and newspapers, not to mention company and advertising agents, rushed to tell her story and provide more details for her ever growing body of instant fans.

After the sudden internet frenzy over Susan Boyle phenomenon people started to talk about her historical ebb and tide in life. They are still pondering over the lessons we might learn, the most repeated of which is that “you ought not to judge a book from its cover”.

However, a big lesson that is not receiving due attention is the fact that she did not become a talent in a matter of days or minutes but was already a big talent ten years earlier—it was just that she was not discovered earlier. After her first recording for a charity was unearthed, which is a version of “Cry me a River” and is now a much sought after CD, people were inspired to know that Susan Boyle’s dream candle was lit in 1999. A decade later in 2009 it turned into spectacular lights.

“I’ve never been given the chance before, here’s hoping it’ll change,” said Miss. Boyle before stunning the world by her talent show. And we should repeat her blissful expectations and give ourselves “the biggest yes ever”. Yes, hope and vision will change things a lot, be it sooner or years later. It depends on how persistently we keep the vision candle lit.

We should look up to Susan Boyle for reminding us that contrary to the song she sang “life cannot kill our dreams” they can get extinguished by passing winds. She has taught us a big lesson. All entrepreneurs should constantly seek the right places and the right times for reigniting their vision candles, even if they die out every so often.

## Candles of hope in the cosmos

In general relativity identification of a candidate singularity depends on the coordinate system being used. What appears to be a singularity in a particular coordinate system may not be a singularity at all in another one. In the case of a black hole, the singularity of the event horizon in the spherical coordinate system tells us that perhaps, in another coordinate system, that point needs “special attention”; that we need to be careful about “what could be possible and impossible around it” based on the coordinate independent geometry of spacetime.

If we decide to borrow and use the notion of singularity in futures studies, then it might be appropriate to say that there are turning points down the path of our civilization on Earth beyond which what is possible and what is impossible will change. This is a fairly good definition that could include almost any field and most alternative visions.

People who push “the” singularity like Kurzweil, are clearly in favor of a full blown post vitalism scenario. Rejecting vitalism is their underlying big assumption. Adding new artificial base pairs to the genome of organisms follows from this understanding. However, futurists who suggest, for instance, an environmentally

friendly green future world, may also pointing us toward another singularity, when the notions of possibility and impossibility have to change.

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