

Classics as viewed from Ethology

日高 敏隆

総合地球環境学研究所

I am honored to be invited as one of the speakers of this symposium, but I am still anxious what I can do here because I am an ethologist studying animal and human behavior.

What I feel a little lucky is that I was taught by late Professor Giichiro Maejima, a professor of linguistics and Danish language. He recommended me to study classic languages like Greek, Latin, Old English if I want to know English better. So I read a very, very little bit of Aristotle, Latin classics, Beowulf etc.

It was very interesting but too hard for me. Therefore my further acquaintance with the classics was all through Japanese translations.

For Aristotle, the crocodile is a beast whose upper and lower jaws are attached inversely, so a crocodile opens the mouth lifting the upper jaw in contrast to usual beasts which open the mouth lowering the lower jaw. This is really Aristotle's illusion. To say more correctly, this was an illusion of Herodotus, to whose writings Aristotle owed very much.

In the vocabulary of science, the word illusion may mean that it is not scientifically based. Really, many scientists will blame Aristotle that he was scientifically wrong.

But such kind of saying and evaluation appears to contain a fatal mistake in understanding the human culture.

We humans are always understanding our world by some illusion. Otherwise, we probably can not live. Those illusions can be religious, fantastic, theoretic, magic or sorceric or even scientific or theoretical etc. In every case, the illusion is firmly based in some way

and is not easily altered.

On a beautiful meadow, in a beautiful summer morning, we may see many butterflies flying here and there. They are all males.

In the morning of this season they are sexually motivated. They are flying around in search of female butterflies of their own species in order to court and mate with them. There are many wild flowers blooming around. But these male butterflies never approach, even try to approach, any of them, because in the world of these male butterflies, the flowers are not existing.

What does exist is females, or something which can be females. Any other thing does not exist now in the world of these butterflies.

But in the afternoon, when the time of courting and mating ends, the flowers suddenly appear in their world. Hungry butterflies now look for flowers, approach them and feed on their nectar. In our human world, flowers were existing there since the early morning, but they were not existing in the world of sexually motivated male butterflies.

The absence and the sudden appearance of flowers are brought about by illusion the butterflies conceive, because those flowers have been existing throughout. But without this illusion, flowers can neither get nor lose their meaning. And without being given some meaning by illusion, nothing can exist in the subject's world, either it be animals or humans.

In every illusion, something can exist in the world although it is not really existing. Or something which really exists appears completely not existing, like the flowers for the male butterflies in search of females.

As Jakob von Uexkull pointed out, no animal can live without its *umwelt*, the world to which the animal gives the meaning. Nothing different in case of humans.

Once I was greatly surprised when I noticed that no butterfly appears in the Bible.

We can hardly believe that there were no butterflies there. At least some species of butterflies should have been flying, but they were not existing in the world of people at that time.

Also in a Japanese classic "Man - yo - shu", we can find only few statement about the insects, although many kinds of birds appear in the phrases of the verse. How was the world of Man - yo people? It is intriguing to know.

However, it is intriguing not because it is the illusions in classics of older times.

In this modern age, we also have many kinds of illusions. To take an example from the field of ethology, we had an illusion that animals are living and striving in order to maintain own species.

Animals are endowed with wonderfully elaborated behavioral makeups. These makeups, often called instincts, were believed to be all for the sake of survival of the species.

But after many findings from the field observations starting with 1960s, we arrived at another illusion that animals are not living for the sake of species. Each individual, male or female, of a species, is striving in order to leave as many as offsprings of its own, viable and fecund children and grandchildren bearing its own genes. For this, individuals of a same species are always in competition with other individuals of the same sex.

A male wishes to mate with as many as females to get more offsprings. He shows his charm to every female displaying his beautiful wings, his skill in getting preys, his physical force etc. etc.

Females on the other hand, she needs a male to get her own offspring. But she often needs to take care of them because she knows that the children she has borne are certainly her own offspring having her genes. She therefore wishes to mate with a "good" male who will contribute her in giving better conditions for bringing up her children.

The basic quality as a good male is that he is

healthy and tough. So she chooses such one from among the males approaching her. This is the so-called female mate choice.

Every female of every species of animals does this female choice.

However, the particular method of the choice varies with the species in animals, and with the culture and historical time in humans.

In the peacock, the female peahen chooses the most beautiful male peacock because male's beauty correlates with his health.

In some frogs, the female chooses the male which cries with the loudest and strongest voice.

In some insects, the female mates with a male which has brought the biggest and most delicious prey.

Thus the females are always choosing tough and healthy males. This is not for breeding a healthy species. Every female wants to have more offsprings of herself, say having her genes. To mate with a healthier male is more apt to leave more offsprings so as to maximize her fitness. As a result of this each female's choice and of male's strive to be chosen, healthier offsprings are produced generation by generation.

The species has been thus maintained during these hundreds of thousands of years, but it was nothing than a result of each individual's illusion to have more of his or her own offsprings, in other word, to maximize his or her own fitness. Maintenance of the species was not the purpose nor the goal of individuals, but only a result.

This applies to the humans. What is different is that the humans are monogamic at least officially. But not only humans. There are many officially monogamic animals, fishes, birds, mammals etc. other than humans. In these monogamic animals, the male choice also occurs: the male chooses females.

Anyhow, among the offsprings thus produced, those individuals which are more adapted to the present environment will survive and reproduce.

The species is maintained in this way and evolution occurs in this way. This is our illusion nowadays.

What is contained in this illusion is that there are no purpose nor design for the evolution.

That which could survive is surviving. That's all. When environment changes, and its survival becomes impossible, it gets extinct like many dinosaurs.

Evolution is never designed by the God. Therefore, the God is not responsible for extinction.

However, there can be other types of illusions. From the viewpoint of the world (umwelt) for a subject, be it animal or human, the world is kaleidoscopic. Which world is correct and which is not, we can not say. Also we can not say which is real or reality.

I remember, some classicist says that the classic states always the truth, or the theme of humanity. Along the line of the above context, I think he is right.

However what we should always keep in mind is that the theme is never shown in a bare form of generality. It is always hidden behind something particular or discrete.

As I illustrated with the case of butterfly, an animal's world is made up by illusions. For the world of humans, it should be similar. What is different is that human illusions appear to vary almost unlimitedly with the time, situation, history and culture of the subject individual and of the group. In the butterfly on the other hand, the variance of illusions probably is far more limited and almost fixed.

In this context, it is intriguing for me to study the classics. It is just to know what world we humans are able to have.

Now the so-called science is rapidly progressing. But from my ethological illusion, it seems that our human world will not greatly change and not drastically evolve. The answer may be given from the study of classics.

Toshitaka Hidaka