Preamble.

This research brings a sharp follow-up which brings together all the elements around the light (a wave of electric and magnetic field)

And sound (wave of air pressure)

According to quantum mechanics, all the particles in the Universe have the properties of waves including all the particles that we ourselves are made from.

So, to understand light, sound and, the reality, it is necessary first to understand waves.

Using the Moon as a passive reflector to transmit radio signals from one point on the Earth to the other, around the curve of the Earth as the birth of Radar Astronomy is a focus, in my sense, who commands attention, captivates the mind, about all the Moon brings to us, to see the unseen.

Written on August 9 2019.

How generate and use Professional Imaging Data.

Process development.

April 13.2021

In the 1970s, Abraham Moles and Frieder Nake were among the first to analyze links between aesthetics, information processing, and information theory

In the 1990s, Jürgen Schmidhuber described an algorithmic theory of beauty which takes the subjectivity of the observer into account and postulates:

Among several observations classified as comparable by a given subjective observer, the aesthetically most pleasing one is the one with the shortest description, given the observer's previous knowledge and his particular method for encoding the data.

This is closely related to the principles of algorithmic information theory and minimum description length

One of his examples: mathematicians enjoy simple proofs with a short description in their formal language

Another very concrete example describes an aesthetically pleasing human face whose proportions can be described by very few bits of information, drawing inspiration from less detailed 15th century proportion studies by Leonardo da Vinci and Albrecht Dürer

Schmidhuber's theory explicitly distinguishes between what's beautiful and what's interesting, stating that interestingness corresponds to the first derivative of subjectively perceived beauty.

Mathematical considerations, such as symmetry and complexity, are used for analysis in theoretical aesthetics.

This is different from the aesthetic considerations of applied aesthetics used in the study of mathematical beauty

Aesthetic considerations such as symmetry and simplicity are used in areas of philosophy,

such as ethics and theoretical physics and cosmology to define truth, outside of empirical considerations.

The fact that judgments of beauty and judgments of truth both are influenced by processing fluency, which is the ease with which information can be processed, has been presented as an explanation for why beauty is sometimes equated with truth.

Computational approaches to aesthetics emerged amid efforts to use computer science methods to predict, convey, and evoke emotional response to a piece of art.

It this field, aesthetics is not considered to be dependent on taste but is a matter of cognition, and, consequently, learning.

Atmospheric nuclear explosions are associated with mushroom clouds, although mushroom clouds can occur with large chemical explosions.

It is possible to have an air-burst nuclear explosion without those clouds. Nuclear explosions produce radiation and radioactive debris.

Nanodiamonds or **diamond nanoparticles** are diamonds with a size below 1 micrometre

They can be produced by impact events such as an explosion or meteoritic impacts.

Because of their inexpensive, large-scale synthesis, potential for surface functionalization, and high biocompatibility, nanodiamonds are widely investigated as a potential material in biological and electronic applications and quantum engineering.

In 1963, Soviet scientists at the All-Union Research Institute of Technical Physics noticed that nanodiamonds were created by nuclear explosions that used carbon-based trigger explosives.

When meteorites strike the ground, the shock wave can produce high enough temperatures and pressures for microdiamonds and nanodiamonds to form.

Impact-type microdiamonds can be used as an indicator of ancient impact craters.

Popigai crater in Russia may have the world's largest diamond deposit, estimated at trillions of carats, and formed by an asteroid impact.

In 1987, a team of scientists examined some primitive meteorites and found grains of diamond about 2.5 nanometers in diameter (nanodiamonds)

Trapped in them were noble gases whose isotopic signature indicated they came from outside the Solar System

Analyses of additional primitive meteorites also found nanodiamonds.

The record of their origins was preserved despite a long and violent history that started when they were ejected from a star into the interstellar medium, went through the formation of the Solar System, were incorporated into a planetary body that was later broken up into meteorites, and finally crashed on the Earth's surface.

Although diamonds on Earth are rare, extraterrestrial diamonds are very common.

Diamonds so tiny that they contain only about 2000 carbon atoms are abundant in meteorites and some of them formed in stars before the Solar System existed.

High pressure experiments suggest large amounts of diamonds are formed from methane on the ice giant planets Uranus and Neptune, while some planets in other planetary systems may be almost pure diamond.

Diamonds are also found in stars and may have been the first mineral ever to have formed.

Another planet, 55 Cancri e, has been called a super-Earth because, like Earth, it is a rocky planet orbiting a sun-like star, but it has twice the radius and eight times the mass. The researchers who discovered it in 2012 concluded that it was carbon-rich, making an abundance of diamond likely.

However, later analyses using multiple measures for the star's chemical composition indicated that the star has 25 percent more oxygen than carbon.

This makes it less likely that the planet itself is a carbon planet.

It has been proposed that diamonds exist in carbon-rich stars, particularly white dwarfs and carbonado, a polycrystalline mix of diamond, graphite and amorphous carbon and the toughest natural form of carbon, could come from supernovae and white dwarfs

The white dwarf, BPM 37093, located 50 light-years (4.7×1014 km) away in the constellation Centaurus and having a diameter of 2,500-mile (4,000 km), may have a diamond core, which was nicknamed Lucy

If so, this gigantic diamond would be one of the largest in the Universe.

A 2008 published paper: Mineral evolution, the history of mineral formation explain that the diversity of minerals has changed over time as the conditions have changed.

Before the Solar System formed, only a small number of minerals were present, including diamonds and olivine

The first minerals may have been small diamonds formed in stars because stars are rich in carbon and diamonds form at a higher temperature than any other known mineral.

Ecological strategy.

In a trouble environment, light undergoes 3 main categories of phenomena:

- **Light diffusions:**

Functions of the shape, size, composition of particles.

- **Bright reflections:**

In connection with the nature of their surface.

- **An absorption:**

Depending on the opacity rate of the particles.

The rest of the light is simply transmitted along the axis of the incident light.

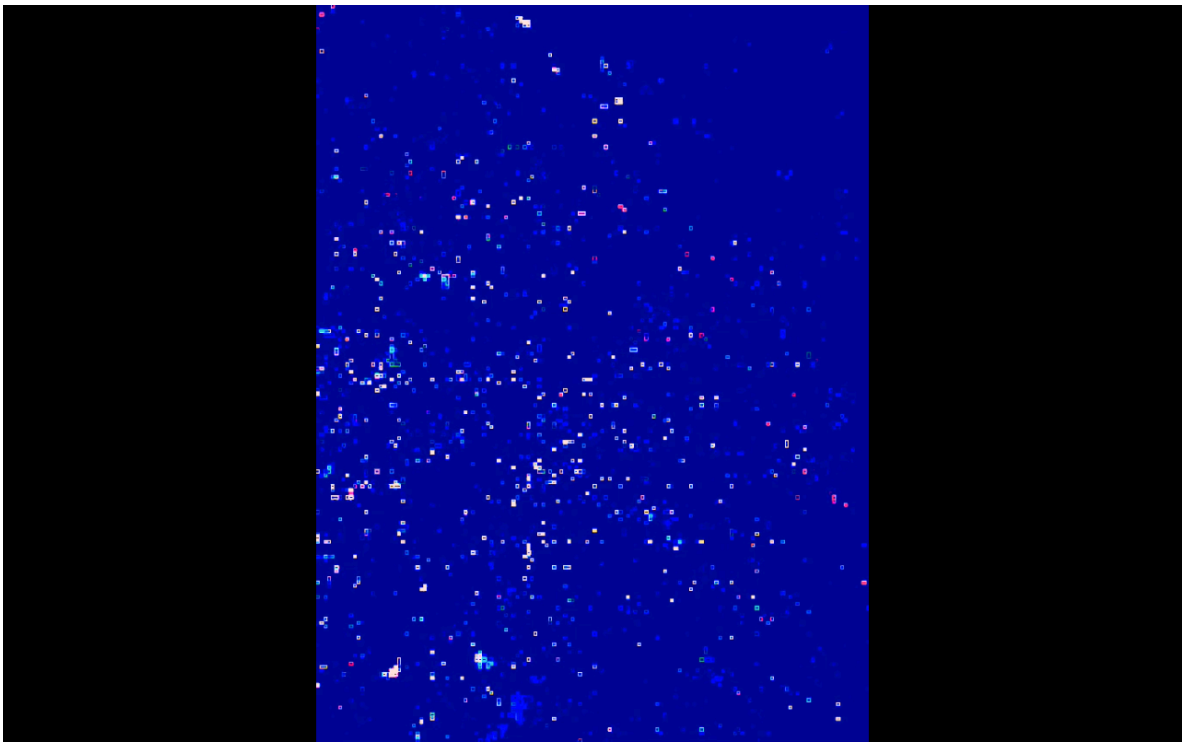
In the late 1970s, Grime introduced the C-S-R theory (also known as the Grime's Triangle) which classifies plants based on their ability to grow under different levels of stress, disturbance, and competition.

Photosynthesis is the bioenergetic process that allows organisms to synthesize organic matter using light energy.

Reactions directly dependent on light:

Photosynthesis takes place in two phases: a clear phase also called "luminous" during which the leaf captures the light, which associated with the chlorophyll carries out the photolysis of the water, that is to say the separation of the molecules of hydrogen and oxygen.

Video: Wave front.



youtu.be/uoGzJBQA4cY

The absorption of a photon by a chlorophyll P680 molecule of the photosystem leads to the excitation of an electron, which acquires sufficient energy to be transferred to an electron acceptor by a phenomenon of photoinduced charge separation.

The primary electron acceptor is a chlorophyll molecule lacking a central magnesium atom called pheophytin.

From there, the excited electron passes over a plastoquinone and then through the cytochrome b6f complex before being transported on a plastocyanin to photosystem.

This contains a chlorophyll dimer P700 capable of exciting an electron by absorption of a photon, an electron subsequently transmitted to a ferredoxin, which gives it to a ferredoxin-NADP + reductase to reduce a molecule of NADP + to NADPH.

And a dark phase also, during which the energy stored during the previous phase is used for the Calvin cycle which allows the synthesis of Trioses -> A ose has at least 3 carbon atoms.

Trioses play an important role in respiration.

Carbon is the 4th most abundant element in the Universe and the 15th most abundant in the Earth's crust.

It is present on Earth as a simple body (coal and diamonds) inorganic compounds (CO2) and organic compounds.

The carbon element is not directly derived from the Big Bang:

Primordial nucleosynthesis because the conditions for its formation were not met.

The expansion and cooling of the Universe were too fast.

Carbon is, on the other hand, produced in massive quantity in the heart of very massive stars, known as the horizontal branch, where three helium nuclei merge (triple alpha reaction)

Carbon has been present on Earth since its formation.

It exists in the form of sediment, coal, petroleum, and also in its pure graphite, diamond form.

Natural diamonds can be found in the kimberlite of chimneys of ancient volcanoes, especially in South Africa and Arkansas.

You can sometimes find microscopic diamonds in some meteorites.

Under very high pressure, carbon crystallizes in a face-centered cubic system called a diamond, in which each atom is bonded to four others.

Diamond, thanks to the strength of carbon-carbon bonds, is, along with boron nitride, the hardest material to scratch.

At room temperature, the metamorphosis into graphite is so slow that it is undetectable.

Under certain conditions, the carbon crystallizes into lonsdaleite, a shape similar to diamond but hexagonal.

Of all the precious stones, the diamond is the only one to be completely consumed.

Carbon is the chemical element with atomic number 6 and symbol C. It has three natural isotopes:

12C and 13C which are stable.

14C which is radioactive with a half-life (radioactive period) 5,730 years which makes it possible to date elements using carbon for their structure.

The carbon has six electrons adopts an electronic configuration in the ground state.

Can trees and forests help to improving the sound environment?

Beyond 1 kHz, the scattering effect through tree trunks becomes significant and the ground effect decreases.

Beyond 2 to 4 kHz depending on the species, the effect of diffusion and absorption of foliage or needles is added to that of the trunks in turn act on sound propagation **+ 1**

Written on April 3, 2021

References.

- Principes de désintégration / integration / Anomie et points de fusions.

Pdf N° 33 (2017) By my website: Tree Data structure Tab.

- The psychology of Art. Neuroesthetics.

Pdf N° 11 (2018) By my website: Tree Data structure Tab.

- The spatial luminous power of Space.

Black-body radiation.

The Black-body radiation, also called Complete radiation or Thermal radiation, is the type of electromagnetic radiation inside or surrounding a body in thermodynamic equilibrium with its environment, or emitted by a black body (an opaque and non-reflective body) maintained at a constant and uniform temperature.

Radiation has a specific spectrum and intensity that depends only on body temperature.

Thermal radiation spontaneously emitted by ordinary objects can be approximated by blackbody radiation.

Written on Friday, October 5, 2018

- The light that sends back the Moon.

The cosmic microwave background.

PDF N° 61 (2018) by my website: Tree data structure Tab.

Update

- Radiation-target Interactions.

Radiation and matter.

Electromagnetic radiation is the set of radiation emitted by a source that can be either the Sun, Earth or ocean surface or the atmosphere, in the form of electromagnetic waves or particles.

- Electromagnetic radiation: nature and propagation.

Pdf N° 20 (2019) by my website: Tree data structure Tab. **+ 1**

- Reading a sky sample.

Pdf N° 11 + 15 (2020) By my website: Tree Data structure

- Ecological strategy.

Pdf N° 8 (2021) By my website: Tree Data structure Tab.

Readings:

- **Method by Opacimetry: Atenuance.**

- **The forest in town. J. Defrance - Phil. Jean - N. Barrière**

- **General inspection of biochemistry and biological engineering.**

- **Mechanism (philosophy)**

- **Carbon allotropy**

+ The Pedagogical Function of Art as Interpretation with JSTOR

To develop my knowledge of Pedagogical Art in relation to my current class-project with The Office of Astronomy for Development (OAD)

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Samples from Phi. Video. + 1

Based videos

+ 1 + 1

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