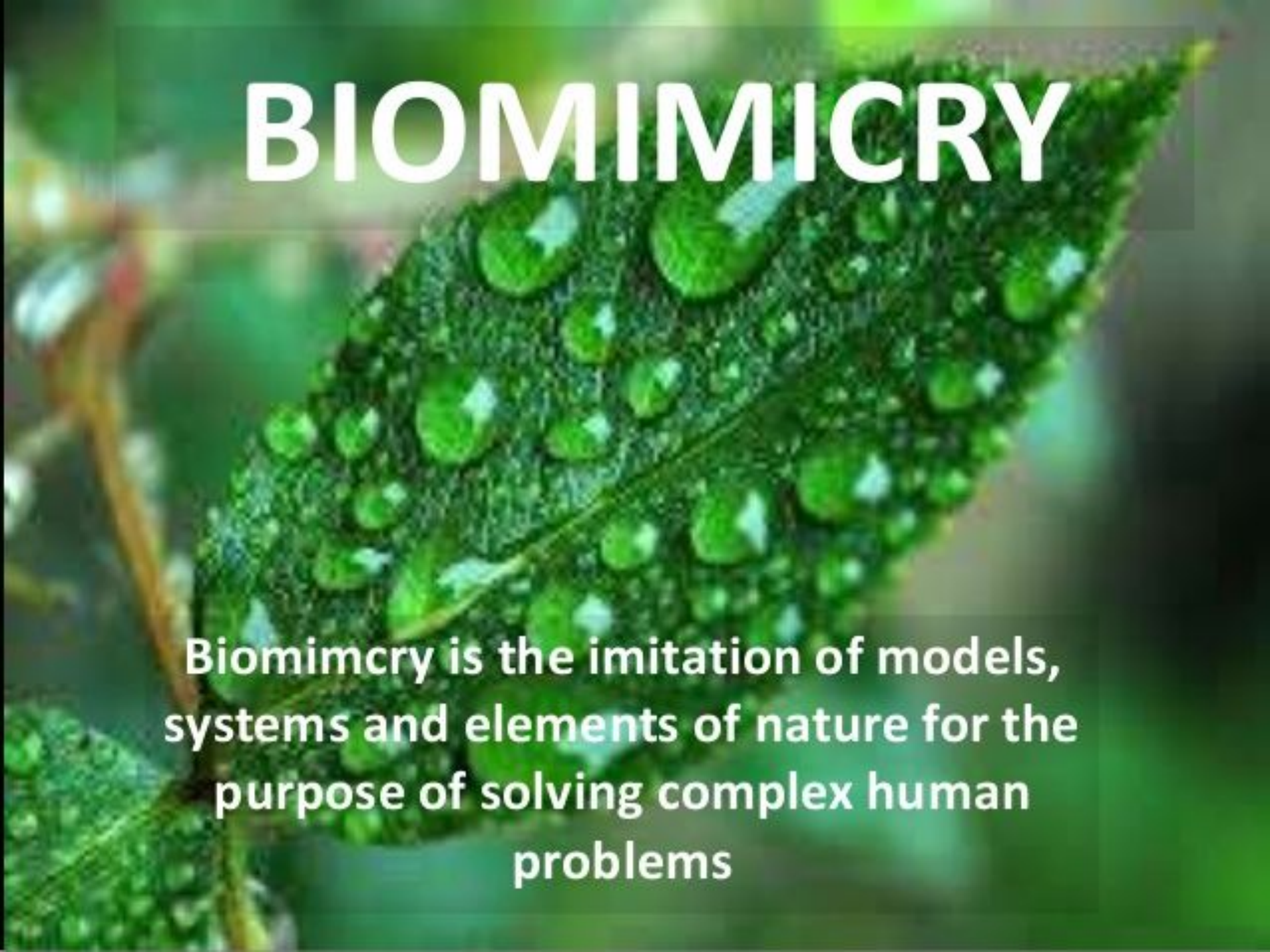

BIOMIMICRY
Biomimcry is the imitation of models, systems and elements of nature for the purpose of solving complex human problems

WHAT IS BIOMIMETICS?

Biomimetics is the term used to describe the substances, equipment, mechanism and systems by which humans imitate natural systems and designs.




- Biomimicry originates from two Greek words

  Bios = Life

  Mimesis= imitate

- Biomimicry operates on the principle that in its 3.8 billion year history, nature has already found solutions to many problems we are trying to solve.

- Biomimicry is multi-disciplinary subject involving wide diversity of other domains like architecture, electronics, medicines, biology, chemistry, mathematics etc.


Why pay attention to nature?

HOW DID IT BEGIN?

- American biophysicist and polymath.
- Coined the term Biomimetics in 1950's.
- Developed Schmitt trigger by studying the nerves in squid.
- Attempted to engineer a device that replicated the system of nerve propagation.

Otto Schmitt (1913-1998)

HOW DID IT BEGIN?

- American writer and scientific observer from Montana.
- Wrote the book "Biomimicry: Innovation Inspired by Nature" in 1997
- The books gives an insight on how significant biomimicry is in shaping the future.
- In 1998 she co-founded the **Biomimicry Guild** which helps inform , inspire and empower the bridging of nature's wisdom with human knowledge.

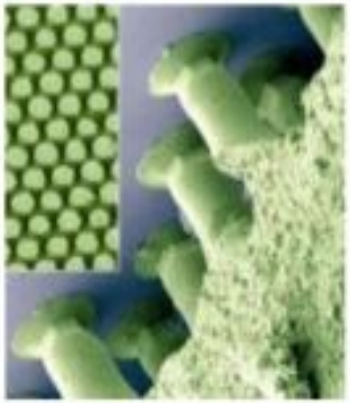
Janine M. **Benyus** (b 1958)

PRINCIPLES OF BIOMIMICRY

- Nature runs on sunlight.
- Nature uses only the energy it needs.
- Nature fits form to function.
- Nature recycles everything.
- Nature rewards cooperation.
- Nature banks on diversity.
- Nature demands local expertise.
- Nature curbs excesses from within.
- Nature taps the power of limits

GECKO TAPE

Inspiration



Precedence

Product

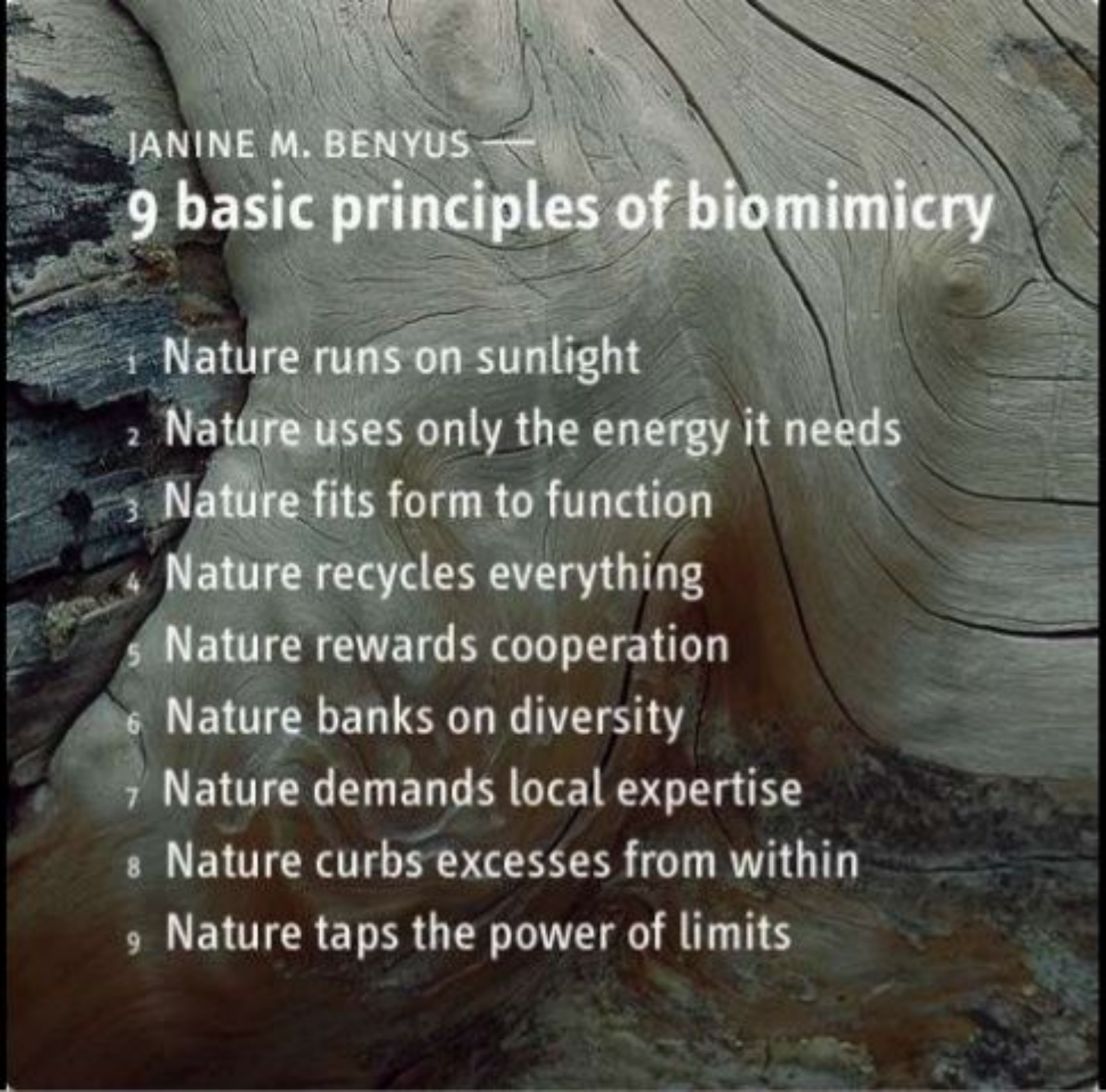
SHARKLET TECHNOLOGIES

Inspiration

Precedence

Textiles

Surfaces


JANINE M. BENYUS —
9 basic principles of biomimicry
1 Nature runs on sunlight
2 Nature uses only the energy it needs
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6 Nature banks on diversity
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Show me some
examples PLEASE...

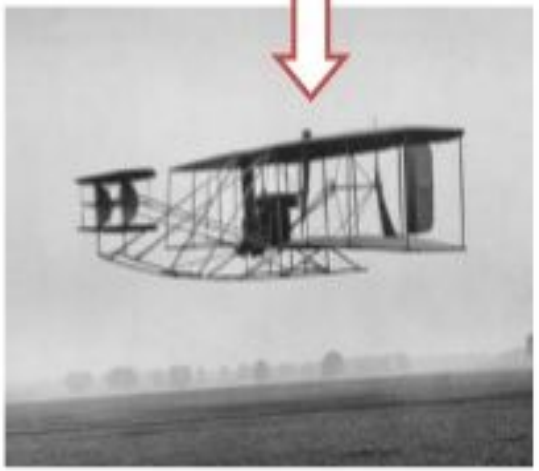
NATURE AS A MODEL

NATURE AS A MEASURE

NATURE AS A MENTOR

FLIGHT OF BIRD

LEONARDO DA VINCI'S FLYING MACHINE



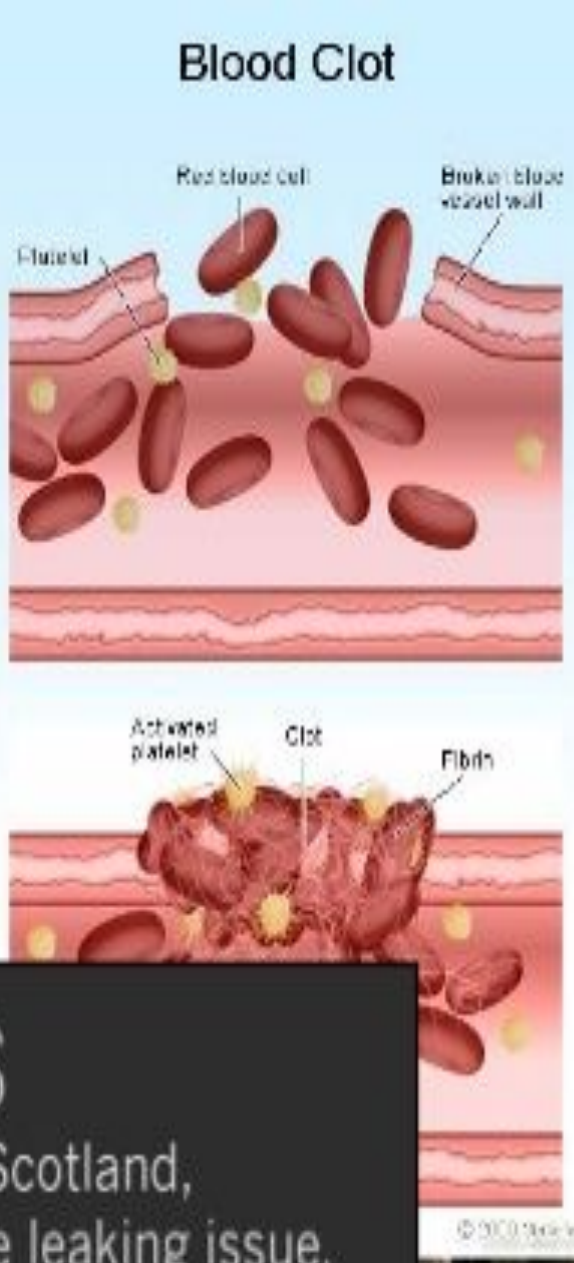
WRIGHT BROTHER'S FIRST PROTOTYPE

AEROPLANE TODAY

SPORTING APPLICATIONS

ARCHITECTURE

One of the engineers was a birder. He studies the King Fish and relalized "They go from one density of medium, the air, into another density of medium, water, without a splash".



LEAKING PIPELINES

Engineers at a company in Aberdeen, Scotland, have developed a novel way to solve the leaking issue. It involves using artificial platelets inspired by the way our blood clots when we get cut.

Advantages Of Biomimicry

- To create products, processes and policies.
- To create new ways of living.
- To create suitable products with great performance.
- To save energy and cut material costs (*Economical*).
- To redefine and eliminate waste.
- To solve human problems.
- Employment.

Final Words

"If we are willing to make progress, we cannot rely on the small scale improvements, we need to re-think challenges from the First principle and using *biomimicry* to achieve them."

"The more our world function like the natural world, the more likely we are to endure on this home that is ours, but not ours alone."

-Janine benyus.

“You could look at nature as being like a catalog of products, and all of those have benefited from a 3.8 billion year research and development period. And given that level of investment, it makes sense to use it.”
-Michael Pawlyn