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## The Morphic Field

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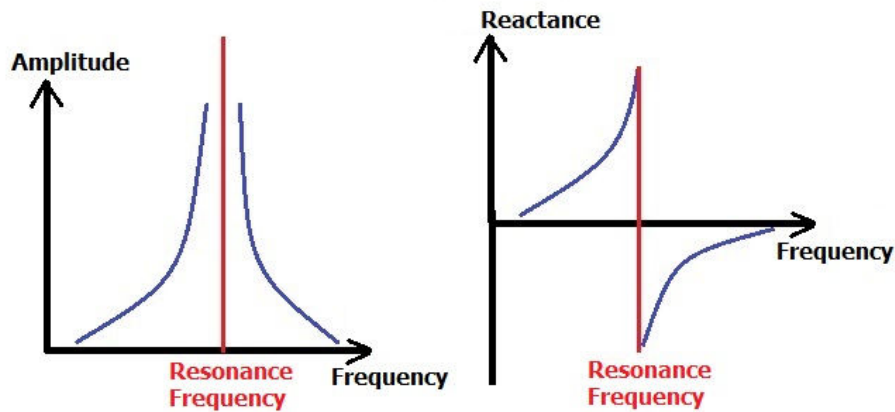
**Charles Darwin** (1809 – 1882) based his theory of evolution on two principles. 1. **Random Genetic Mutations**, which occur within an organism's genetic code and 2. A process called **Natural Selection**, which is the result of an interaction between the organism and its environment. Genetic mutations are passed on to the next generation and over time, through natural selection, an entirely different organism; a new and different species appear.

The common belief is that evolution generally occurs uniformly and by the steady and gradual transformation of whole lineages (called *anagenesis*). In this view, evolution is seen as generally smooth and continuous. But according to **Punctuated Evolution** the morphological structure suddenly changes to a new form, as found in the fossil record. Punctuated Evolution or rather equilibrium had a major impact on evolutionary biology.

What is the mechanism of Punctuated Evolution? According to the biologist **Rupert Sheldrake** (b. 1942) there exists a **Morphogenetic Field** that can affect and transform an entire species. At the local level this field affects a group of cells out of which a particular organ in the body is formed (1). Morphogenetic fields are just one type of Morphic Field, and are able to explain Punctuated Evolution. According to R. Sheldrake there exists a process called **Morphic Resonance** which can affect the behavior as well as the genetic structure of all the members belonging to a certain species. The new behavior can spread by Morphic Resonance not just from parents to offspring but to other members of the species in other places and in a very short time (3).

Although "Morphology" is a branch of biology that deals with the structure of animals and plants, the term "Morphic" in the present context means "the totality of characteristics that defines a certain species". These characteristics include the genetic structure, the body formation and also the stereotyped behavioral patterns, such as feeding habits and sexual mating courtships. When external climate conditions or any other permanent and repetitive influence affects a certain *critical number* of individuals in a group, the whole group enters into a mood of Morphic resonance, which can create drastic changes in the whole species. At the resonance frequency the structure and the form of an object can change. For example, an iron bar can break when it starts to vibrate at its natural resonance frequency.

The resonance frequency is a vibration of large amplitude produced by a relatively small vibration near the same frequency of vibration as the natural frequency of the resonating system. The two graphs below will help us understand what can happen at the Resonance Frequency.



On the left graph above the amplitude of vibration versus the external influencing frequency is plotted. As the vibration frequency of an external agent approaches the natural resonance frequency of the system, the whole system starts to vigorously vibrate and the amplitude of vibration increases drastically. Under such conditions the system can break as was the case for the Tacoma Bridge (4). The Washington State Toll Bridge Authority announced the failure was due to the bridge's design reacting to the wind in the Narrows, which is a simple way of explaining the collapse due to the Resonance Frequency.

Every living species gives a struggle of survival and tries to adjust to the external environmental conditions. Let us define the body formation and the stereotyped behavioral patterns of the species as being its amplitude. Let us also accept that the Morphic Field of this species vibrates at a certain frequency. If the vibration frequency of the Morphic Field approaches the natural resonance frequency of the species, then the whole species will either become extinct and disappear from the face of the earth, or mutate to a new physical body form and adopt a new set of stereotypical behavior. This new form of existence and genetic structure will become the new species. The Morphic Field hypothesis is thus able to explain the mechanism of "Punctuated Evolution" and "Punctuated Equilibrium". Since the new species will have a different natural Morphic resonance frequency the threshold of the previous Resonance Frequency will be trespassed and thus the amplitude of the species will decrease and remain in a rather stable punctuated equilibrium state called *stasis*.

On the top right graph we see the Reactance plotted versus the frequency. Although Reactance is a scientific term used for electrical currents, it can be applied to living species. Reactance theory claims that individuals are not passive receivers but responders. All living beings react to the external disturbing influences and can change their behavior patterns. The new pattern of behavior is in accordance with the fundamental law of **Conservation of Energy**. At the Resonance Frequency the system suddenly jumps into a new level of existence which has a lower level of reactance to the external influences. At this critical point the whole system settles into a new pattern of behavior or even a new physical form. Since the new species adapts better to the new environmental conditions we can consider this new lower reactance stasis as being equivalent to the process of *Natural Selection*, claimed by Darwin and his followers.

#### References:

- (1) [http://en.wikipedia.org/wiki/Morphogenetic\\_field](http://en.wikipedia.org/wiki/Morphogenetic_field)
- (2) **The Rebirth of Nature**, Rupert Sheldrake, Park Street Press, 1994, USA.
- (3) Ref. (2), page 143.
- (4) <http://www.lib.washington.edu/specialcollections/collections/exhibits/tnb>