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Effects of Charles Darwin's Theory of Evolution in Tanzimat**

Abstract

The aim of the presenter of the article is to give the results of the studies carried out on the Theory of Evolution by Charles Darwin and to compare and contrast the views of some thinkers of the Tanzimat who produced their works under the influence of the theory. Nearly all thinkers of the Tanzimat, excluding a few, appropriated the theory of evolution of Charles Darwin. It has been observed that the thinkers of this particular period in the history of the Ottoman Empire tried to put some of the principles of the theory into practice in the same manner like such European scholars as Auguste Comte, Herbert Spencer and some others. In the final part of the study, the significant impact of Darwin's theory on both European and Ottoman philosophers of the period in which the theory came to be known is revealed.

Key Words

Evolution, Natural Selection, Species, Struggle for Survival, Progress, Perfection.

Darwin'in Evrim Kuramı'nın Tanzimat'taki Etkileri

Özet

Bu makalenin yazılış amacı, Charles Darwin tarafından öne sürülen evrim kuramını incelemek ve kuramın etkisi altında kalarak eserlerini kaleme almış olan bazı Tanzimat düşünürlerini bu açıdan değerlendirmektir. Birkaçı hariç, neredeyse tüm Tanzimat düşünürleri Charles Darwin'in evrim kuramını benimsemişlerdir. Öyle ki, bu dönemde yer alan bazı Osmanlı düşünürleri, kuramı, Auguste Comte, Herbert Spencer ve diğer bazı Avrupalı düşünürlerle aynı tarzda topluma uygulamayı da denemişlerdir. Bu da Darwin'in evrim kuramının hem Avrupalı hem de Osmanlı düşünürleri üzerinde kuvvetli bir etkisi olduğunu göstermektedir.

Anahtar Sözcükler

Evrim, Doğal Ayıklanma, Tür, Hayat Kavgası, İlerleme, Mükemmelleşme.

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** This topic is excerpted from a master's thesis written in 1985 and not yet published.

1. Introduction

There was a considerable increase in the bulk of studies in natural sciences in Europe throughout the nineteenth century. In Germany, for instance, Johann Müller the biologist dominated the studies in biology in Berlin Universities and made valuable contributions to the field of study by producing a number of biologists between 1833 and 1859. Schleiden, a student of him, discovered that all tissues of plants are made up of similar tiny units called 'cell' in 1839. Just a year after this discovery, Schwann proved animals to have a similar structure. Another student of Müller, Rudolf Virchov tested diseased cells and had his *Cellular Pathology* published in 1858. He, thus, established the principle of carrying on a number of tests on diseased cells in medical studies. The foundation of Embryology was laid by Carl Ernest von Bear, another German man of science in the nineteenth century. In France, Claude Bernard made his well-known discoveries in nervous and digestive systems on the one hand and laid the foundations experimental medicine through his *Introduction to the Study of Experimental Techniques in Medical Science* on the other. George Cuvier had his course notes published under the title *Le Renge Animal*, in which he examined animals by dividing them into four groups as vertabrates, arthropods, thorny skins and molluscs. Cuvier, furthermore, developed the 'theory of catastrophe' which depends on the view that many animal species have become consequtively extinct. Since he, like Linne, belived in the permanence of the species strongly, he accepted that the extinct species had disappeared because of catastrophes and new species were created on the termination of the effects of the calamity. The very theory of Cuvier had dominated the circles of science until Darwin's theory of evolution was introduced.

Bacteriology, one of the branches of biology, was also established in the nineteenth century. The fact that tiny organisms get sour, putrefy and become rot was discovered by Schwann through experiments and from 1857 onwards Louis Pasteur carried on his work in this field and he finally proved that there is no such a thing as

'self-production'. Only then was the mystery of epidemics unravelled. (Adıvar, 1980, p.302). Charles Darwin first, in 1859, had *The Origin of Species by Means of Natural Selection*, which included his theory of evolution depending on his observations, published and shortly after, in 1871, he had *The Descent of Man* printed.

Much as it did in 19th.-century Europe, Charles Darwin's theory of evolution had a significant echo in Turkey during Tanzimat, the period when Turkish contacts with Europe increased, and inroads into our culture were made through translation into Turkish of works in the fields of mathematics, chemistry and biology, as well as works about positivism, historical materialism and various currents of philosophy, etc.

This well-known theory of Darwin has preserved its peculiar popularity to the present day and has influenced scientific circles deeply all over the world. The theory was also introduced into our country and was accepted enthusiastically during the period of the Ottoman Reformation, 'Tanzimat'. We, therefore, in this article, aim at dealing with the studies of such men of thought as Baha Tevfik, Asaf Nef'i, Suphi Ethem, Ethem Nejdet, Memduh Süleyman, Ahmet Mithat, Satı el-Husri, Bedi Nuri and İsmail Fenni Ertuğrul and at depicting the dimensions which evolutionary Darwinism took on.

The concept of evolution came to be known through the studies of John Ray in the seventeenth and the studies of Carl von Linne in the eighteenth centuries respectively on the determination and definition of what 'species' is. Both John Ray and Linne tried to classified animals and plants within a single system of classification and they, therefore, determined a concept called 'species'. In 1686, John Ray determined the first classification of the individuals of a species by depending on their most stable and outstanding characteristics, according to which every single species is unchanging and permanent. The changes are accepted to be of little importance and disappearing. Ray initially claimed that a species cannot be produced from the seeds of a different species and, therefore, came to believe that cannot be changed at all. On his observations, however, he changed his view and began to believe in the transformation of species. (Glass, 1959, p.35.)

Initially belived in the fixity of the species, Buffon conducted research into this field. He observed that there were minor typical alterations from time to time. The traces of the preceeding types, however, were being preserved and it was observed that the succeeding individuals, the descendants, bore the typical signs of the preceeding ones. Buffon gives the nonfunctioning hoofs of pigs as an example. He, therefore, understands that some species are defective varieties of another and claims that apes belong to an subvariety of human species and donkeys belong to a subgroup of horses. Buffon reveals this view that animals are transformed under external effects in his 'The Succession Beings' and he states that climate and dietary treatise lead to the emergence of gradual changes in living organisms. (Singer, 1962, p.295.)

As far as it is understood, the issue of the constancy of species had been considered before Lamarck and Darwin dared to mention what they thought. Certain changes had been discerned, but the reason why there occured a change had not been considered. No theory had been formulated before Lamarck and Darwin. They were the scientist, however, who proposed theories and who tried to explain the reasons for the transformation.

Before Charles Darwin, therefore, several scientists had been calling the attention of scientific circles to the presence of evolution in nature for centuries. Because of some influential scientists like Cuvier, however, the view that there was no such a thing as evolution had not been accepted. After the theory of evolution was proved, by Charles Darwin, the concept came to be accepted widely.

In "*On the Origin of Species by Means of Natural Selection*" published in 1859, Darwin asserted that: ''Species are not immutable or limited in number; in reality they mutate over long periods of time. All varieties of a species come from a common ancestor and a series of species come from one species that, in itself, is a new species replacing an older one of the same family" (Darwin, 1952, p.170).

Having based his theory on paleontological and embryological findings as a result of studying different varieties of chaffinch in the Galapagos archipelago, Darwin stated that, by way of natural selection, some intermediate species come into being which make mutation from one species to another possible. Thus, Darwin shattered Aristotle's theory of "*immutability of species*" asserting that individuals cannot depart

from the main form of their species, as well as that species and genus are always permanent, since, according to Aristotle, what really exists are individuals.

Individuals are primary substances, i. e., that is, they are made of matter and form. Form means both the form perceived by the senses, and essence grasped by the mind. Form means coming into being or bringing into being, always in natural ways. What makes the *individual* an individual of a particular species, not of another species - the form of "*being an individual of a species*" - is a secondary substance.

According to Aristotle, species (humans) and genus (animals) are secondary substances, further meaning that species and genus are essences that determine the uncertain substance of an individual as *''this individual''* of a speicific species instead of another species. Thus, species and genus are not somewhere other than in the individual, but always in the individual, the reason for its being an individual of a specific species. Since essence is one, the same, invariable, permanent, constant, eternal, complete and perfect, the individual - such as an individual of a specific species - is permanent, eternal, complete and perfect. And since essence is constant, changes in the individual, such as growth, development and aging, etc., are not essential but coincidental according to Aristotle.

However, Darwin emphasized that changes are not coincidental, but essential, inasmuch as species mutate gradually in the very long term; that is, individuals are not permanent. In as much as change is essential, other individuals, thus other species, come into being – an endless, limitless process erasing/blurring boundaries between species.

Thus, it can be seen why Darwin's theory - which is diametrically opposite to Aristotle's - had such a profound impact upon 19$^{th.}$-century Europe which had long been long under the spell of Aristotle's thought. Attempting to use Darwin's influence as a social doctrine, a social application of his theory was immediately made by philosophers such as A. Comte, H. Spencer, K. Marx.

Comte asserted that societies pass through three psychological stages: the "theological, metaphysical and positive", with the latter being the most advanced level; Spencer asserted that societies resemble an organism which grows, develops and becomes more complex, with its parts becoming interconnected, and Marx asserted that societies, through various means of production, pass through the stages of "feudalism, capitalism and socialism."

Despite Darwin stressing that natural selection does not take species to perfection, (nor does his theory propose perfection), but that what survives are the "strongest" or "fittest'', those principles were applied to social theory by Comte, Spencer and Marx understanding social progress in terms of evolution, therefore classifying phases of social change according to various factors (psychological or through ownership of production means) and asserting that gradual evolutionary changes of societies terminate with the third afore-mentioned stage which they considered the most advanced and perfect.

2. Effects of the Theory in Tanzimat

In an era when various currents of ideas existed both in Europe and in Tanzimat, the concept of evolution (scientifically meaning gradual mutation from one living species to another) attained social definitions such as "*forward change, progress, development*," and "*perfection*'', that is, movement from a less-developed to a better, more positive state, while, scientifically, the concept did not include such meanings.

What echoes did the social theory of ''evolution'' have in Tanzimat? - that is, who adopted it, who did not, and how was it interpreted?

Turkish scholars who adopted - or adapted - Darwin's concept to social theory were Baha Tevfik, who published the first journal of philosophy in Turkey, Satı el-Husri, Bedi Nuri, Asaf Nefi and Suphi Ethem, all of whom were particularly influenced by Comte and Spencer and made social applications of evolution theory. Those who did not were Ahmet Mithat, Ethem Nejdet, Memduh Suleyman and İsmail Fenni Ertuğrul. And quotes would be useful in considering the views of those who did and did not adopt the theory:

Baha Tevfik[1] (1881-1914), in an article, "*Mysteries of the Universe*", which he translated from Ernest Haeckel and published in the Journal of Philosophy, stated that although "*The Law of Perfection*" (indicating the universe as nothing but a continuous perfection) is a concept known since antiquity, it was clarified in the second half of the 19th century. He stressed that Goethe, the German poet, first grasped this law in 1799, with Lamarck being able to bring refinement to it in 1809, while it was Darwin who gave it real value and scientific form in 1859. Tevfik also asserted that the key was thereby acquired to a most important question deserving to be called the "*mystery of mysteries*", that is, "*the source and place of human beings in nature" (*Haeckel, Ernest, "Kainatın Muammaları", *Felsefe,* 1 (1), p.24.)

Baha Tevfik who, additionally said that "merely looking into the faces of monkeys would suffice to demonstrate that human beings do not come from another source", stated as well that, some trivial differences aside, humans and monkeys do not constitute two separate species; humans differ from animals only by their perfection, and there are not any other differences (Haeckel, *ibid*, p.175).

Satı el-Husri[2] (1884-1968), in the introduction to his work, "*Ethnography*", talked about the place of humans in nature, thereby initiating a debate as to whether

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[1] Baha Tevfik is a graduate of the School of Political Sciences. He established the library of "*Renewal of Science and Literature*" and published eleven volumes of work from it. Among his works are "*Renewal of Science and Literature," "Feminism," "Psychology," "Nietzsche," "Conversation on Sensitivity and the New Ethics*" and some monographs. Among his translations are "*Mysteries of the Universe*" from Ernest Haeckel, *"Substance and Force"* from Louis Büchner, and "*Philosophy of History*" from Alfred Fouillere. His main articles are "*Plato and Muhiddin*," and "*Consequences of Philosophy of the Individual*."

[2] Satı el-Husri graduated from the School of Political Sciences, and worked there as a professor of ethnography for some time. His published works include "*Ethnography*," "*Science of Animals," "Science of Plants," "Confrontation of Things," "Science of Education*," and "*Knowledge of Agriculture.*" Husri has no translations, but an article, "*Societies and Organs",*

humans come from a single or multiple sources, discussing the formation of races and aboriginal humans. He stated that humans and monkeys (particularly orangutans, gorillas, chimpanzees and gibbons) have significant similarities, with monkeys, in a sense, therefore serving as an intermediary species; their brains have synapses as do humans', thus there is no reason to consider humans as a distinct class from the monkeys in terms of physical constitution[3].

Satı el-Husri did not differentiate between humans and the most intelligent animals in any manner except as regarding speech ability, thereby classifying humans as "*primates*" as did Linne. He posited that organisms are subject to continuous changes of form and size; they are damaged, repaired, renewed and through each change, each organism follows a certain path and therefore evolves.

With this statement, Satı el-Husri demonstrated that he adopted Darwin's theory of evolution - not only that he adopted, but applied it to society as did Spencer. In his articles, "*Societies and Organs*", as well, he highlighted the similarities between societies and organisms, pointing out that all societies, nations and governments are born, grow and die as organisms do. He stated that societies resemble organisms by their birth and constitution. He gave clans as examples of primitive societies, stressing that clans merge for reasons such as hunting and war, and once they assume stability, form tribes by second degree "*social organization*''. With such mergers of tribes as "*social bodies*," small governments form, and through greater amalgamations, large governments and nations eventually come into being. He explained that as some organs in organisms are simple and some are more complex, some classes in society are comprised of simple tribes, with this serving, according to Satı el-Husri's social hypotheses, as one of the similarities between organisms and societies.

Bedi Nuri[4] (1875-1939) in his article titled "*Social Ability",* investigated social ability and evolution, the roots of which he found in organic life, stating that it is difficult to look for real sense-ability in primitive organisms which lack anatomical distinction and nervous systems. It is similarly difficult to find social ability in primitive societies lacking any organization. Bedi Nuri further ventured to investigate ability in *"social organisms"*, referring to Darwin's law of "*struggle for survival*", thus concluding that principles identified in the field of biology are valid for social life.

Bedi Nuri, in his article, "*Social Life*," asked "are societies organisms; can social organisms be likened to biological organisms''? - and stated this question as so important as to cause rifts between sociologists.

He adhered to the view that *"to the extent of tightness societies are constituted, their individuals are ensured to enter into relationships",* and stated that social being becomes perfect through social evolution, that organic functions and systems are

published in the *Journal of Social and Economic Sciences,* which is significant for demonstrating that evolution exists in societies.

3 Satı el-Husri, *Ethnography*, p.19.

4 Bedi Nuri is a graduate of the School of Political Sciences. Although he has no works or translations, his articles "*Social Ability*" and "*Social Life*", published in the *Journal of Social and Economic Sciences,* are important for their ideas about evolution.

perfected through organic evolution. Therefore, every society, much the same as an organism, has two primary characteristics in terms of its constituents, style of function and operation. A society, like an organism, is shaped by its power of adaptation to its basic body; that is, its constitution, environment and living conditions during its evolution. He considered -while likening societies to organisms- that their "childhood-phases" resemble one another, and instead of each society forming a perfect personality, it consists of a collection of small organisms which more or less are independent, but combined in a larger mass. We infer from these explanations that Bedi Nuri too was a Spencerist.

Asaf Nefi's article titled "Struggle for Life And The Perfection of Societies", published in the *Journal of Social and Economic Sciences*, well-reflects his leanings toward social evolution. He not only made it clear that he adopted Darwinism, but also discussed its application to society, pointing out that a struggle for survival is essentially characteristic of all living things, from the most primitive plants, animals and humans to the most perfect forms -in other words, that no species is exempt from this struggle- further stating that this life-characteristic was first noted by Darwin in the second half of the nineteenth century, followed by a concurrance of view among notables of the social sciences.

Nef'i said that every single living creature was under the influence of two factors, one of which being the environment which caused him to come into being and the other one of which being the huge world which was larger than the environment. In doing so Nef'i agreed with the opinion of Lamarck, who had suggested that a living creature changed under the influence of external influence and that climatic changes caused formal and organic changes. Nef'i claimed that the incidents witnessed could be taken as a proof and he, thus, thought Darwinism to be contributing to Lamarckism and he, therefore, applied both the social life. Consequently, Nef'i pointed out a gradual change of societies as he accepted, 'all living creatures depended on the conditions of the environment. Even a tiny change of the environment had to be considered to be the immediate change of the living being'.

In the mentioned article, he pointed out the struggle for survival which was likened to a war waged primarily among the original ancestors of human beings and primitive animals and plants. No existing being could have succeeded in surviving. This was first, according to him, noticed by Buffon in the eighteenth century. He further stated that the theory was decisively accepted through the long enduring, careful and patient studies by Charles Darwin in the second half of the nineteenth century. Eventually, it was also one of the views which was mentioned by Malthus. Nef'i, after a while, said that those who became authoritative scholars in social sciences considered the same sort of struggle in their own field of study.

He reminded that the weaker had been always oppressed by the stronger, the revelation of which could be observed in the struggles between social classes; members of a particular group of individuals in society kept on their struggle for survival.

In his opinion, social problems were caused by the struggle between the oppressing and the oppressed; the theory of Darwin, in other words, came to be applied in social life. Everyday, millions of people are being destroyed under the influence of

social rivalry, nations are forced to become poorer and the future of humanity turn out to be darker. He pointed out that all the mentioned problems should be considered to be the result of certain inequalities in nature. Some are cleverer; some are more foolish; some are stronger; and some are weaker. He therefore pointed out the impossibility of the thesis by those who claimed; 'it is socialism which will cause the inequality in nature to disappear'. This is the reason, in the opinion of Asaf Nef'i, why there is a deep misunderstanding and clash between democracy and socialism the champions of which claim that it is socialism which will achieve to solve all social problems.

As well, Asaf Nefi stated the "necessity of adding environmental factors, such as the living conditions of plants, animals and human beings to Darwin's theory", and therefore applied the whole to social life, determining three primary stages in the developmenatal or "evolutionary'' history of societies: First., the "*struggle to survive''* in order to protect persons and ensure the continuity of species; second., individual competition to secure a better place in life, and third., *"class struggles''* in order for members of one social strata to obtain more privileges than the members of others.

Asaf Nefi, too, likened the formation of social classes to phases of family life, adding that those which successfully struggle for survival also are superior in the progress of ideas. In terms of social class, he argued, "aristocracies have defeated other" classes, "ensuring evolution in the material and spiritual aspects of human activities" - and since each society subscribes to the same law of evolution, examining social evolution only gives an idea of how societies arrive at their present state.

Asaf Nefi additionally stated that, due to fierce struggles between individuals, humankind has moved away from primitive forms throughout various ages since the universe's origins and progressed one step at a time toward civilization, that humans have known how brutal this struggle has indeed been and hated it, though it has been necessary for survival. He argued that this struggle has always existed wherever there has been progress in whatever way.[5] In therefore, mentioned article, Asaf Nefi futher reiterated that the weak are always condemned to be crushed under the claws of the strong, with a reflection of this emerging as class struggles, and stated that this struggle continues among the individuals within given classes, too.

Asaf Nef'i, who stated that there were three outstanding classes as the learned, the priest and the warriors in the middle ages, asserted that the rivalry among the three led to a revolution. Democratic way of administration and government let political parties to compete for power from 1795 onwards and paved the way for the despotic rule of Napoleon Bonaparte, as a result of which military administration domineered in the country until mid-nineteenth century. He thought there were two regimes to govern a nation, autocratic and constitutional. In order to provide the people of a country with the system they deserve, it was necessary to bring the constitutional regime to the country; the nominal presence would not be satisfactory. He considered a country where there was constitutional system, yet people experienced calumny, hypocracy and adultery to be unwell; and the cause of the illness is injustice. The heavenly justice, he

[5] Asaf Nefi, "*Democracy and Socialism*," *Journal of Social and Economic Sciences*, Vol.2, Issue 6, p.161.

believed, could be secured only in countries where the regime was autocratic. And that Asaf Nefi accepted, as well as made a social application of Darwin's theory is clear from the-above statement, and by his positing that humankind has evolved because of fierce survival-struggles between individuals. Thus, Asaf Nef'i reflected the strong influence on him by Darwin when he said human beings got evolved as a result of the violent struggles between the weak and the strong. He, on the other hand, gave the clues of the influence of Auguste Comte and Herbert Spencer who influenced European scholars in the application of the theory to social life.

Suphi Ethem was, therefore, another thinker of the period of Ottoman Reformations of the nineteenth century. He was the author of such works as "Lamarckism" and "Darwinism". He was also the writer of "Lamarck and Lamarckism", an article he wrote for *the Journal of Philosophy*. Lamarck had blamed not to have even the slightest idea on the struggle for survival. Suphi Ethem, however, supported Lamarck and pointed out that Huxley's claims to be deceiving, as Lamarck wrote in one of his Works in 1792, "man is in a continual war between himself and his own race and it is he who tries to destroy his opponent whenever he can". Suphi Ethem asserted boldly that Lamarck, who said, "Life is not the creation of a creator but is the product of light, heat, electricity and humidity", wrote a book in which he wanted to reveal which one of the beings whose origin was based on 'self-production' and who got gradually evolved, should be considered to be the original. In this study, which received much criticism, Lamarck found hydroids to be the origin and Suphi Ethem thought this view to be revolutionary and said that it was received with enthusiasm by men of science. In Suphi Ethem's opinion, Pasteur proved there was no such a thing as self-production by way of experimenting, which, though, required further proof; Pasteur was the one who proved the 'theory of self-production' to be false by limiting his studies to the environment and the conditions of living. On the other hand, Lamarck attributed utmost importance to heat and humidity. For this reason, Suphi Ethem belived that Lamarck should be considered to be the key figure and his role was revolutionary and innovatory.

Suphi Ethem pointed out that Lamarck had opened a new era in the field of the philosophy of nature by suggesting that it should be paleonthologically accepted 'the species that are present now are the offsprings existed previously but of the ones that disappeared in the times earlier' and that it was Lamarck who persuaded everybody to accept that the present species were the product of a considerable change. Lamarck stated that no higher organisms were present at a time when there were no primitive organisms; he pointed out that an animal which existed in the palaeosoic either became perfect organ or lost in the tertiary period and that all the animals of the secondary, tertiary and quartenary periods did not resemble the animals which had lived in the previous periods. These views of Lamarck had a great impact on Suphi Ethem and he thought Lamarck was justified by geological studies.

Although, however, Suphi Ethem considered Lamarck to be the most important figure in the history of evolutionary theories, he pointed out that Lamarck's "theory of the change" was somewhat too generalized Lamarck and his supporters who claimed that living beings acquired their present structure and form by way of adopting themselves to the environment, by changing according to the requirements and limits of

the surroundings, emphasized the presence of three basic elements of the change, which were "adaptation to the environment", "evolution" and "heredity". Suphi Ethem pointed out that it was Charles Darwin the naturalist who, after Lamarck, mentioned that the species originated from the same source and that they were subjected to considerable influence of natural selection in "The Origin of Species by Means of Natural Selection", which was published by late 1859. Ethem found Darwin's theory to be considerably sound, as well.

He adopted the views of Darwin, who did not consider human being to be structurally superior, and gave strong support to the views of the famous naturalist by comparing the arguments around Darwin to those between Empedocles and Heracleitos, the well-known philosophers of the classical period. Suphi Ethem, by referring to this dispute between the the two philosophers, proved himself to be a really careful researcher.

Furthermore, Suphi Ethem emhasized that he supported the views which were supported by paleonthological studies and claimed the views of Darwin and those who supported him by putting forward, "the species does not undergo a complete change. The newly formed species develops side by side with the other; basically, in other words, the new species is not subjected to complete change.

Suphi Ethem pointed out that living beings did not undergo simultaneous changes and that the change could not be easily noticed by ourselves. He said that we could only witness the change on paleonthological examination of the present and fossilized beings. He emphasized what was revealed would be the relationships between the species of the present day and the long past. Suphi Ethem, furthermore, stated strongly that living organisms evolved from the simple to the more complex by making reference to geological researches which revealed that developed organisms could be found lying between or within the upper strata, whereas the less developed ones were found in the deeper layers.

He, therefore, defended that such a question as, "since there is a gradual evolution from the less developed to the more in the universe, why, then, the developed organisms of the present day do not live together with the less developed ones of the past" would become meaningless. Suphi Ethem, who noted that the species have come into being from a particular being right at the beginning, which became known through the knowledge obtained from the notion of natural selection which played the key rol in evolution, considered, as did Darwin, natural selection to be the basic cause for the change of species as a result of the struggle for survival".

Suphi Ethem added that Darwin asserted that natural selection was experienced to be intensively violent as a result of the rivalry among the individuals of the same species; and that the strongest, the one which adapted itself to the living conditions beter than the others was able to survive. He, furthermore, stated that Darwin pointed out that the balance between the forces was achieved by a sort of substitution between one characteristics and the other, and, therefore, the weaker were able to survive together with the stronger.

Suphi Ethem considered natural selection to be responsible element for the emergence and formation of new species and the disappearance of the previous races and he, therefore, thought that the living organisms changed gradually throughout ages. He, at the same time, asserted that Darwinism was sublime and valuable as it proved the existing belief and superstition to be wrong and that it was extensive and promising enough to give help to other fields of study. Suphi Ethem pointed out that it was Darwin who illuminated the views of Goethe and Lamarck on evolution; that it was he who tried to secure an agreement between his theory and Lamarck's theory of "adaptation to the environment". He accepted that he admired Darwin's theory, which claimed all living beings have evolved from the primitive to the developed, from the simpler to the more sophisticated, Suphi Ethem, who was one of the strong supporters of Darwin, emhasized that all the species which are present, have been produced from the simplest living organism contrary to the established heavenly view which accepted the creation of an independent main race from Adam and Eve by the way of natural production. (Suphi Ethem, *ibid*, p.199.)

Suphi Ethem[6] fully adopted Darwin's views that humans are not superior by constitution, and stressed that Darwin discussed the significance of environmental effects on plants, animals and human beings. Suphi Ethem interpreted Darwin in this regard, that species originate from one species that existed in the beginning by way of natural selection playing an important role in evolution, and qualified natural selection as the main factor in mutation of species as did Darwin. (Suphi Ethem, H.1327, p.120.)

Suphi Ethem stressed that the struggle for survival isn't any different in plants or the most advanced organisms, and that the strong always win. He expressed that Darwinism was valuable and sublime because it shattered existing beliefs and myths, and is so comprehensive as to promise progress for each branch of science. He demonstrated that he was a Darwinist by stating that all species existing today originated from the most primitive one-cell organisms, and that nature did not create an Adam, an Eve or a primary human lineage as purported by sacred history.

As for those who did not adopt Darwin's theory:

In his work, "*Evolution and Its Laws*," Ethem Nejdet[7] first mentioned the history of evolution, upholding Darwin's theory rather than Lamarck's and stating that the honor of originally proposing the idea belonged to Goethe. According to Ethem Nejdet, primitive organisms first emerged and gradually evolved to form higher organisms. Species have long lives, a history of transformation. They slowly but continuously mutate under the effects of climate and environment.

Ethem Nejdet asserted that, the question of evolution was basically not solved by Lamarck's or Darwin's theories, that Darwin - who never contemplated the origin of mutation in organisms - attributed mutation to accident. Nejdet stressed that Darwin

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6 Suphi Ethem published the works, "*Lamarckism*," "*Darwinism*," and "*Bergson's Philosophy*", as well as an article "*Lamarck and Lamarckism*" published in the *Journal of Philosophy*.

7 Ethem Nejdet has no translations or articles on the subject, only a work titled "*Evolution and Its Laws*."

explained the formation of species through natural selection, though Darwin failed to establish a relationship between mutation and the natural selection, with Nejdet thereby making it clear that he did not adhere to the same view as Darwin (Ethem Nejdet, 1913, p.125). According to Ethem Nejdet, the evolution of life is not a consequence of accident, and that the formation of today's organisms is a consequence of laws of life. Additionally, he stated that Hugo de Vries' theory of "*instant transformation*" inflicted a serious blow to the philosophical significance of evolutionary theory, inasmuch as higher organisms did not emerge suddenly but gradually came into being through continuation of their life-activities. Nejdet, however did assert the validity of evolutionary laws for societies, and in this regard he stressed that it was necessary to mention "*socialism*." (Ethem Nejdet, *ibid*, p.160). Since Ethem Nejdet saw genetic heritage as an obstacle to progress; he drew attention to the role of regression in evolution. Thus, it can be seen that he was influenced by the views of Main de Biran.

Memduh Süleyman, who did not produce any books or articles on the matter, however translated and published the work of Edward Hartman titled "*Darwinism*" in 1911. This work is as important today as when published, in that it reflected Hartmann's critique of Darwin. Memduh Süleyman approached natural selection in a way Darwin did not, suggesting that Darwin's thought was not correct, interpreting Darwin's and Darwinists' consideration of natural selection as the biggest error of Darwinism.

Ahmet Mithat[8] (1844-1912) in "*Emergence of Man on Earth*" stressed that orangutans physically look like human beings except for orangutans walking on four limbs, and humans having speech-ability. Thus, he stated in the following manner, that humans can be considered a variety of monkey: "Monkeys called orangutans resemble human beings anatomically. Persons not familiar with anatomy would think of a monkey's skeleton, when they see one, as human. What therefore would prevent us from accepting humans as the most perfect, but a distinct and separate variety of monkeys?" This view of Ahmet Mithat is not compatible with Darwin's theory, because Darwin repeatedly stressed that the "*natural selection*" qualified as the reason of evolution does not take living organism of any kind to perfection.

Darwin nonetheless classified humans as primates. Ahmet Mithat, however, considered humans as being at a perfect level and objected to them being categorized in the same class with monkeys. Darwin, with some irony against such reactions, pointed out that man, who is the sole creature with the ability to even consider such a classification, made for itself such a "not so honorable place'', and stated: "If man had not been his own classifier, he would never have thought of 'creating' a separate species for his origins." (Darwin, 1952, p.333).

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[8] Ahmet Mithat's primary books are ''*Walking Around in Europe*," *"In Honor of Craftsmen," "What am I?," "Observations," "Sleeping and Conditions of Sleeping," "Economic Politics," "Solutions for Difficulties*," *"The Base of Reform," "Eminent Truths*," and Mithat translated Draper's "*Dispute of Science and Religion*", including a treatise criticizing Draper at the end of the work. He also had articles published in the journal *Dağarcık*: "*Philosophy and Philosophies," "Adventure and Conditions of Philosophy," "The Nature of Freedom,"* "*A Voice from the Wall*," "*Human," "Emergence of Man on Earth,"* and *"Schopenhauer*."

İsmail Fenni Ertuğrul[9] (1855-1946), in his work titled "*Extinction of the Materialistic Sect*" stated that everything in nature is simple and primitive at the beginning, then slowly progresses to a state of perfection, followed by gradual disintegration. He reiterated Darwin stated that both humans and monkeys descended from the same origins – a source now extinct - and though Ertuğrul concluded that "*monkeys must therefore be our cousins*", he indicated that many mysterious points and events were involved in evolution and that the *hypothesis of transformation* was yet too far away from "reaching'' theoretical "supremacy." He stressed that transformation theory proponents' assertion that man and monkey are descended from the same origins – with that source-species then branching out - were invalid, further noting that despite unavoidable similarities between humans and monkeys, there are very significant differences (İsmail Fenni Ertuğrul, 1928, p.78). İsmail Fenni listed the differences as follows: "Monkeys are animals that always subscribe to their instincts. (Ertuğrul, 1928, p.78). They cannot replace even savages as laborers in sugar cane fields. Savages at least can speak European languages when so educated. But monkeys do not have the verbal sklills even of parrots." (Ertuğrul, 1928, p.77).

İsmail Fenni further took Lamarck as the real founder of Transformation Theory, because Fenni's examination brought him to criticism of Darwinism as far from being a proven truth. He asserted that we should not see ourselves as an extra-large species of monkeys, that humans are honorable, sublime creatures far superior to other animals, and rejected Darwin and his proponents' claims that humans and monkeys are descended from a common origin following seperate paths; despite the similarities between humans and monkeys, their differences are all too obvious. In his Fenni's view, it is not possible that humans, the sole intelligent beings, would be in the same class with monkeys. But Darwin emphasized that humans have no class other than primates in which to categorize themsleves. Darwin, when claiming that all living things are subject to the struggle for survival, thus "*natural selection*", and that the strong are victorious in the struggle, did not state that humans are superior to other animals, stressing that natural selection neither presupposes nor takes species to perfection. Therefore, İsmail Fenni, much like Ahmet Mithat, did not accept Darwin and led the party of strong opposition to him.

3. Conclusion

With all of the - above under consideration, it is certain that - although there were opponents such as Ahmet Mithat and İsmail Fenni - Darwin's theory was widely adopted in Tanzimat, as it was in Europe; i. e., both in Europe and in Tanzimat through

[9] İsmail Fenni Ertuğrul is a proponent of the Unity of Being, one of the modernist Islamic philosophers as that view was interpreted by Hilmi Ziya Ülken. His primary published works include "*Elimination of Doubts''* (a refutation of Dr. Dozzy), "*Unity of Being and Muhiddin Arabi*," "*Grand Topics in a Little Book*," "*Glossary of Philosophy*," and "*Extinction of the Materialisstic Sect*." His unpublished works include "*Freedom*" (translated from Stuart Mill), "*The Modern Materialistic Sect*" (translated from Paul Janet), "*History of Turkey*" (a translation), "*Single Priceless Pearl*" (translated from Ibn Mukaffa), a translation of Montaigne's *Essais*, "*The Similar Rose Garden*" (a translation), and "*Grand Philosophers*."

the influence particularly of sociologists and philosophers making a social application of Darwin by assigning definitions such as "*progress, development*" and "*perfection*" to the concept of evolution which it did not include at all. This clearly indicates Darwin's significance and the extent to which he had echoes both in Europe and in Tanzimat.

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