

POST

Elon Musk . . . The English Language . . . Environmental Protection

September 14, 2021

Improving Data Transfer

Improving

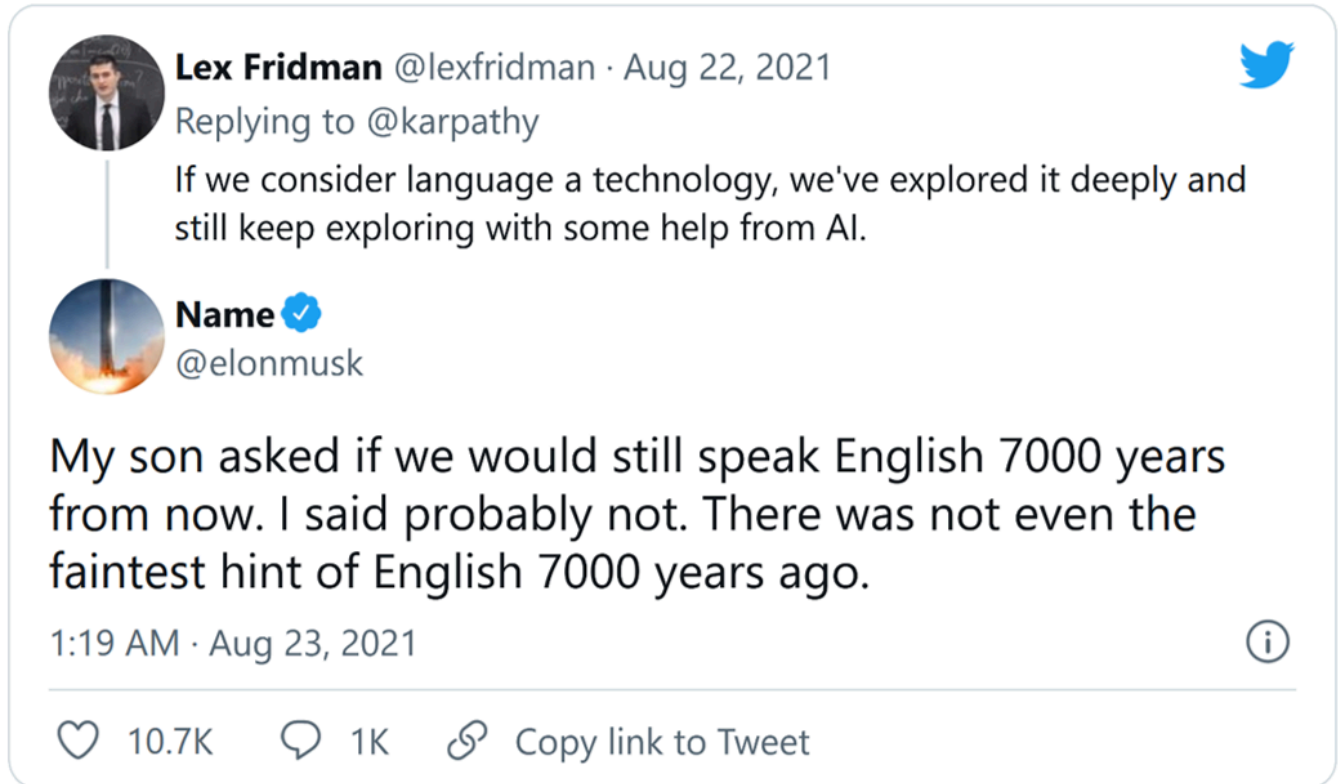
Data Transfer

Humans & Nature



1. LANGUAGE WILL IMPROVE

Recent Elon Musk tweet:



Musk sometimes overplays the future. Here I think he's underplayed it. I don't think there's any chance we're speaking English in 7,000 years ... or French, or Spanish ... Human language will change.



Current human language is wonderful, but it's really really really slow. Human language conveys data at only about 39 bits per second (https://r20.rs6.net/tn.jsp?f=001sLHZwQZ4V2EzV5rTqwORXl7I1wuxVLD9o6RFP5d28KELIEziludUYUog-9-qBq5JeY3FPtpUGAN6o5kd7yBbzaN2yTE2zp__yE91D_eRnZc3qw1ARoQIcvYN44mXeC3kiWLI1FtIPCCSRh-v_8q5OW6nynftr4xhOrV42mOpbr_awueI3qkAwg==&c=&ch=). Interestingly, all human languages transfer information at about the same speed (https://r20.rs6.net/tn.jsp?f=001sLHZwQZ4V2EzV5rTqwORXl7I1wuxVLD9o6RFP5d28KELIEziludUYUog-9-qBq5Jr_ScDlm_d6XxOwio-q3glerQPIbVZnjoCMZgcuwcbQM6QuBYOQmK_UkDtHz_GJXQHAuGaT5NAroifC6VoJLGT9tO6lPErrDfOUzqRlRAMuPQPDNhqVqUkKRTIEmjYREUL9wT2O3ajMMQ5lkxjBM5BjgwoBrXZJHjbtmw3HO8KrBWBBiWmYRHYeLhmAaecubXlMi_yB9uQHM=&c=&ch=). Transferring data via writing is even slower. Someone must write. Someone must read.

Try this experiment: Think a thought and then try to say it or write it down in less than a second. Not easy is it? Hard to put all the thoughts you would like to convey into words, especially the right words.



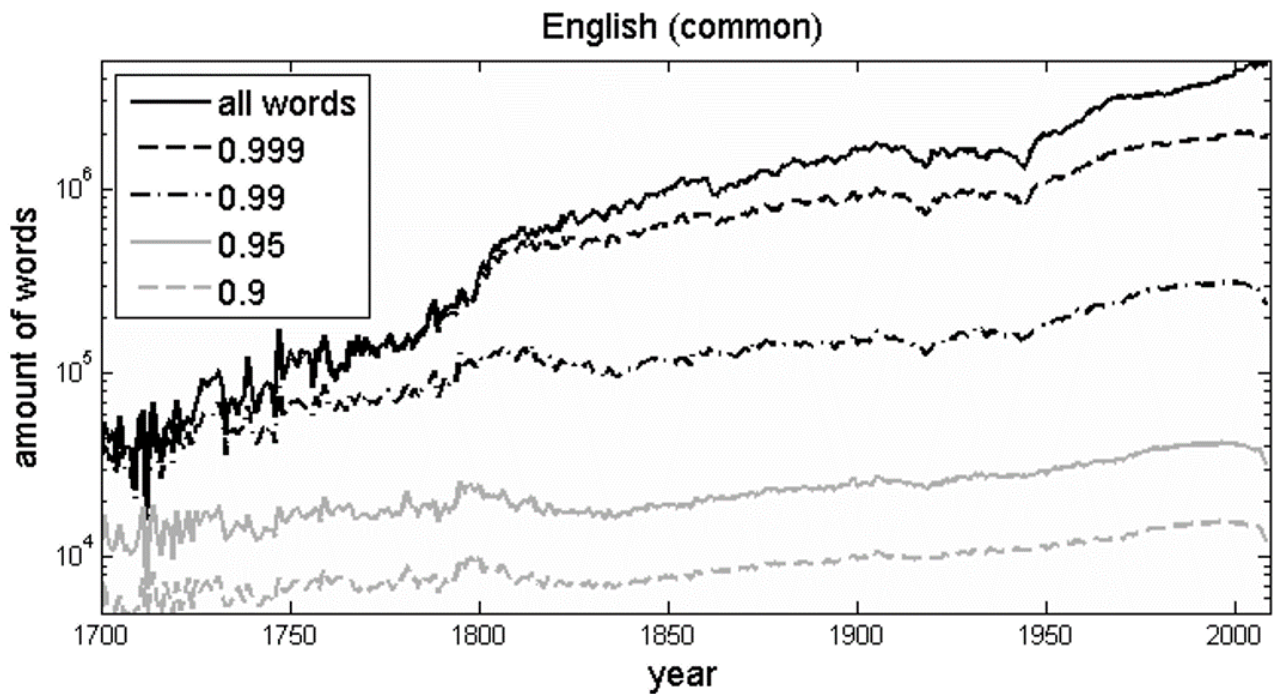
And not only is human language slow, it's really, really, really limiting. Each of us currently commands only about 20,000-35,000 words (https://r20.rs6.net/tn.jsp?f=001sLHZwQZ4V2EzV5rTqwORXl7I1wuxVLD9o6RFP5d28KELIEziludUYUog-9-qBq5Jlho9ltQndRVjqaxtF-6gPuL6T6ffRHfu9SC2RnMvf5oOqcrL2XhHFPzpp-oLr6kqcPraUby5IRd_korlaJORK2WNFe

8svGVhj7khqX3_DAQT2mH7GygWwZ7yl44LBgp_HjfPdAN84Kc=&c=&ch=) we can choose from to share all the facts, ideas, and information that we encounter in the environment and that's in our minds.



An interesting aside, but many of us like myself also often think in terms of words (our self-talk uses words). Does the limitation of human language therefore also in some ways constrain our ability to think or express the most accurate thoughts within ourselves?

The Future is Looking Bright! More access to more language!!!



Connecting with AI either directly or indirectly (<https://r20.rs6.net/tn.jsp?f=001sLHZwQZ4V2EzV5rTqwoRXl7I1wuxVLD9o6RFP5d28KELIEziludUYUog-9-qBq5JazyrfYonhfYAFE74boqXool3wSsoOXhbfWzkrssmoLNVX7KxDSknyfFBkQiaV8dDoJIbbrlFFueANxGQUj7NOw==&c=&ch=>), will allow us to access many more words—and create many more words.

- It will really be fun when each of us can access all 171,476 words (or all the words in whatever language you choose)
- It will be really, really fun when each of us can access all the millions of words in all the languages to share with each other.
- It will be really really really fun when each of us humans can access 1,000,000,000,000,000 of “words” to communicate different facts, thoughts, feelings, and ideas to each other.

We will also Find a Better “Language” to Communicate More Directly with Nature



The federal environmental statutes that Congress has addressed to EPA run to more than 2,700 pages in the two large, maroon-colored United States code volumes. The legally binding regulations issued by EPA to implement these statutes fill the 31 ocre-colored volumes of the Code of Federal Regulations. The guidance and other documents issued by EPA to explain or interpret its regulations fill around one million pages and are represented by the 1,250 grey-colored loose-leaf volumes. This does not include the millions of pages of State and local statutes, rules, and guidance that implement the millions of pages of Federal statutes, rules, and guidance.

“The books behind me are written in a limited language, and do not lend themselves well to algorithmic adaptation.”

Quantum Data



Classical Data
(binary computer)

01001010010101
10101101110000
10011110000111
10101011111000
01010111100011
01010101010101
11010110101011

Biological Data

ACTGACTGACTTAGG
ATTCGAGATCCATTC
CTTGAGACCTTTTT
ACCCCTATAGCATCA
TTCCAGGATCTATTAT
CCTATATATAGGGGC
CCATATAAATGGGCT

Human Data

Language data (letters), sensory data (visual images), numeric data (numbers)



CONNECT THE DATA

Human Environmental Data

Language Data,
Visual Data,
Numeric Data

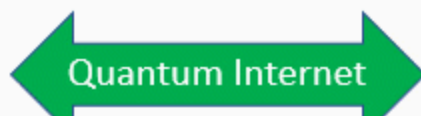


Classical Computer
Code/Classical Mechanics

```
01100111001101  
10101101101011  
11100011100110  
01010110010100
```



Quantum Mechanics/
Probability Wave
Function/Quantum Computing



Nature Data (Direct)



---“Nature isn't
classical, dammit.”

- Richard Feynman



Human

Nature

Nature and humans communicating more directly with each other . . . It's simpler.

2. DATA SPEED WILL IMPROVE

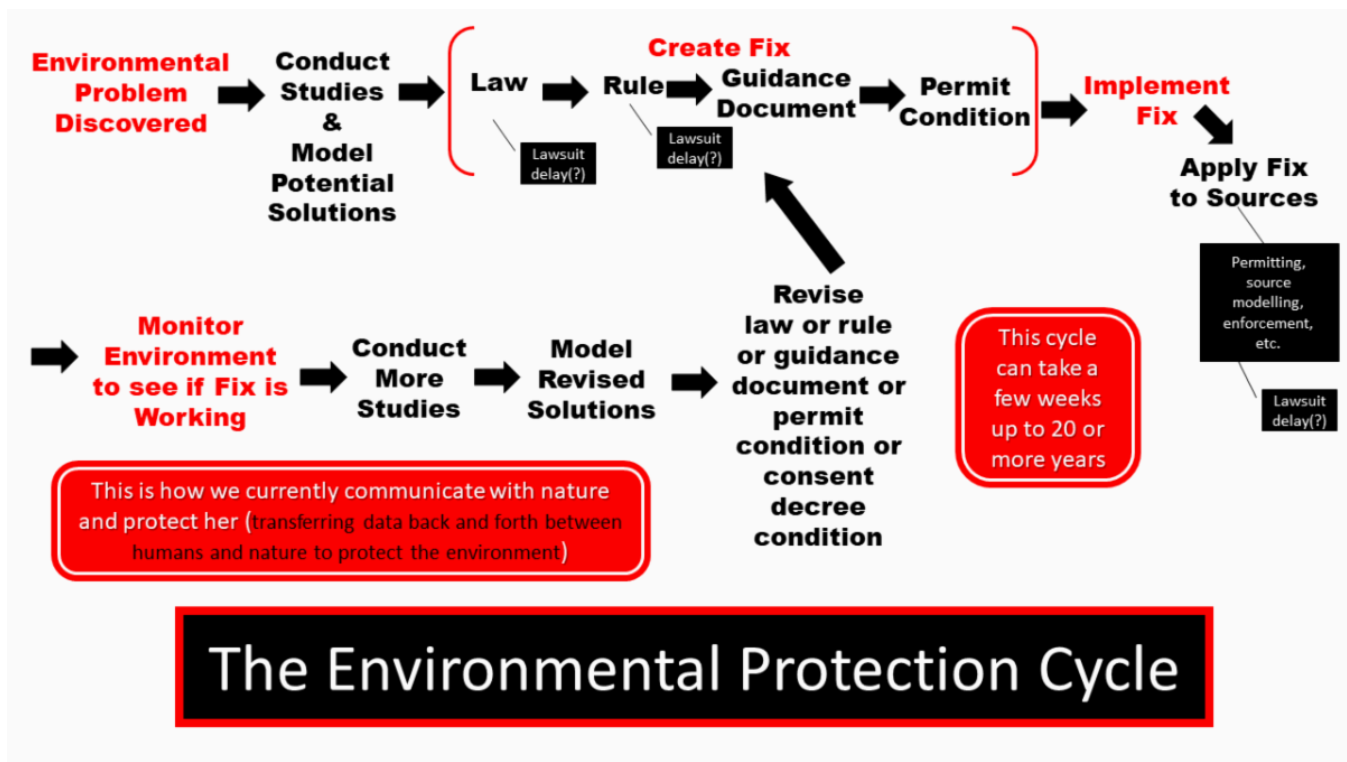


Current Speed

& Data Transfer Cycle Between Humans and Nature

Human-to-Nature

Data Transfer



The Environmental Protection Cycle

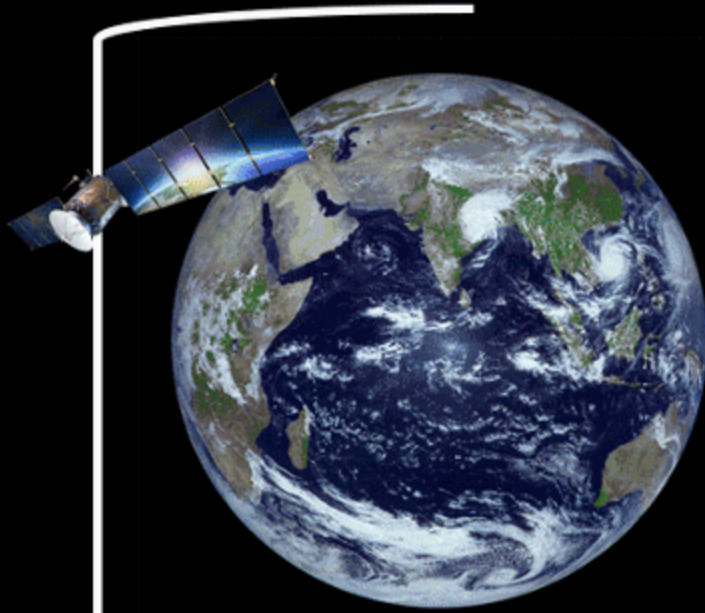
Nature is Moving Very Quickly

Speed of the System EnviroAI is Building

Design Goal: More Quickly and Clearly Exchange Data Between Humans and Nature,
and Nature and Humans

A computer can currently transfer data at 14,099,511,627,776 bits per second.

AI



Infinity-Imagined.tumblr.com

EnviroAI



AI and Quantum Computing



Source



Enviro.AITM



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Source on GitHub: [/src/content/posts/elon-musk-the-english-language-environmental-protection.md](https://github.com/jedanderson432/jedanderson-site/blob/main/src/content/posts/elon-musk-the-english-language-environmental-protection.md) (<https://github.com/jedanderson432/jedanderson-site/blob/main/src/content/posts/elon-musk-the-english-language-environmental-protection.md>)