The Atheist's Riddle

Language, Information, and the Case for Intelligent Evolution

By Perry Marshall

What We're Going to Explore

- What do languages & information theory say about evolution?

- What is information and where does it come from?

- Do patterns and information occur naturally?

- New directions for evolutionary theory and the origins debate.

Patterns vs. Designs

- Nature has self-organizing properties
- Not all patterns are designed, but all designs have patterns
- The Defining Issue!

Naturally Occurring Patterns

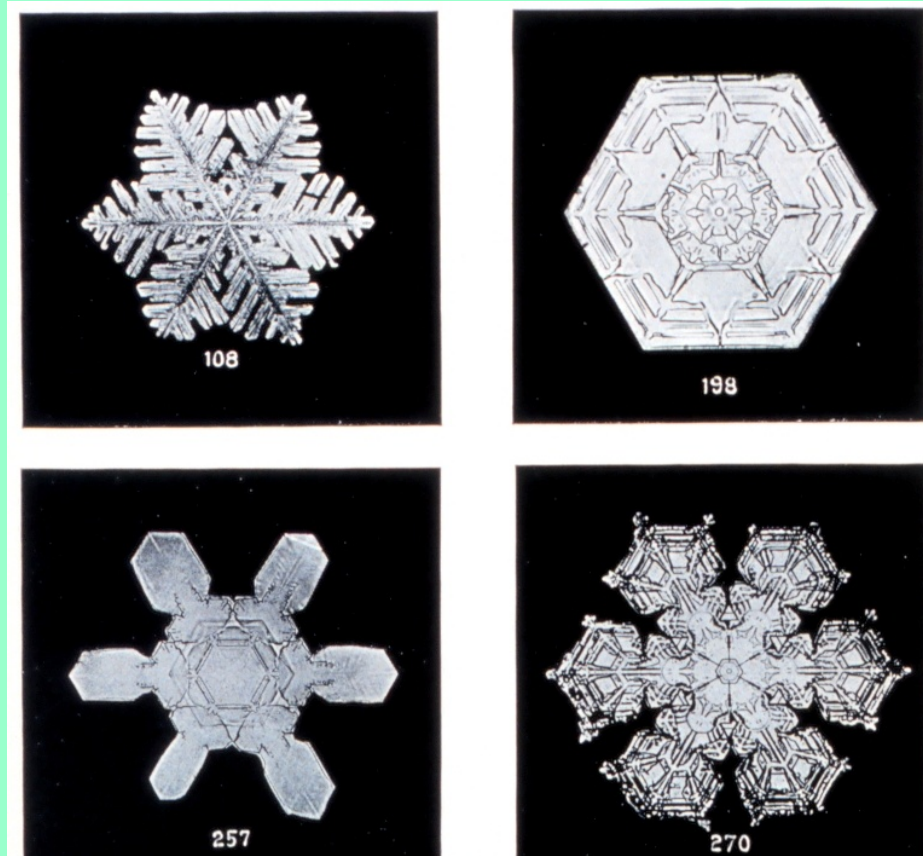**Water + Minerals + Gravity + Time = Stalagmites & Stalactites**

Naturally Occurring Patterns

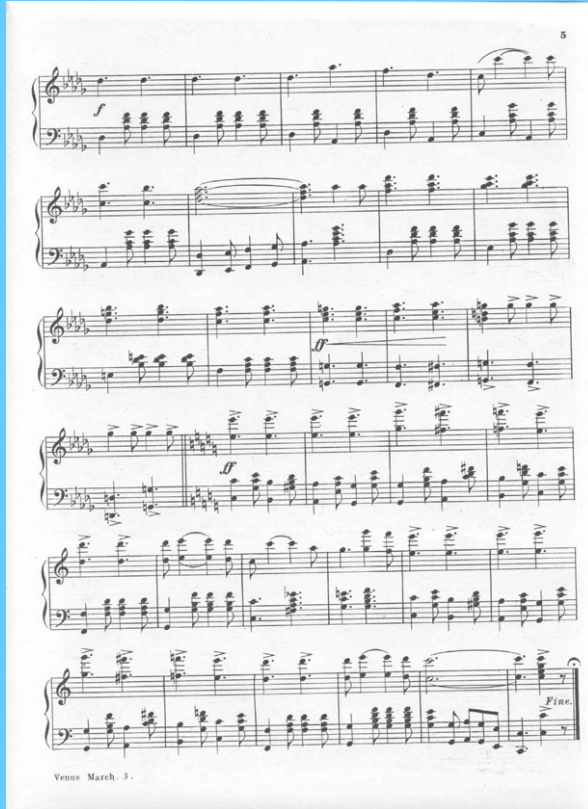**Hot Air + Cold Air + Moisture + Time = Tornados & Hurricanes**

Naturally Occurring Patterns

Water + Cold Air + Gravity + Wind + Time = Snowflakes

Designs: Music
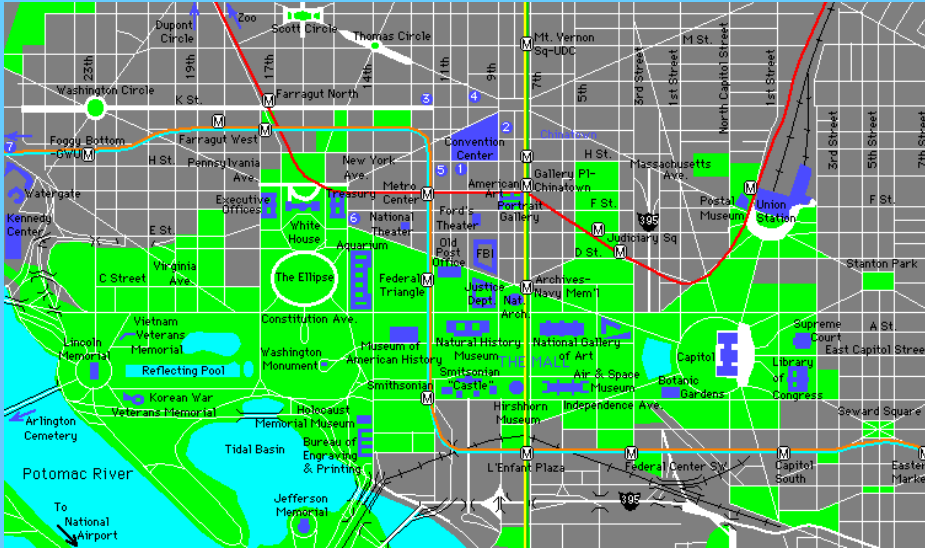

Symbolic Representation

Implementation

Designs: Washington DC

Symbolic Representation

Implementation

Designs: Microsoft Windows

Symbolic Representation

Implementation

Designs: Chinese

拥抱 – yong1 bao4 = to hug

哥哥 – ge1 ge = older brother

Symbolic Representation

(Chinese characters, pin yin and English)

Implementation

Patterns vs. Information
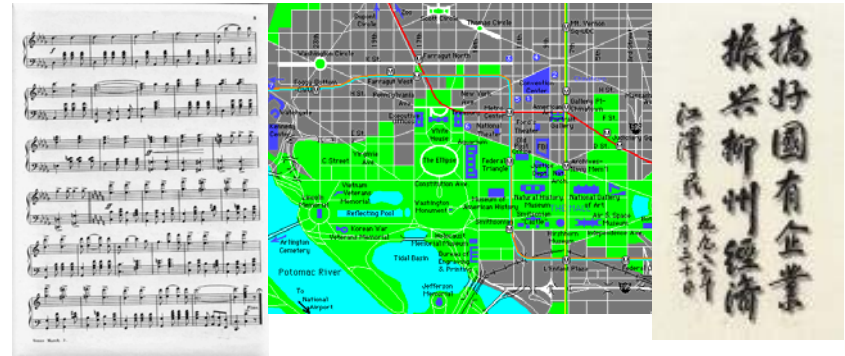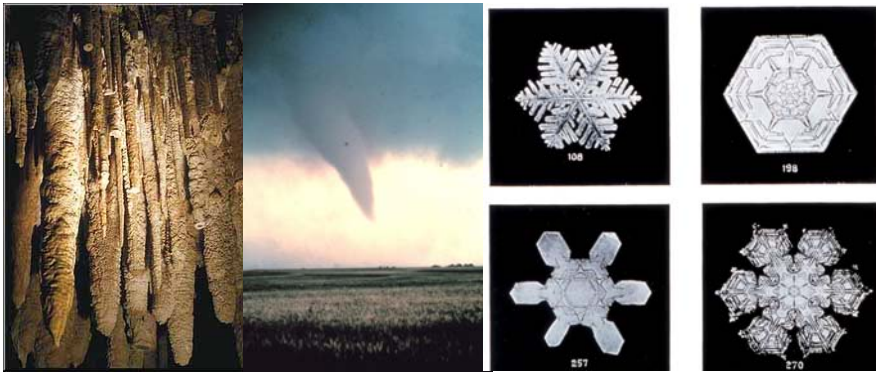
- Come from chaos
- Simply matter & energy
- No exact copies
- Require no thought

- Based on language
- Matter + Energy + Will
- Exact copies
- Multiple Media
- Requires thought

Fundamental Questions of Evolution:

1. Can Patterns Lead to Designs?

2. Is DNA a Pattern or a Design?

3. How Do Designs Evolve?

How Does DNA Work?

- Double Helix – Divides and complementary bases attach
- Adenine, Thymine, Cytosine, Guanine
- Encodes all information necessary for life
- 500,000 to 3 Billion Base Pairs
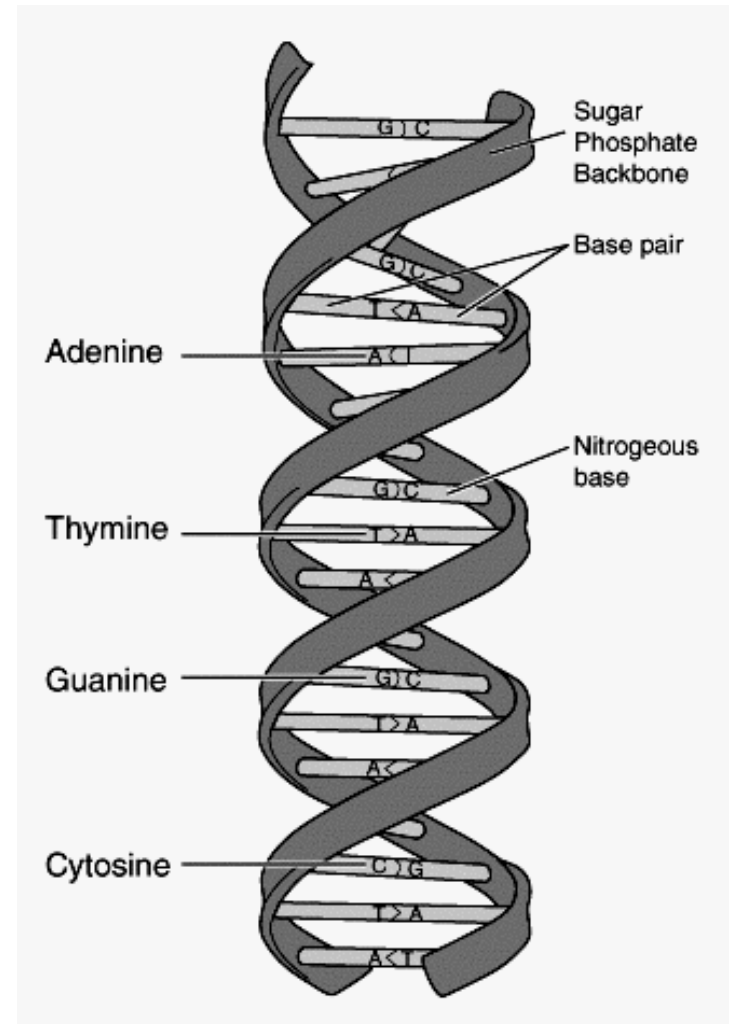
The Language of DNA

- 4-Character Alphabet - A,T,C,G (comparable to binary 1 and 0 in computers)
- DNA is an Encoding / Decoding Mechanism
- Linguistics Analysis

DNA	Language
Nucleotide	Character
Codon	Letter
Gene	Word
Operon	Sentence
Regulon	Paragraph

What Makes a Language?

- Symbolically represents something other than itself
- Requires a transmitter and a receiver
- Alphabet *(Statistics)*
- Grammar *(Syntax)*
- Meaning *(Semantics)*
- Intent *(Pragmatics)*
- Error correction / redundancy

DNA: Pattern or a Language?

- DNA is an encoding / decoding system
- A DNA molecule symbolically represents something other than itself
- It has an alphabet and syntax, semantics and pragmatics
- Can be copied and even stored in other media with no loss of information
- So which is it more like?
  - *Stalactites, Tornados and Snowflakes*
  - *Music, Maps, Computer Programs and Chinese*

DNA:

- **The pattern in DNA is not *like* a language; It <u>is</u> a language**
- **The DNA molecule itself is an *encoding and decoding system***

Properties of Language

Formal	Casual	Example
Pragmatics	**Intent**	You've got a green light
Semantics	**Meaning**	<u>Did</u> <u>he</u> <u>steal</u> <u>that</u> <u>car</u>?
Syntax	**Grammar**	The car is red / Is the car red
Statistics	**Alphabet**	Morse Code / ASCII / Pin Yin

Altering Language Layers

Formal	Casual	Missing This Element, but still has the other elements
Pragmatics	**Intent**	-
Semantics	**Meaning**	Julio cranks his sky for wooden cheese
Syntax	**Grammar**	Dogs jumpy or strangers afraid of you should avoid definitely
Statistics	**Alphabet**	The Paomnnehal Pweor Of The Hmuan Mnid

Properties of Language Cont'd

- Information is always distinct from the medium that carries it

- Information can be stored & transmitted by matter (book) or by energy (sound or light) but it is **neither matter nor energy**.

- Matter and energy all by themselves cannot produce information
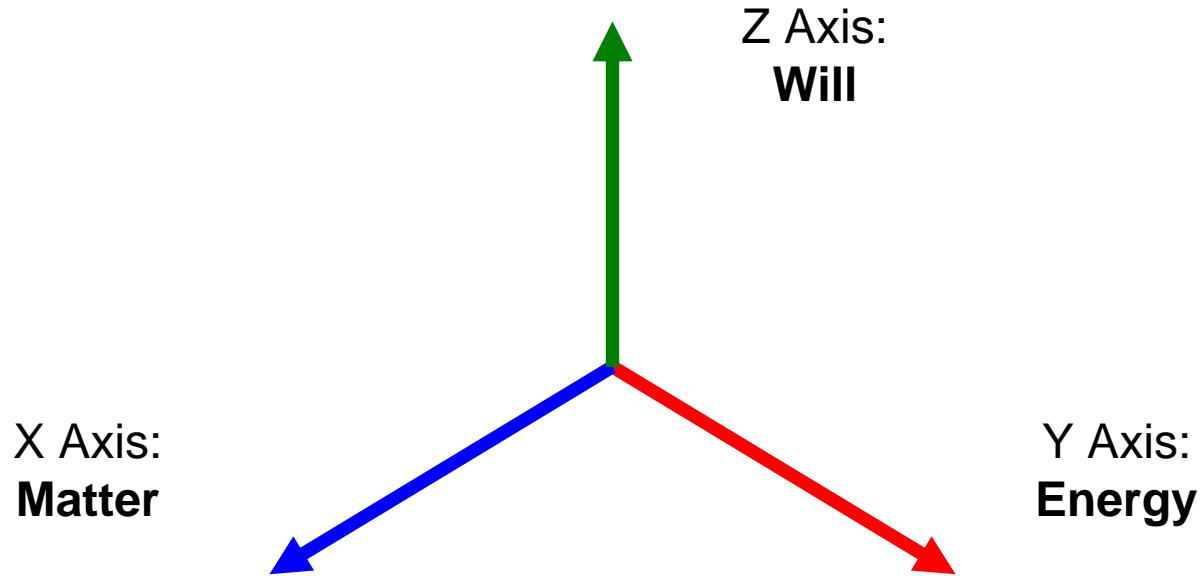
Information: A Unique Entity

"Information is information, neither energy nor matter.

Any materialism that fails to take account of this will not survive one day."

– *Norbert Weiner, MIT Mathematician and Founder of Cybernetics*

The Three Fundamental Entities

Z Axis:
Will

X Axis:
Matter

Y Axis:
Energy

Matter, Energy and Information: Independent from each other

William Paley vs. David Hume: The Design Debate

- Paley: Watch has obvious purpose, therefore watch has a designer; life has purpose, therefore life has a designer too.

- Hume: Analogy between watch and life is weak. Life's purpose cannot be proven, therefore the design argument fails.

Perry Marshall's 2005 Improvement to Paley's Design Argument

- The essential distinction between pattern and design is **language**

- Element common to both watches and life is **language**

- All language comes from a mind

- Fundamental Property of all Designs: **Idea precedes Implementation**

- Idea must first represented by language

The Atheist's Riddle

"Show me a language that does not come from a mind."

So simple, any child can understand
So complex, no atheist can solve