

### **But, seriously now... (Part I)**

In the last few months, I started a rumour, as a lark, based on the astrophysical theory of the constant expansion of the Universe since the Big Bang. In my “thesis” I proposed that, since the Universe has been expanding for billions of years, therefore it stands to reason that every body in it must be also expanding accordingly. Which therefore means that our planet has also been expanding since its birth 4.54 billion years ago. Now, since we calculate dinosaurs first appeared during the Triassic period, between 243 and 233 million years ago, it stands to reason that –the Earth being much smaller then– all living things must have also been much smaller. Therefore, a brontosaurus then would have been about the size of today’s cow; and a T-Rex would have been about the size of a chihuahua.

But, seriously now... What scientists mean by “expansion” is radically different from what you and I mean by big or small in Earth terms, whether in a chronological or in a spatial sense. First of all because, since Einstein’s time, astrophysicists measure expansion in space/time; whereas you and I just don’t. They think in terms of lightyears, while we common folk measure light in watts, and space –if Americans– in yards and feet, and everybody else in metric terms. As Einstein once said: “Every reference body (or coordinate system) has its own particular time; unless we are told the reference body to which the statement of time refers, there is no meaning in a statement of the time of an event.” \*

Of course, this is not breaking news. Philosophers and thinkers of all colors and stripes have been saying similar things for centuries: The experience of duration is relative to the organism experiencing it. And that of size, on whether you’re a dung beetle or the elephant producing the aforementioned dung.

But, seriously now... For example, the Buddhist thinker Nāgārjuna (150-250 C.E.) taught the idea of “relativity.” In the *Ratnāvalī*, he proclaims that shortness exists only in relation to the idea of length. The determination of a thing or object is only possible in relation to other things or objects, especially by way of contrast. He held that the relationship between the ideas of "short" and "long" is not due to intrinsic nature (svabhāva). This idea is also found even earlier in the Pali Nikāyas, in which relativity is expressed similarly: "That which is the element of light ... is seen to exist on account of [in relation to] darkness; ... that which is the element of space is seen to exist on account of form." \*\*

Furthermore, when one considers time in biological terms, the effect of relativity increases in relation to each specie’s experience of its time on Earth, or what is called its “Life Span” –that is, the period of time between the birth and death of an organism. All organisms die. (...duh!...) Some die after only a brief existence, like that of the mayfly, which has the shortest recorded lifespan (24 hours or less); whereas others have very long life spans, like the Greenland shark (which lives over 270 years), and like the gnarled bristlecone pines (some which have lived thousands of years.) \*\*\*

However, I maintain –all things being equal (?)– that all living organisms experience a full life equally, regardless of our perception of their particular life span, measured in our anthropomorphic chronology. Those organisms that can slow down their metabolic rate tend to “live longer” –in human terms– than those that don’t.

Take hummingbirds for example: You may have seen astonishing slow-motion films of a hummingbird feeding off a flower’s nectar. Flying at a speed of 30 miles-per-hour, they beat their wings at 80 beats-per-second; and during a courtship dive, some species of hummingbird beat their wings at an incredible 200 times-per-second, while flying at a speed of up to 60 miles-per-hour. However, the average lifespan of a hummingbird is estimated to be only 3 to 5 years max.

If human beings could flap their arms at that speed while drinking a beer, we would also live for only 5 years. Maybe that’s the reason why some Rock n’ Roll superstars died so young, while some sedentary dictators seem to live forever.

But, seriously now, ... the Universe’s expansion will have to wait for another day.

Written by © Pascual Delgado, June 2<sup>nd</sup> 2024.

\* Quoted in Lincoln Barnett, *The Universe and Dr. Einstein*, Bantam Books (1948), page 53.

\*\* <https://en.wikipedia.org/wiki/Relativism>

\*\*\* <https://www.britannica.com/science/life-span>