

BEFORE BREAKING THE BIG NEWS TO PINKY

By Dr TV Sajeev



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Have you ever gone through the suffocation when you have something so important to tell those around you but unable to do so? The other day I went through it. Sitting on a rock beside a stream charged by monsoon, feet in the water which is explored by a few small fishes, dragon flies hovering around,

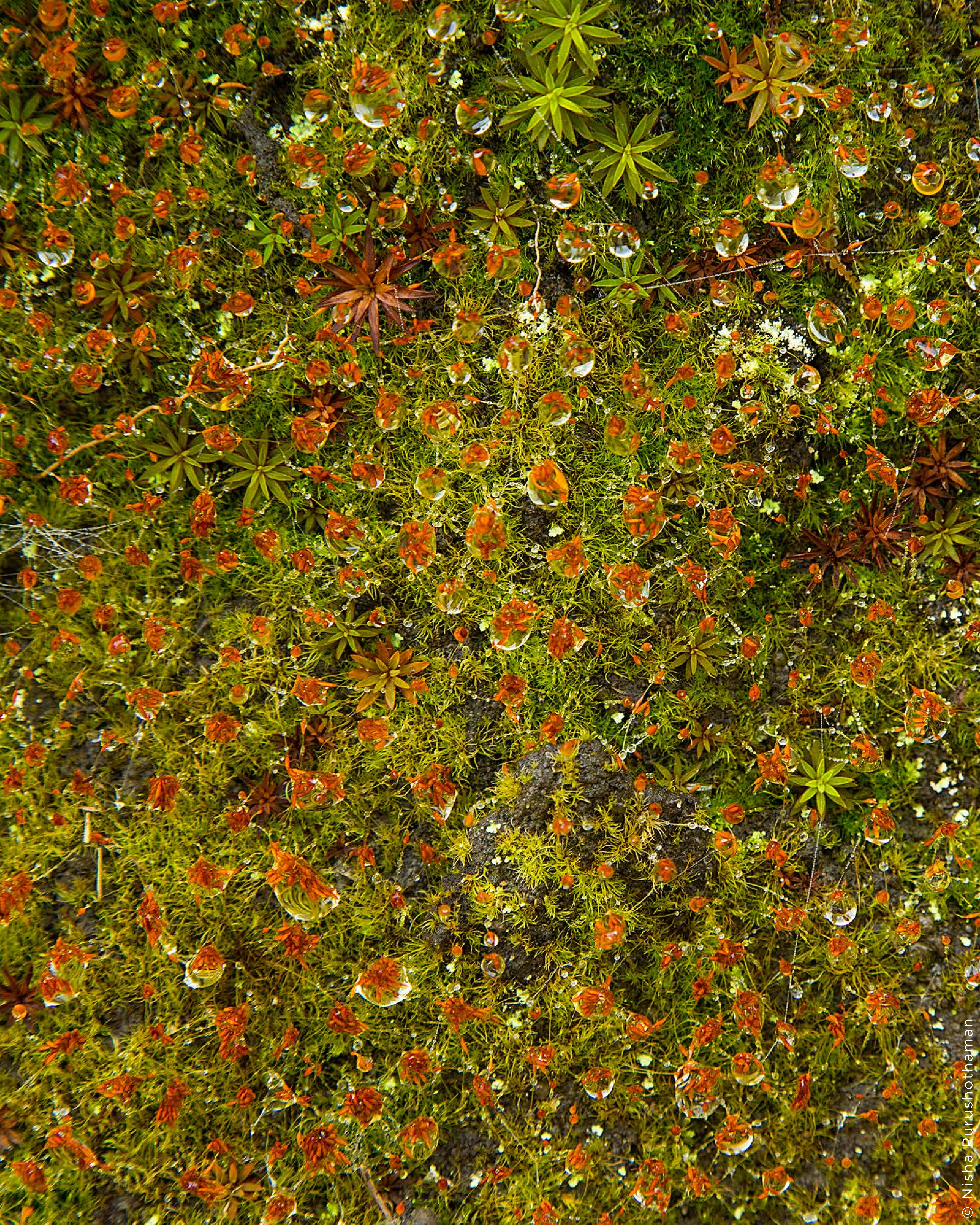
occasionally the black and white endemic butterfly sailing above, the tall straight grown trees covered with mosses, the distant birds whose chirps are quite audible, the frog seen only as two bulging eyes just above the water, I wanted to break to them that news. I considered ways of doing it. Should I shout, or yell or caressingly mutter, or just remain in deep meditation so that they would pick up the news from me on which I am deeply meditating? I failed and now I am here to share the news with you.

The news is about our common mother- the Mother Earth. Aged 4.543 billion years the various stages in her life is classified into supereons, eons, era, periods and epochs. To start with it was the Precambrian

supereon, which ended off with hard shelled animals as indicated by fossil records. She then crossed over to the Cambrian period which witnessed a massive diversification of life forms even when the amount of carbon dioxide was 25-35 time more than that it is now. This period graduated to the Ordovician period during which the first green plants came up. This period ended in the ice age. She then evolved through Silurian and Devonian periods into the carboniferous period during which large primitive trees appeared and winged insects suddenly started to radiate. She then crossed over to one of the saddest periods in her life, the Permian period, when all land masses came together and joined to form the Pangea and in a mass extinction process which wiped out 95% of the life forms on earth. She took nearly 30 million years to recover. The three periods that followed- the Triassic, Jurassic and the Cretaceous saw the upcoming of dinosaurs, flowering plants and with an atmospheric carbon dioxide level same as that of our period. Now we are in the Coenozoic era that followed which was marked by the expansion of mammals, evolution of man and intermittent extinction events. Precisely we were in the epoch called of Holocene during which the ice age receded, human civilization started off and travelled through the Stone Age, bronze age and the iron age and the gradual rising of atmospheric carbon dioxide owing to the industrial revolution.

The big news now is that we have crossed this epoch and have entered the next epoch termed as the Anthropocene. The proposal towards this with very high probability of approval has been presented at the International Geological Congress at Capetown on 29th August 2016, just three





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days before. It was yesterday that I tried to tell our fellow beings from fish to insects, birds, reptiles and the mighty trees that the new epoch has arrived- an epoch in which human beings are overwhelmingly impacting on the working of Mother Earth. That their lives are at the mercy of not ice ages, volcanoes or meteorite hits, but just one cause- the activity of humans.

Every epoch has its golden spike. Which means that each epoch would leave a geological mark on the earth's crust which can be deciphered by geologists that work after epochs to come. The golden spike for the Cretaceous epoch during which the dinosaurs were wiped out is the presence of the metal iridium in sedimentary rocks deposited due to massive meteorite strike. The golden spike for the new epoch, the anthropocene, would be the radioactive elements dispersed all across the earth due to nuclear bomb tests. This is not just one signal. There are many.

One among the strong candidates for the golden spike is the unburned carbon spheres emitted by power stations. It signals that we have literally smoked the planet. Plastics, are the next best contenders followed by aluminium and concrete particles and the high levels of nitrogen and phosphate in soils derived from artificial fertilizers. Scientists are focusing on sites where annual layers are formed and are investigating mud sediments off the coast of Santa Barbara in California and the Ernesto cave in northern Italy, where stalactites and stalagmites accrete annual rings. Ice cores from Antarctica, corals, tree rings etc are also being investigated for the best golden spike. Once the data has been assembled it will be submitted to the stratigraphic authorities and the Anthropocene will be

officially declared in a few years. If that happen, it will be the fastest declaration of an epoch.

The changes we humans have caused on the planet which will remain as detectable marks for times to come and which are irrevocable and their impact are many. The first among these is that we have pushed extinction rates of plants and animals far above the long-term average. The life forms around me yesterday will never ever know that the cities far away and the airplanes flying above, the burning of fossil fuels are going to impact their very survival. We have doubled the amount of carbon dioxide in the atmosphere in a span of 200 years- something which never happened in the past 66 million years. The soil now have double the amount of nitrogen and phosphorous something which the nitrogen cycle has not witnessed in the past 2.5 billion years.

What all this means is that we have taken over the entire planet and have started to meddle with its working and its life support systems. The one to remember is Noah who took all living forms into his ark to tide over the flood. Simple was the message, for us to survive on Mother Earth, we need all her siblings. It's an interwoven, closely knit network of physical and biological entities that help life happen. Understanding this, we emerge into a new known responsibility- to make sure that the life support system does not get damaged to the level at which we are in peril. It is not for Mother Earth. As mentioned earlier she has suffered and won even worst scenarios.

Through the window, I can see Pinky- my closest friend among the canines- and her cubs coming back after their morning stroll. Let me try with her if she would understand.