VOICE OVER - Transcription

Imagine alien visitors arriving on Earth in the remote future, long after the human race became extinct. Imagine plastics widespread in deep water, buried, fossilized. Some plastics changed into bitumen and oil.
(inspired by Zalasiewicz, Jan. The Earth after us, What legacy will human leave in the rocks, OUP Oxford, 2009)

Bitumen is an extreme and hostile environment but imagine that some bacteria [will] survive it, degrading petroleum with their enzymes and producing methane gas as waste.
Mosher, Dave. "Asphalt-Munching Bacteria discovered", LiveScience, 2007, https://www.livescience.com/1515-asphalt-munching-bacteria-discovered.html

At the bottom of the sea where no light penetrates new species of bacteria with unusual properties [will] grow. [These] bacteria [will] derive their energy from the sulfide and hydrogen rich gases emanating from the Earth hot-waters. This group of bacteria [will] breathe sulfate. In this process they [will] retain light, in a sort of photosynthetic process. They [will] be fast-moving bacteria. A flagellum [will] be attached to the base of each bacterium, propelled by changes of electric charge.
Microbial mats and muds [will] dominate the low-lying watery landscape. Imagine a flat and damp landscape, brilliantly colored pools, mysterious [reddish] greenish and brownish patches of scum floating on the waters, tinting the damp soils.
Shrunk to microscopic perspective, a fantastic landscape of bobbing purple, aquamarine, red and yellow spheres would come into view. Multicellular filaments and textile like crowds of bacterial cells would wave with the currents, coating pebbles with brilliant shades of red, pink yellow and green. Showers of spores would splash and crash against the vast frontier of low-lying muds and waters.
(Margulis, Lynn and Sagan, Dorion. Microcosmos. Four billion years of Microbial evolution, University of California Press, 1997)

A bacterium is a team player. It never function as a single individual. Teams of several kinds of bacteria [will] live together.
Bacteria constantly exchange bits of their genetic material among one another.
Humans had difficulty separating the concept of sex from reproduction, but sex is simply the recombination of genes.
Humans traded genes vertically through the generations, whereas bacteria trade them horizontally directly to their neighbors in the same generation. Genetically fluid bacteria are immortal. In eukaryotes sex [was] linked with death.
Some mutant sulfur bacteria will absorb light to extract hydrogen from water releasing oxygen.
Bacteria reproduce asexually replicating their strand of DNA they may encase the DNA in a spore which can survive long periods of adverse conditions, germinating again when conditions become wetter.

These photosynthetic cyanobacteria [will] live atop one another and beneath the top layer there [will] be thriving populations of anaerobic purple photosynthesizers sulfur depositors.
Symbiosis, the merging of organisms into new collectives, is a major power of change.
Life [will] begin at the interface of liquid surfaces where there is energy flux. New membranes [will] form, translucent packages of lifelike matter, semipermeable boundaries between inside and outside, between self and non self.
The individual is something abstract, a category, a conception. And nature has a tendency to evolve that which is beyond any narrow category or conception.
All strains of bacteria can potentially share all bacterial genes, there are no true species in the bacterial world.

The sea [was] the final resting place for human litter, plastics the most striking component. Accumulations of plastic debris formed. Low density micro plastics sunk to the ocean floor. Plastics may host microbial communities […] some [will] be found as fossils […] a permanent record of human presence on Earth.
(Zalasiewicz, Jan. "The geological cycle of plastics and their use as a stratigraphic indicator of the Anthropocene", Anthropocene, vol. 13, 2016, pp. 4-17)

It is a species of small biologically immortal jellyfish capable of reverting completely to a sexually immature, colonial stage after having reached sexual maturity as a solitary individual. It does this through the cell development process of transdifferentiation, which alters the differentiated state of the cells and transforms them into new types of cells. Theoretically, this process can go on forever.
(https://en.wikipedia.org/wiki/Turritopsis_dohrnii)

In a sense the essence of living is a sort of memory, the physical preservation of the past in the present […] into the future as fascinatingly non human as the past.
(Margulis, Lynn and Sagan, Dorion. Microcosmos. Four billion years of Microbial evolution, University of California Press, 1997)

to preview the video work
in progress: