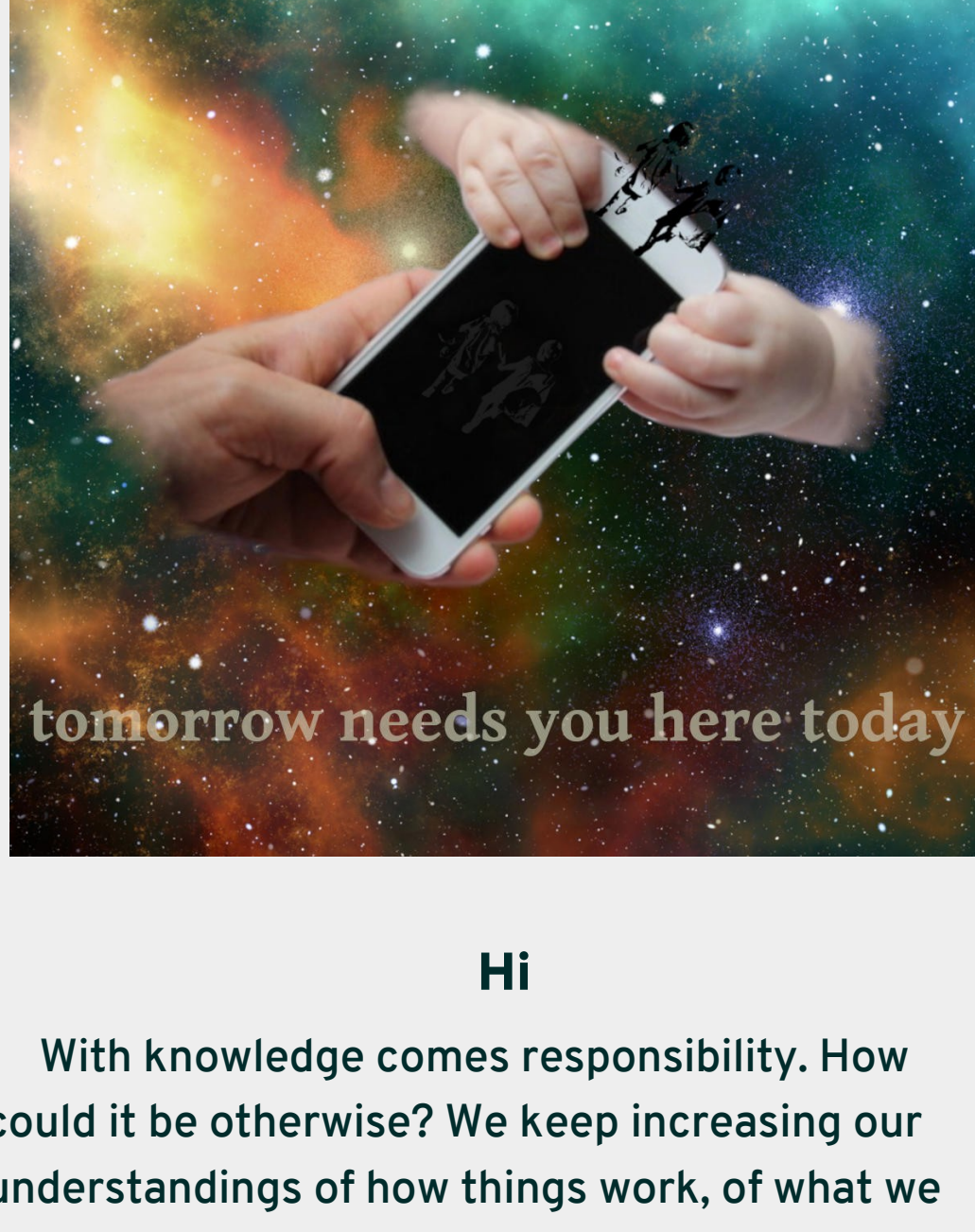


# Change Happens

Have a great day,  
find your way



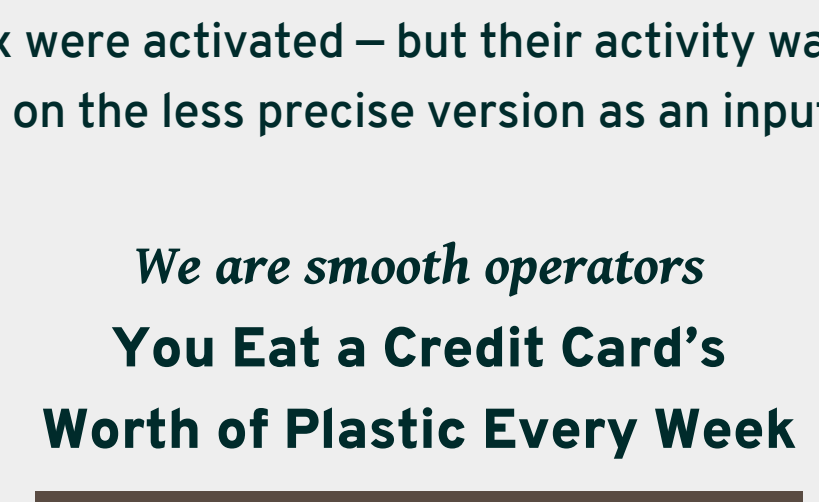
**Hi**

With knowledge comes responsibility. How could it be otherwise? We keep increasing our understandings of how things work, of what we can and can't do. Almost all of these insights are reached through multiple failures and misunderstandings, that's the nature of learning.

We gain nothing if we forget that mistakes were made. Learning what doesn't work is, at least, as valuable as learning what does.

*You don't recall what you see*

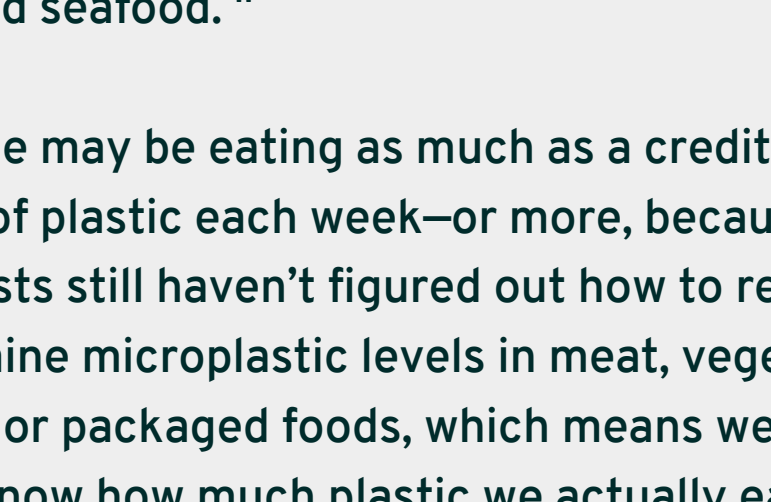
## How the Brain Distinguishes Memories From Perceptions



" This suggests that when the memory of the image was stored, only the highest-level representation of it was kept. When the memory was experienced again, all the areas of the visual cortex were activated – but their activity was based on the less precise version as an input. "

*We are smooth operators*

## You Eat a Credit Card's Worth of Plastic Every Week

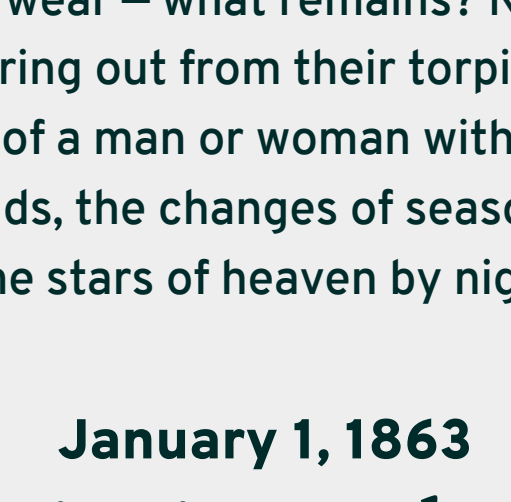


" When it comes to eating microplastics, scientists have documented plastic particles in about 40 percent of the human diet, including beer, honey, salt, and seafood. "

" People may be eating as much as a credit card's worth of plastic each week—or more, because scientists still haven't figured out how to reliably determine microplastic levels in meat, vegetables, grains, or packaged foods, which means we still don't know how much plastic we actually eat. "

*Finding life in all circumstances*

## Walt Whitman, Shortly After His Paralytic Stroke

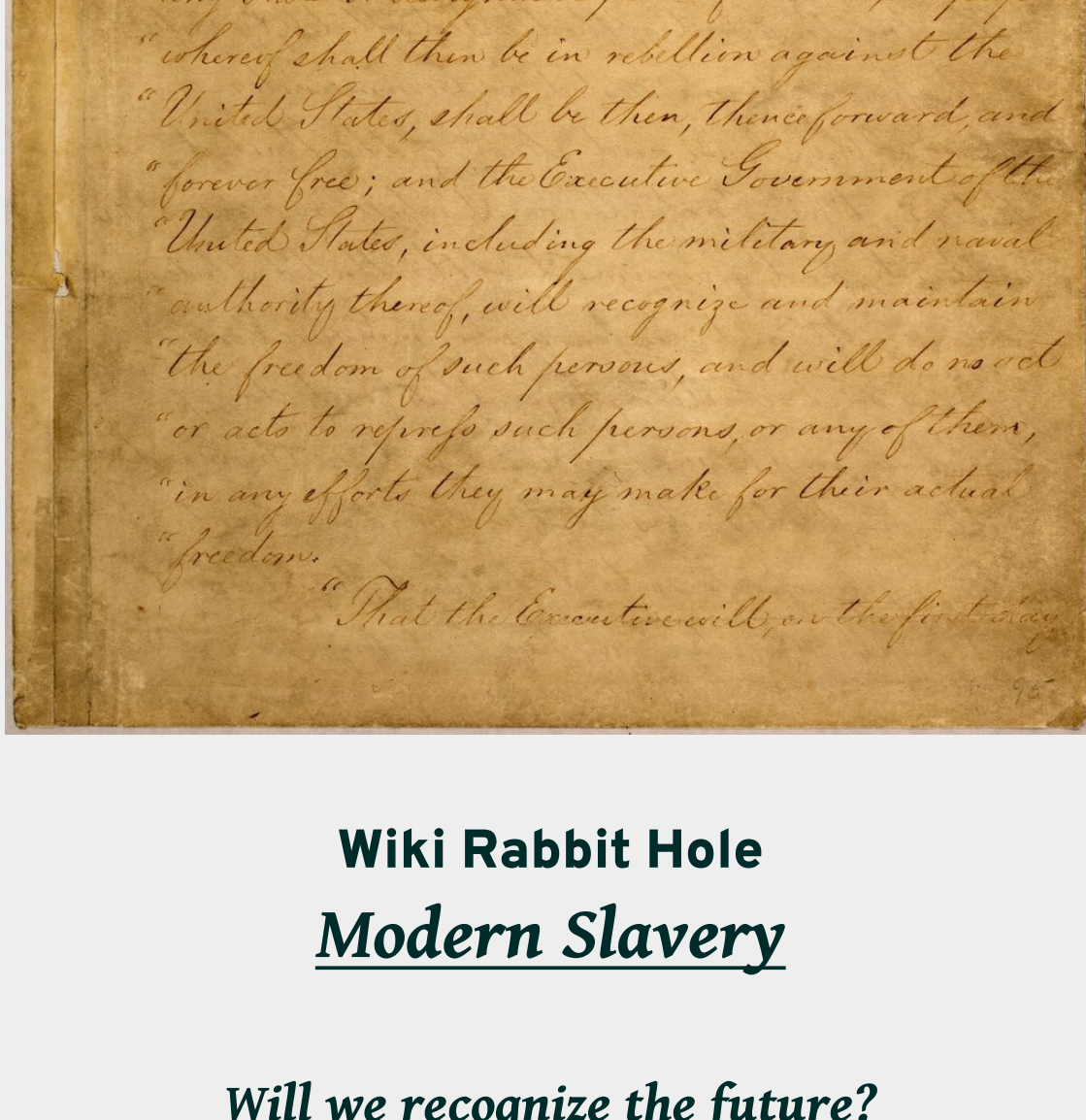


" 'After you have exhausted what there is in business, politics, conviviality, love, and so on – have found that none of these finally satisfy, or permanently wear – what remains? Nature remains; to bring out from their torpid recesses, the affinities of a man or woman with the open air, the trees, fields, the changes of seasons – the sun by day and the stars of heaven by night.' "

**January 1, 1863**

## Emancipation Proclamation

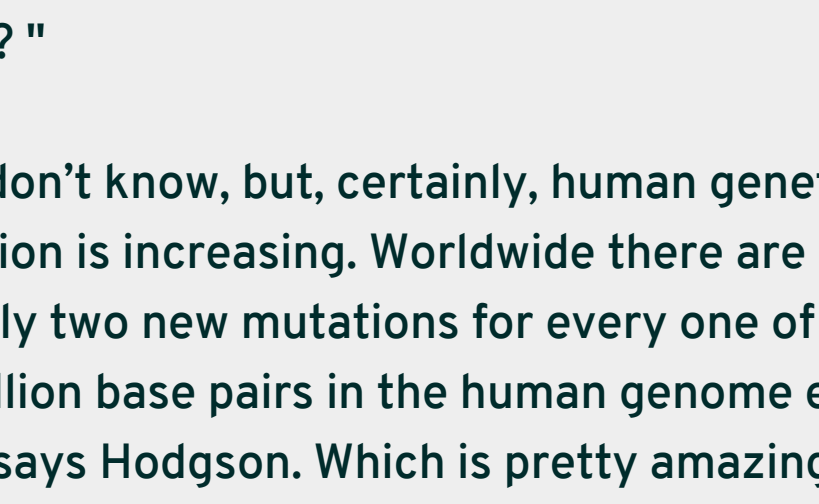
### The Abolition of Slavery



## Wiki Rabbit Hole Modern Slavery

*Will we recognize the future?*

## What will humans look like in a million years?

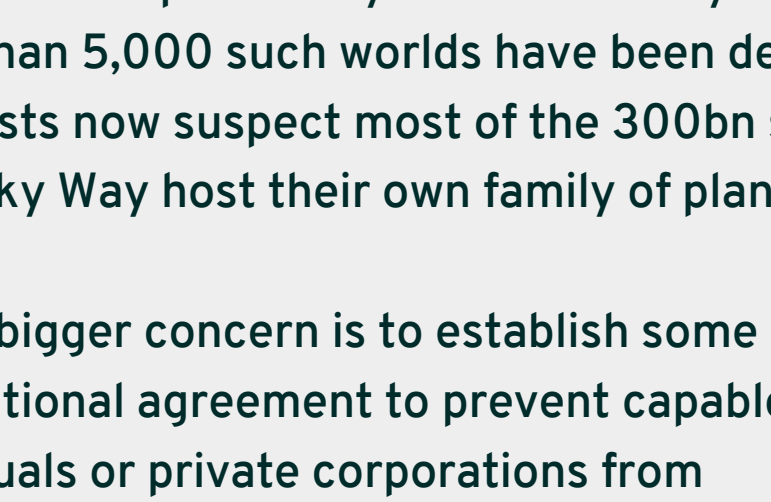


" Will our descendants be cyborgs with hi-tech machine implants, regrowable limbs and cameras for eyes like something out of a science fiction novel? "

" We don't know, but, certainly, human genetic variation is increasing. Worldwide there are roughly two new mutations for every one of the 3.5 billion base pairs in the human genome every year, says Hodgson. Which is pretty amazing - and makes it unlikely we will look the same in a million years. "

*You don't always get to chose your neighbours*

## If aliens contact humanity, who decides what we do next?

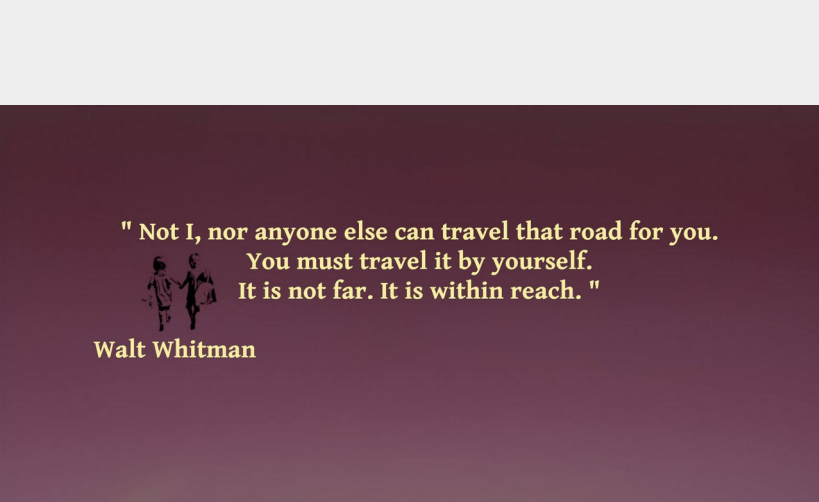


" Advances made in the past 30 years have ramped up enthusiasm in the search for ET. Since 1992, when astronomers first confirmed the existence of a planet beyond the solar system, more than 5,000 such worlds have been detected. Scientists now suspect most of the 300bn stars in the Milky Way host their own family of planets. "

" ' The bigger concern is to establish some form of international agreement to prevent capable individuals or private corporations from responding independently – before a consensus has formed on whether it is safe to respond at all, and what we would want to say as one planet,' he said. "

*Science had a decent year*

## Science stories of 2022

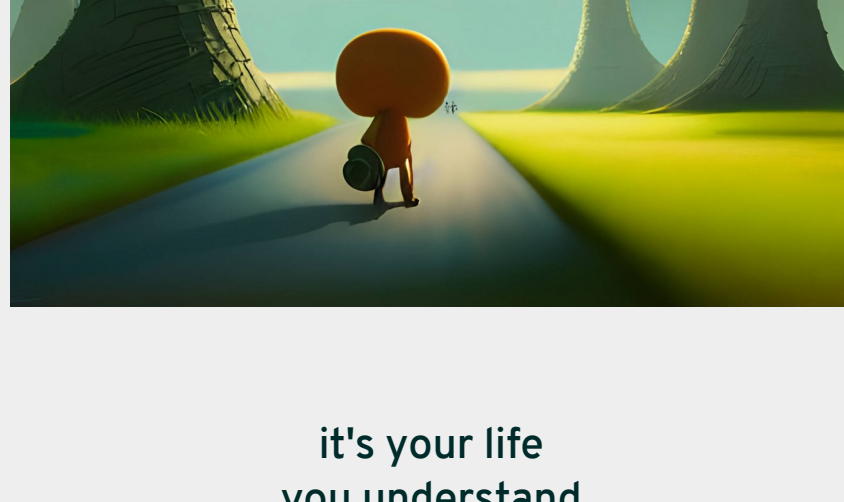


Bob McDonald, host of CBC Radio's most excellent weekly science program, Quirks & Quarks, makes a list of the biggest science stories of 2022

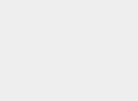
**" Not I, nor anyone else can travel that road for you.**

**You must travel it by yourself. It is not far. It is within reach. "**

**Walt Whitman**



it's your life  
you understand



Please feel free to forward [Change Happens](#) to anyone you think might enjoy it and have a most excellent day