

Veganism

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1 Human Diet

One of the fundamental turning-point of the human history is the *Neolithic Revolution* or *Farming Revolution* where human learnt to systematically and structurally grow different kinds of plants and use them as food. This revolution included the animal domestication (e.g., cows, dogs, sheep etc) and happened around 12000 years ago. The *Farming Revolution* has emerged from multiple different places almost simultaneously. One of the main geographical origin of this important revolution is called *Fertile Crescent* that includes a number of countries in middle east such as Syria, Iraq, Iran, Turkey, Palestine and Lebanon. The *Yellow River* in the today's china 9000 years ago and *Central Mexico* 5000 years ago were other places that the *Farming Revolution* happened independently.

Until the *Farming Revolution* around 12,000 years ago, all humans got their food by hunting, fishing and self-growing plants. After the *Farming Revolution* human slightly started to settle down and build permanent villages, towns and finally cities and create complex societies, so they stopped moving-hunters habits. By farming systematically, they could access food with proper prediction of what they would have in the next session. Although at the early stages only few types of plants were discovered, people started to take in most of the required nutrition from plants so their diet diverged from meat-majority to plant-majority and that continued in favor of plant-majority by discovering and farming new plants. For instance, potato and tomato that were only introduced to middle east around 17th century. Some societies, ideologies and religions even based their entire diet on plants (i.e., Hinduism).

In the following sections, I review some articles around the level of emotional and intelligent power possessed by domesticated animals such as cattle, sheep and chickens that are largely serving as our daily food.

2 Cows

Do cows have feeling and if so, how complex is their feeling? To start let's say: Cows are gentle animals who are affectionate, emotional, and intelligent [10].

For thousands years we have been assuming cows as herd animals with low individual personality and small or no social relationship skill. A literature review study by Lori Marino and Kristin Allen [6] indicates that cows have far more complex understanding system, they are more sophisticated and sensitive than we (as human) usually perceive them.

Some of the key findings by this study are as follows:

- Cows are able to make sophisticated discrimination among not only objects but humans and conspecifics;
- Cows possess not just simple emotions, but several emotional capacities, such as cognitive judgment bias and emotional contagion;
- Cows show an apparent emotional reaction to learning which may reflect a sense of self-agency similar to some other mammals;
- Cows have distinct personalities;
- Cows exhibit several dimensions of social complexity, including social learning.

The truth is that most of the ideologies held by humans, which are incongruent with the scientific research finding, are mainly kept and maintained by big and strong powerful economic and political forces, most probably by those who benefit largely from this business and industry [6].

3 Birds

Do birds have emotional feeling? That is an important question for us, human, to answer. According to the scientific research, birds have clear reaction when being frightened such as quick flight and escape. Birds can get angry (angry birds, childhood computer game probably comes from here) and their reactions varies ranging from biting, making intimidating noises. Surprisingly and unlike the common sense, birds can experience grief feeling when their mates are lost. The grief by some birds can sound like piteous cries [4]. Birds can also experience happiness and joy. Birds sing for different reasons, one of them is to attract another bird for mating or to defend their territory but another reason of singing is when they are happy or to show happiness, e.g., hatching eggs when baby chicks are born.

3.1 Chickens

Chickens as a bird species, once again unlike the common sense, are highly intelligent and capable of feeling pain and suffering. Chickens are smart and sentient; they experience joy and feel loneliness, frustration and fear. They can pass knowledge to their children and can recognize and remember up to 100 faces including human faces [2].

According to *choosveg.com* [1], hens can communicate with their chicks before they even hatch. Chickens can experience clear dreams just like we do (they have rapid eye movement). An interesting fact about chickens that is beyond of the capability of a 2-year-old human, is that chickens can still understand that hidden object still there. Chicken empathize with their mates and peers when in danger.

4 Fish

Do Fish have feeling? Are they smart?

Those who have pet fish might have experienced seeing their fish playing around bubble stream. What does it mean? It means they have a level of cognitive understanding.

More scientifically evidences by marine biologist at Edinburgh's Roslin Institute indicate that *rainbow trout* has pain receptors and react to a harmful substance with "profound behavioral and physiological changes [13] [9].

The common sense believe fish don't feel pain or feel pain much lesser than other species; science says this is a misconception. Fish feel pain as much as other animals do [5].

Fish feel pain when they suffocate. To make it more clear, as much as drowning is painful for human, suffocating is painful for fish. Scientists have found that Cod and Haddock remain alive for a couple of hours on the deck after being fished [3].

5 Sheep

I start my little short journey about sheep by the this question: *Do sheep have feelings?* One of the interesting scientific work that could answer my question is done by *Mirjam Guesgen* [15].

She has worked on topics related to emotional (e.g., pain) expression by animals and for her, sheep as a social animal was the focused species for research.

She made use of the Lamb Grimace Scale (see section 5) for investigation and providing a tool to discuss the amount of pain in sheep. An interesting finding by her, shows that sheep can empathy with other sheep's tail being docked by flattening their ears and looking at their own tails.

Research shows that sheep are emotional animal; unlike the common sense, sheep have personality and survival skill to protect the group when they are in a herd [14]. Sheep feel pain as humans do, they like and care about their lives as human do. They are, unlike the common sense, intelligent and complex with individual feeling.

Professor John Webster [12] of the University of Bristol discovered that depression and fear visually and physically appears in sheep (e.g., moving their head like human). Their heart-beat increases when they fear by being away from other sheep they used to know.

The following is the abstract of a published paper by Lori Marino and Debra Merskin [7]:

Domestic sheep (*Ovis aries*) are among the earliest animals domesticated for human use. They are consumed worldwide as mutton, hogget, and lamb, kept as wool and milk producers, and used extensively in scientific research. The popular stereotype is that sheep are docile, passive, unintelligent, and timid, but a review of the research on their behavior, affect, cognition, and personality reveals that they are complex, individualistic, and social.

Sheep Grimace Scale To measure the degree of emotion such as stress or pain, there is a scale called Sheep Grimace Scale. This is usually helpful for improving the animal condition and welfare.

6 Morality

Aristotle said human is a *political animal*. Politic has its own definition and one or two articles would not be enough to properly define it. At least what we can for sure say is that human is the only species on earth that understands and applies politics on the daily affairs. The political skill is part of the human's complex brain and its intelligence. Human went through a cognitive revolution around 70000 years ago that made homo-Sapiens, by far, totally different species from their ancestors and ape-like cousins from cognitive and intelligence point of view. The human's story became a lot more interesting when around 12000 years ago, the agriculture revolution happened and we started to plant systematically with knowledge.

Meat and plants both have been part of human (Homo-Sapiens) since ever. Until before the agricultural revolution, human were hunting animals and using self-growing plants like wild fruits and grains. After the agricultural revolution, meat has still been part of human's diet however new set of vegetables, fruits and grains such as wheat, oat and different types of beans have been added into the human diet.

Now the question is: **Is that moral to eat other animals meat and/or their products while we have access to plants easier and more systematically?** This is obviously a controversial question and has multiple different dimensions. Let's break it down into multiple parts:

1. What is moral? Every conscious deed/action has some implications. The implications might have positive, negative or neutral impact on ourselves and others. The positive and negative impacts help us to distinguish bad and good deeds/actions. Moral is the ability to define what is positive and what is negative impact. Positive impact may be interpreted as impacts that benefits us/others directly or indirectly; for instance exercise/sport in general has benefit for us and others (low chance to get ill and cause troubles for others and also ourselves). Negative impact may be interpreted as the impact that harms us/others; for instance smoking harms us and if

it is in the present of others, it harms others as well. Therefore, smoking may be considered as immoral behaviour while sport is considered a moral behaviour.

Probably the next question is: **Who are others?** Others are whoever or whatever that can experience pain (physically or psychologically, emotionally) and whoever or whatever that can experience joy, happiness or pleasure.

2. Why do we need morality? Human is the most intelligent species on earth and this fact creates the assumption that it is OK to kill other species or animals for various reasons. Let's imagine that there is another species being evolved very quickly and becoming a lot more intelligent than human. They not only nurture animals for food and forced labor but they do the same to us (human). Let's also imagine, that the new super-species is strong and smart enough that we, by no means, are able to stand in front of them. They would make us (human) to submit to them, work for them and be their food. **What should we do?** The smartest answer is to end this torture as soon as possible; but how? We have no power (physically or intelligently) to stand in front of them. Living as a serving species to that super-species is a torture. The smartest answer probably would be to kill ourselves instead of being killed by them and submitting to them as a slave and having miserable, depressed and painful life. We do this as we are unable to stand against them.

Committing suicide, in a true meaning, is mostly specific to human as human has the capability to evaluate, judge and analyse the situation in much higher degree and with more details. This capability is absent in many other species however they clearly feel the pain, emotion and depression (see Sections 2, 3, 4 and 5). In other word, human benefits from both 1) the capability of making logical decisions 2) experiencing emotion and feeling pain; while animals are not as smart as human (lower capability in making logical decisions) but strong enough to experience pain and in some cases emotion. Animals have capability to enjoy life, eating, sleeping, going around and roaming, making love and sexual activities.

We, human, do not wish letting another species to make us their labors, slaves and more importantly their food by killing us. This is because we like to be alive we like to enjoy freedom and going around, getting paid fairly for what we do and more importantly, we do not want to experience pain, or being emotionally hurt. Human doesn't like to be forced to reproduce and to have been their children taken away from them.

So, how we do all these to other species specially when we can live healthy without the need to their products and meat? Just because human evolved more and became the most intelligent species in the world, doesn't mean we have right to abuse other species. We all have been evolved from eventually the same ancestor.

Human nurture livestock systematically in large scale. This involves enforcing them to breed. We even decide when hens should lay fertile hatching eggs and when non fertile hatching eggs.

Apart from all the ethical issues to every individual animal mentioned above, the amount of environmental resources that are wasted such as water, fields (converting forests to grass fields for livestock) and producing methane is considerable. Each year, a single cow would belch about 220 pounds of methane [11].

The next question would be why for some species it is ethical to consume other species such as felines but not human. The short answer is that because we are the smartest and most logical species on earth world. Meat is part of all hominidae including baboons (our closet cousin) and modern human (us), but human is the only one that has gained the knowledge of cooking, and how to survive without meat and even without dairy products. We have learnt and invented techniques, we convert wheat into bread by applying a particular process. No other species can do these things. Human is the only species that has strong sense of conscience even towards other species with passion and emotion. Therefore, relating the fact that meat is part of some species' diet (e.g., canines) so it can be human's as well, has no logical place.

There is this misconception about the superiority of human (intelligence) over other species that would allow human to slaughter animals for food and other products. The question is that why that superiority (intelligence) instead is not used to replace the food obtained from animals with plant-based products? All types of nutrition that exist in animal products can be found in plants (vegetables, beans, fruits, grains and etc ...). Animals, if they have opportunity, can enjoy the nature and freedom as much as human can do; there should be no excuse to not to avoid animal products if plant-based substitution exist.

Every species has two features: 1) *Intelligence* 2) *Feeling*. *Feeling* includes pain, emotions, desire to live, sexual pleasure, family belonging and etc. *Intelligence* includes the process of decision making and logic.

Consuming or slaughtering another species can be easily labeled as an unethical behavior if it occurs by an species with great *Intelligence* where they are capable of substituting their diet with plants and receiving all required nutrition. Low intelligence can not and should not be an excuse to slaughter other species with low intelligence. Some studies [8] shows that human babies are less smarter than chimpanzees.

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