Takshila Magazine

MAY 2012

INSIDE THIS ISSUE:

- **What impact do we have on our Planet?**
- **What can we do to protect our environment?**
- **What can we learn from our behavior and our history?**
- **How can we change the future of our Planet?**

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In This Issue

The May 2012 issue of Takshila Magazine focuses on our relationship with the Earth. We all can influence its future through our actions and attitudes.

We hope you will enjoy reading our articles, and we are looking forward to your comments and suggestions.

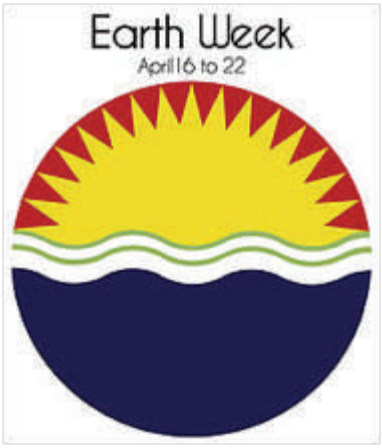
California Takshila Magazine Team

Earth Day 2012

Earth Day is an annual day on which events are held worldwide to increase awareness and appreciation of the Earth's natural environment. Earth Day now is coordinated globally by the Earth Day Network, and is celebrated in more than 175 countries every day. In 2009, the United Nations designated April 22 as the International Earth Day. Numerous communities celebrate Earth Week, an entire week of activities focused on environmental issues.

The original celebration of Earth Day is credited to Gaylord Nelson, then a U.S. Senator from Wisconsin. After witnessing the ravages of the 1969 massive oil spill in Santa Barbara, California, and inspired by the student anti-war movement, he called for an environmental teach-in, or Earth Day, to be held on April 22, 1970. Over 20 million people participated that year.

The April 22, 1970, Earth Day marked the beginning of the modern environmental movement. Approximately 20 million Americans participated. Thousands of colleges and universities organized protests against the deterioration of the environment. Groups that had been fighting against oil spills, polluting factories and power plants, raw sewage, toxic dumps, pesticides, Freeway and expressway revolts, the loss of wilderness, and air pollution suddenly realized they shared common values.



Official Earth Week logo, 1970

Google Celebrated Earth day 2012 with stop motion photography of flowers planted to form their name blossoming to show their animation over time.

Official Meeting between Key Representatives of California Takshila University and Bionas Malaysia—April 10th, 2012

California Takshila University is an institution of higher learning and academic think tank. California Takshila University has emerged from nine years of academic and professional activities in the high-tech and biotech industries. It offers graduate courses, such as Masters in Business Administration and Masters of Science in Computer Engineering. (www.ctuniv.org)

Bionas Malaysia was established four years ago with the objective of promoting Jatropha Curcas planting for fuel production and job and wealth creation within the Malaysian Economy. The Company's main unique selling proposition is its supply chain branding control, strong support from the Malaysian government and local communities, its price leading position, and the relative low entry cost of producing Jatropha biofuels by outsourcing a major portion of its supply chain costs and risks to existing multi-million dollar refineries that are left idle, third party nursery partners and partnering land owners and farmers. (www.bionasmalaysia.com)

Kzaka is a spin-off business from California Takshila University. Kzaka focuses on developing products and services that promote and foster greener sustainable business globally. Its primary goal is to develop biofuel business based on Jatropha and related agro-products. (www.kzaka.com)

Main Guests:

Dr. Ryan Baidya is an entrepreneur a business strategist and who has 12+ years of experience in biotech. He launched several biotech and high-tech businesses in Silicon Valley/USA, and Tokyo/Japan. He founded BioZak and BioZak-Infobase, and served as one of the founding management. He gave numerous lectures on life sciences and bio-business topics at conferences, primarily in USA, and Japan. Dr. Baidya currently teaches at California Takshila University.

Zurina Amnan is the CEO of the Bionas Group. She plays key role in mapping the Group's core strategies. She leads the operational supply chain, and business and corporate relations of the Group. Ms. Amnan manages over 330 nurseries and collection centers and million acres of plantation, including managing 8 biofuel processing plants around Malaysia and neighboring regions. Her leadership quality has extended the company's global presence to Taiwan, Philippines, Indonesia, Thailand, Vietnam, Cambodia, Pakistan, Bangladesh and Kenya.

Dato'Seri Modh Safi'e M. Jaffri is the Executive Chairman of the Bionas Group. Prior to Bionas, he acted as a CEO of several notable organizations within the technology, construction and property development sectors in Malaysia and Singapore. Today, he continues to play a pivotal role and is an essential driving force in the success of the Company's corporate strategies and various operational efforts.

Khairil Anuar Bin Zainuddin was appointed to Bionas Group as Operation Manager. His main responsibilities include the general operation of Bionas group of companies, project development and client relationship management (CRM). He had gathered vast knowledge and experiences in corporate management, business due diligence, market research, palm oil industry, oil and gas industry and information and communication technology.

Meeting pictures

Interview with Zurina Amnan, CEO of the Bionas Group

What made you decide to focus on the biofuel industry in your career?

The need to create new alternative energy sources due to uncertainty and high price of fossil fuels, also towards achieving a better and cleaner environment in line with the world's perspective on climate action.

No single organization or country can solve the problem of climate change and it would be foolish and arrogant to pretend otherwise. But we can make a difference by making a start and showing what is possible.

As a woman, did you have to face many obstacles in your area of expertise?

No, I am more respected and my words will be heard by others.

On the issue of climate change, women are more vulnerable and reducing further their ability to cope with environmental hazards as well as weakening the woman's status and role in the society.

Women in the developing world are largely responsible for food production and food provision, the impact of climate change on agriculture means that women are most seriously affected by climate change.

How does your company support communities in Malaysia?

Bionas has a unique concept in developing its plantations with emphasis on the importance of economic development of the poor farmers. We provide 100% financing on jathropa seeds to the poor farmers to plant 4 hectares per person. We ensure the buyback price is good and keeps on increasing up to USD 400 per ton at present. We engaged 313 collection centers, 4 press/extraction mills and 2 processing, blending and storage plants.

Our program has uplifted the community from poverty to financial independence, from despair to respect and unemployment to business owners.

We have also improved the infrastructure by providing road access, water catchment and mini-hydro electric.

What personalities inspire you in your work and personal life?

My mentor, Bionas' group Executive Chairman, Dato' Seri Mohd Safie M. Jaffri. His vision and mission are very different than that of ordinary people. His prowess in executing it is highly remarkable.

Where do you see your company in 3 years from now?

The leading biofuel company in the world, based in Silicon Valley, California.

Bionas is technically and financially ready, willing and able to invest and share our technology in any country to streamline their national biofuel policy and implement them immediately.

Provided that the related parties to work closely for a mutual agreement to coordinate and unify the biofuel policies and ensure stabilization of biofuel markets in order to secure an efficient, economic and regular supply of biofuel to consumers while securing a steady income to producers and a fair return on capital for those investing in the biofuel sector.

Where do you see yourself in 3 years from now?

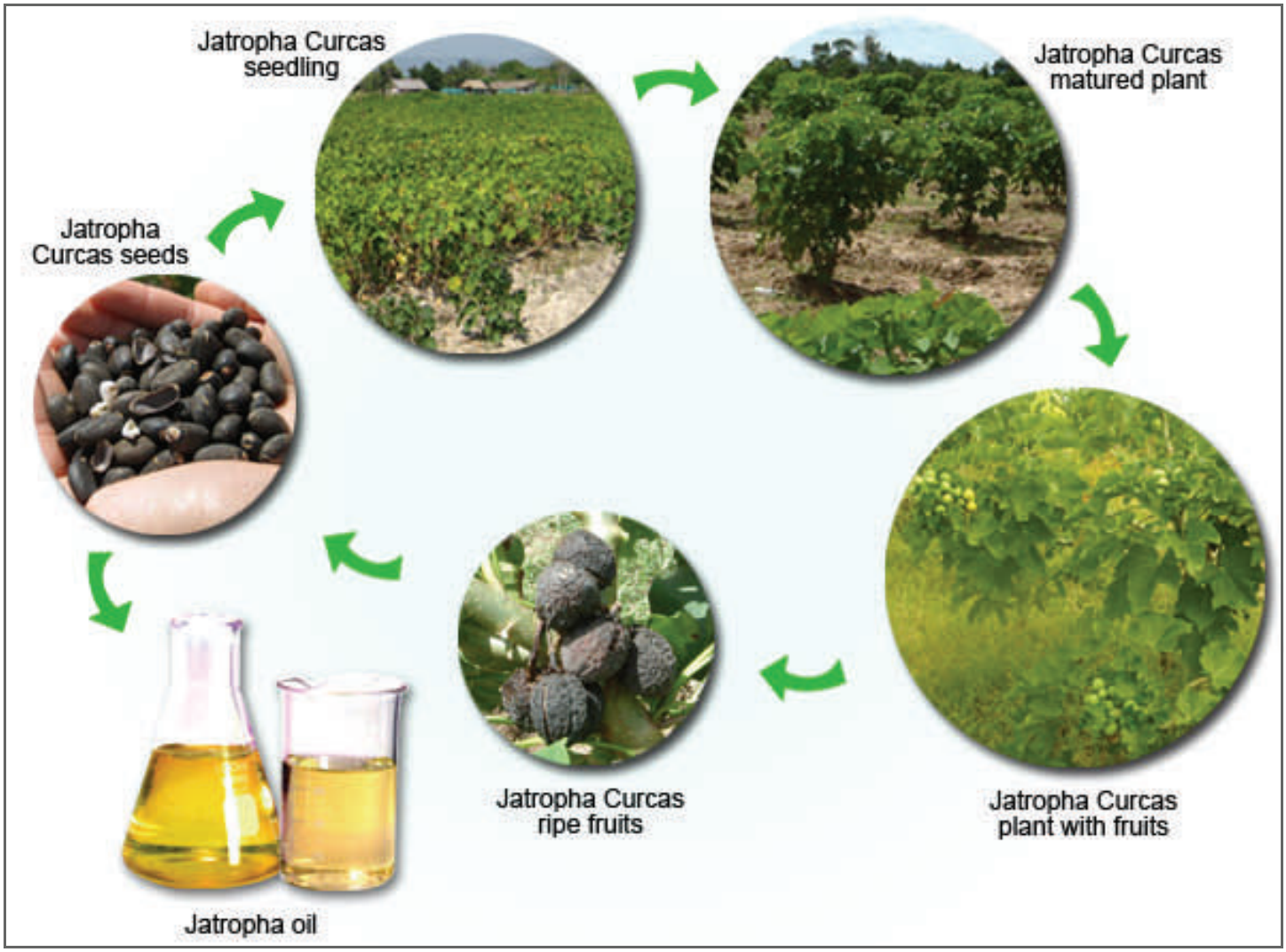
Champion in combating climate change and poverty.

What would you recommend for young people looking for a career in your industry?

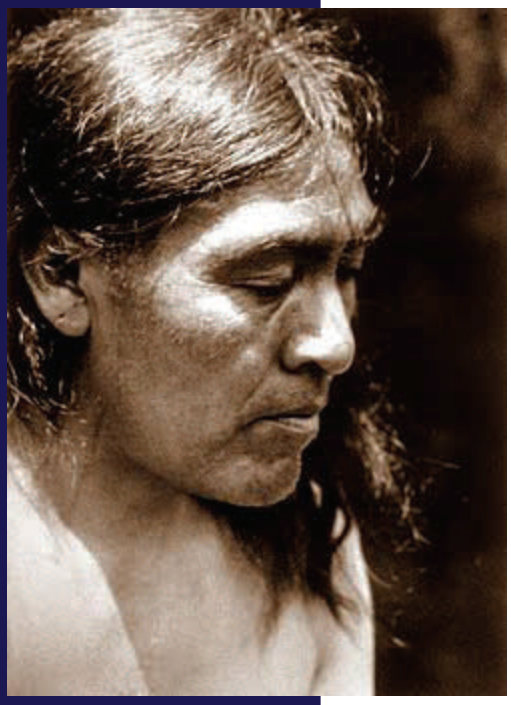
To make an assessment based on the technology and the implementation concept of the company. Small and medium size companies with competitive advantage are better than the big companies that lack of the opportunity for you to stand out.

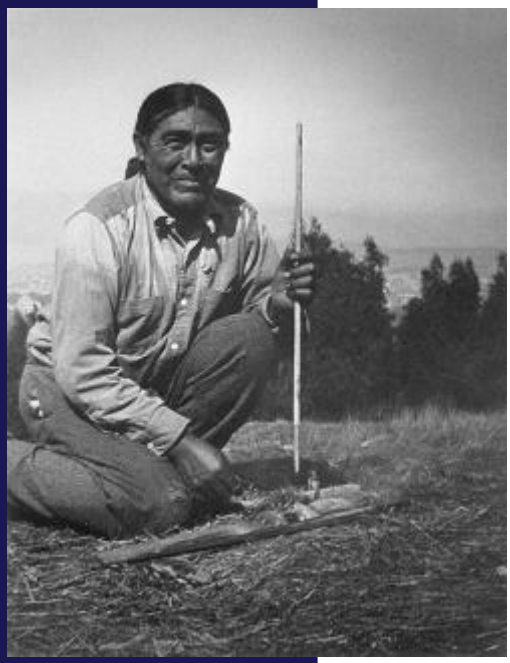
Do you have any inspirational messages for our students?

Do not feel comfortable with the knowledge that you have. Real life in the outside world is not as easy as you might think. Only those who dare to take risks, strong and creative minds, perseverance, belief, confidence and good, will succeed.



Ishi, the Last of His Tribe





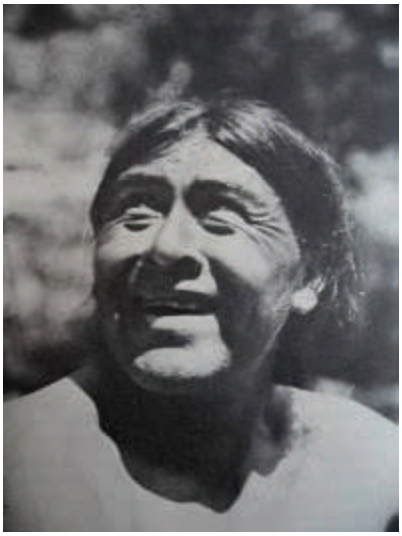
Ishi, a simple man with very interesting destiny, was born around the year 1860. He was the member of the Yahi tribe, which at the time of his birth numbered approximately four hundred people. He was growing up in a changing world, where the land of his ancestors was claimed by tens of thousands of miners and settlers coming there in search of gold during the California Gold Rush. Searching for food just to survive, the Yahi often came into conflicts with settlers and many of them were killed. To avoid further conflicts, the last members of the Yahi tribe, including Ishi and his family, went into hiding for the next forty years and were believed to be extinct.

In 1908, the last camp of the Yahi people was ransacked by surveyors, who took all the possessions of the last few members of the tribe. Soon after this raid, Ishi's mother and other relatives died, leaving Ishi the last survivor of his tribe.

In 1911, starving and nowhere to go, Ishi walked out into the white man's world, near Oroville in Tehama County, California. Soon after, he was taken in by anthropologists at the University of California, Berkeley, who both studied him and hired him as a research assistant. He lived most of his remaining five years in a university building in San Francisco. The name Ishi was given to him by the anthropologist Alfred Kroeber, when he discovered that Ishi had never been named. When he was asked his name, he said: "I have none, because there were no people to name me," meaning that no tribal naming ceremony had been performed.

Ishi was studied and interviewed by anthropologists in order to reconstruct the culture of his tribe, their customs, traditions, habits and language. His knowledge was extremely important to us, with Ishi being the last member of his tribe, and the last Native American in Northern California to live most of his life outside European American culture. Ishi's contribution to our current understanding of his traditional knowledge was remarkable, his desire to teach us about his people and share his thoughts brought much to understanding humanity and value to appreciating disappearing cultures, traditions and languages.

Unfortunately, Ishi died of tuberculosis on 25th of March, 1916. His death marked the end of an ancient civilization, his death was not just the death of one person, it was the death of a tribe with its millennia long history.




California Indian
Pre-contact
Tribal
Territories
Tolowa
Yurok
Chilula
Wiyot
Whilkut
Chimariko
Mattole
Nongatl
Lassik
Wailaki
Sinkiyone
Kato
Coast Yuki
Huchnom
Lake Miwok
Wappo
Coast Miwok
Esselen
Kitanemuk
Karok
Shasta
Modoc
Achomawi
Hupa
Wintu
Atsugewi
Yana
Maidu
Nomlaki
Yuki
Konkow
Pomo
Patwin
Nisenan
Northern Paiute
Washo
Mono Lake Northern Paiute
Sierra Miwok
Owens Valley Paiute-Shoshone
Western Shoshone
Northern Valley Yokuts
Costanoan
Foothill Yokuts
Monache
Tabulabal
Salinan
Southern Valley Yokuts
Kawaiisu
Southern Paiutes
Mojave
Chumash
Serrano
Chemehuevi
Gabrieleño
Tataviam
Cahuilla
Halchidhoma
Gabrieleño
Luiseño
Quechan
Ipai
Tipai
California Indian Library Collections

Amazing Facts about Earth

Earth can be seen as a living, breathing organism: it regulates temperature, burns energy, continually renews its skin, and experiences changes to its face as it ages with time.

Researchers in the field of astrobiology have found that Earth's current conditions are temporary and that Earth's stable climate is an anomaly that will end in the next billion years.

Earth is the only planet in the Solar System to have water in its three states of matter: as a solid (ice), a liquid (sea, rain, etc.) and as a gas (clouds). These are all shown below. Water is, of course, the most important liquid for life.

Earth is gradually slowing down. Every few years, an extra second is added to make up for lost time. Millions of years ago, a day on Earth will have been 20 hours long. It is believed that, in millions of years time, a day on Earth will be 27 hours long.

More than 80% of the Earth's surface is volcanic. About 20 to 30 volcanoes erupt each year, mostly under the sea.

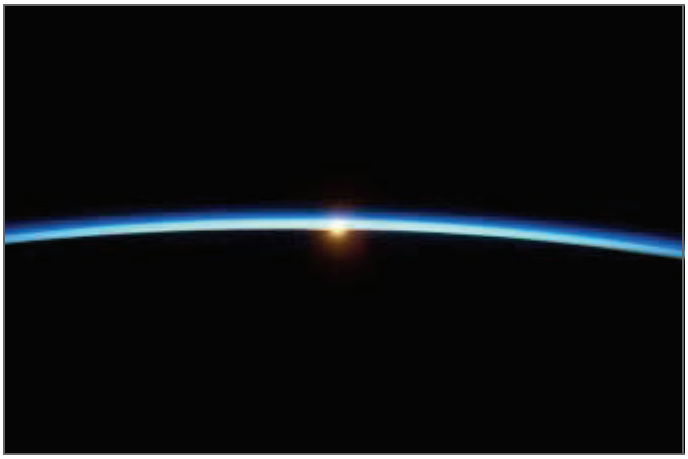
A belief of some Native Americans was that the earth is supported by a giant tortoise, which made the earth tremble each time it took a step.

Earth, which can be viewed as a metal ball coated with rock, hurtles through space at 66,000 miles (107,000 km) per hour.

The word "planet" comes from the Greek word *planetai* for "wanderer.

The name "Earth" comes from Old English and Old High Germanic words (*eorthe* and *erda*, respectively) for "ground" or "soil," and it is the only name for a planet of the solar system that does not come from Greco-Roman mythology.

Fresh water from the River Amazon can be found up to 180 km out to sea.



The birth of Earth's moon is singularly important because it stabilizes Earth's tilt. Without the moon, Earth would still have wild changes in climate and be uninhabitable. The stabilizing tug of the moon tempers Earth, resulting in the minor tip that causes summer and winter seasons.

Earth's unique mix of land and ocean makes the Earth relatively stable by cycling carbon dioxide. Carbon dioxide cycling moderates temperature swings that would otherwise occur.

The desert baobab tree can store up to 1000 litres of water in its trunk.

The oldest living tree is a California bristlecone pine name 'Methuselah'. It is about 4600 years old. The largest tree in the world is a giant sequoia growing in California. It is 84 meters tall and measures 29 meters round the trunk. The fastest growing tree is the eucalyptus. It can grow 10 meters a year.

The beginning of the Industrial Revolution marked the beginning of humanity's affecting Earth's environment by producing enough carbon dioxide to affect the atmosphere's global balance and chemical composition.

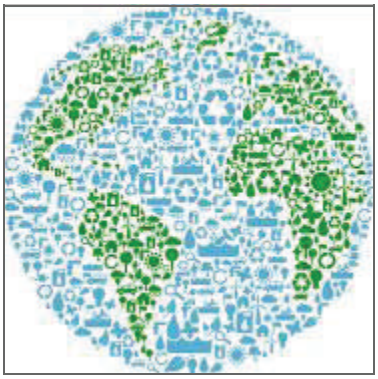
The USA uses 29% of the world's petrol and 33% of the world's electricity.

Over 4 million cars in Brazil are now running on gasohol instead of petrol. Gasohol is a fuel made from sugar cane.

Seven Ways to Reduce Pollution in the Environment

As we continue to live and breathe on this planet, we must become more energy conscious. Use of natural resources, consumption and waste are all at peak levels, and rising. It is up to each of us to act individually and together to effect change that will make our planet habitable in the years to come.

The misuse of energy and resources potentially threatens our long-term survival as a species. It is by conserving energy at home, and growing an environment consciousness in our communities, that we can turn around the dire situation that the world is in now.



How can you help reduce your impact on the environment?

1. Bring your own bag when you go grocery shopping.
2. Park your car. Every mile driven in a typical car produces a pound of exhaust waste, in the form of carbon dioxide.
3. Increase your awareness of electricity use. Turn off appliances and lights when they are not in use.
4. Buy locally. Locally grown food travels at most a couple of hundred miles, and is usually picked the day before, if not the day of, delivery.
5. Plant a tree. Start a garden! Planting a garden is a joyful activity that cuts down on the energy needed to get vegetables to your table.
6. Reduce. Re-use. Recycle.
7. Put less load on your furnace and air conditioner, either by getting a more efficient model, or by adjusting the thermostat.

Meteor shower: An increase in the number of meteors at a particular time of year is called a meteor shower

2012 Meteor Showers

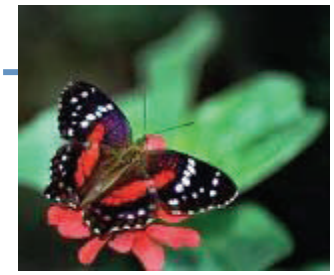
Comets shed the debris that becomes most meteor showers. As comets orbit the Sun, they shed an icy, dusty debris stream along the comet's orbit. If Earth travels through this stream, we will see a meteor shower. Depending on where Earth and the stream meet, meteors appear to fall from a particular place in the sky, maybe within the neighborhood of a constellation.

Meteor showers are named by the constellation from which meteors appear to fall. For instance, the radiant for the Leonid meteor shower is located in the constellation Leo. The Perseid meteor shower is so named because meteors appear to fall from a point in the constellation Perseus.

http://stardate.org/nightsky/meteors

Name	Date of Peak
Quadrantids	night of January 3
Lyrids	night of April 21
Eta Aquarids	night of May 5
Perseids	night of August 13
Orionids	night of October 21
Leonids	night of November 17
Geminids	night of December 13

The Butterfly Effect



Why butterflies?

Butterflies are small creatures, which make our world little bit more appealing through the flutter of their colored delicate wings. They have fascinated us as humans throughout history – the ancient Egyptians used hieroglyphs of butterflies as long as 3.500 years ago; in the ancient Mesoamerican city of Teotihuacan, the brilliantly colored images of butterflies were carved into the walls of temples, symbolizing the souls of dead warriors.

In Japan, a butterfly was seen as the personification of a person's soul, whether living, dying or already dead. The ancient Greek word for butterfly was ψυχή (*psȳchē*), which means soul or mind. In Chinese culture, two butterflies flying together symbolize love. Taoist philosopher Zhuangzhi once had a dream about being a butterfly that flew without care about humanity; however; when he awoke and realized that it was just a dream, he thought to himself, "Was I before a man who dreamt about being a butterfly, or am I now a butterfly who dreams about being a man?" In some other old cultures, butterflies also symbolize rebirth or metamorphosis after being inside a cocoon for a period of time.

"I'll tell you what then, don't... step on any butterflies. What have butterflies ever done to you?"

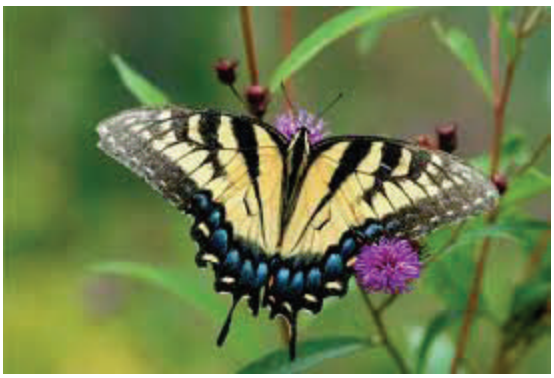
TV series Doctor Who

Popular Phenomenon

The Butterfly Effect is a popular phenomenon, where a minor change in circumstances can cause a large change in the outcome. This term is sometimes used in popular media dealing with the idea of time travel. According to the actual theory, if history could be changed at all, the mere presence of the time travelers in the past would be enough to change short-term events and would also have an unpredictable impact on the distant future. Therefore, no one who travels into the past could ever return to the same version of reality he or she had come from and could have therefore not been able to travel back in time in the first place, which would create a phenomenon known as time paradox.

Minor and almost sub-conscious actions in everyday life can be seen to have gross and widespread effects upon the future. As such, seemingly inconsequential actions can be seen to have drastic long-term results.

In the 1952 short story by Ray Bradbury, "A Sound of Thunder", the killing of a butterfly during the time of dinosaurs causes the future to change in subtle but meaningful ways: e.g., the spelling of English and the outcome of a political election.



In the 1990 movie "Havana" with Robert Redford and Lena Olin, Redford even makes a direct reference to: "And a butterfly can flutter its wings over a flower in China and cause a hurricane in the Caribbean. I believe it. They can even calculate the odds. It just isn't likely and it takes so long."

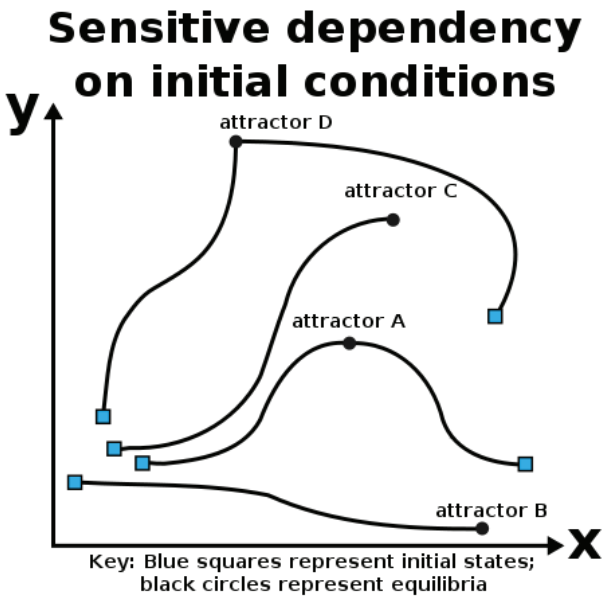
Scientific Base for Butterfly Effect

In chaos theory, the Butterfly Effect is the *sensitive dependence on initial conditions,* where a small change at one place in a non-linear system can result in large differences to a later state. Although the Butterfly Effect may appear to be an esoteric and unlikely behavior, it is exhibited by very simple systems. The Butterfly Effect theory involves hypotheses where one storyline diverges at the moment of a seemingly minor event resulting in two significantly different outcomes.

The concept of the Butterfly Effect refers to the idea that a butterfly's wings might create tiny changes in the atmosphere that may ultimately alter the path of a tornado, or delay, accelerate or even prevent the occurrence of a tornado in another location. The flapping wing represents a small change in the initial condition of the system, which causes a chain of events leading to large-scale alterations of events. Had the butterfly not flapped its wings, the trajectory of the system might have been vastly different.

However, the butterfly does not cause the tornado. The flap of the wings is a part of the initial conditions; one set of conditions leads to a tornado while the other set of conditions does not. It is possible that the set of conditions without the butterfly flapping its wings is the set that leads to a tornado.

The potential for sensitive dependence on initial conditions (the Butterfly Effect) has been studied in a number of cases in semi-classical and quantum physics including atoms in strong fields and the anisotropic Kepler problem. The concepts of Butterfly Effect were studied in the so-called Quantum Butterfly Effect experiments, which contribute to the theories of Quantum Chaos.



Andy Goldsworthy—Land Artist

Andy Goldsworthy (b. 1956) is a brilliant British artist who collaborates with nature to make his creations.

Goldsworthy regards his creations as transient, or ephemeral. He photographs each piece once right after he makes it. His goal is to understand nature by directly participating in nature as intimately as he can.

The materials used in Andy Goldsworthy's art often include brightly-colored flowers, icicles, leaves, mud, pinecones, snow, stone, twigs, and thorns.

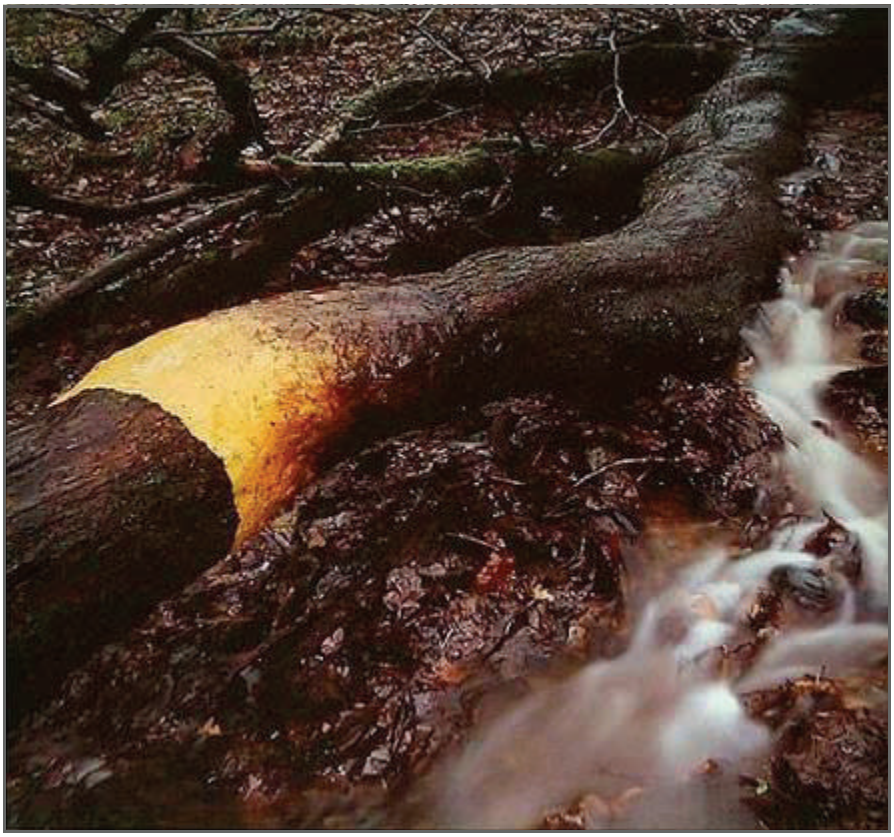
He lives and works in Scotland.

"I want to get under the surface. When I work with a leaf, rock, stick, it is not just that material in itself, it is an opening into the processes of life within and around it. When I leave it, these processes continue."

"I enjoy the freedom of just using my hands and "found" tools--a sharp stone, the quill of a feather, thorns. I take the opportunities each day offers: if it is snowing, I work with snow, at leaf-fall it will be with leaves; a blown-over tree becomes a source of twigs and branches. I stop at a place or pick up a material because I feel that there is something to be discovered. Here is where I can learn. "

"The energy and space around a material are as important as the energy and space within. The weather--rain, sun, snow, hail, mist, calm--is that external space made visible. When I touch a rock, I am touching and working the space around it. It is not independent of its surroundings, and the way it sits tells how it came to be there."

"Movement, change, light, growth and decay are the lifeblood of nature, the energies that I try to tap through my work. I need the shock of touch, the resistance of place, materials and weather, the earth as my source. Nature is in a state of change and that change is the key to understanding. I want my art to be sensitive and alert to changes in material, season and weather. Each work grows, stays, decays. Process and decay are implicit. Transience in my work reflects what I find in nature."



Works of Andy Goldsworthy

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