

GEORGES CLEMENCEAU: TRADITIONAL LAMARCKIAN

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Georges Clemenceau (1841-1929) known principally as a French statesman made an important contribution to the history and philosophy of science in his two volume book, *In The Evening Of My Thought*. This book is a compendium of the philosophy of positivism and evolutionary thought. Clemenceau, a traditional Lamarckian proclaimed that Lamarck was the true forerunner of Darwin. In Clemenceau's day Lamarckian theory was overshadowed by the discovery and application of Mendelian genetics to the laws of heredity. Clemenceau's contribution has been discredited by those neo-Darwinians who could not accept his alternate conceptual system which has differing presuppositions to regarding starting places of reality. Clemenceau's work can assist in revitalizing the investigation into the importance of the Lamarckian theory in understanding the development of biological and social theories.

Georges Clemenceau (1841-1929), journalist, philosopher, French statesman, and graduate of medical school possessed many qualities similar to those of one of his role models, the naturalist, Jean Lamarck (1744-1829). Both stood against great opposition to their ideas and philosophies of life. The two men completed their medical training, but neither practiced the profession of medicine in order to choose more exciting challenges and pursuits of life. Although handicapped by varying degrees of blindness, they dedicated the last ten years of their lives to doing research in seclusion and to writing. Clemenceau's powerful determination toward victory and his inflexibility toward compromise led him to be perceived by both friends and political opponents as "The Tiger of France". His power of insight into events and people was such that he was able to cause the destruction of over a period of forty years, eighteen French cabinets which opposed his political position.

Clemenceau's identification with his father was so intense that he pursued Dr. Benjamin Clemenceau's profession of medicine while repressing his own true desire for political and journalistic involvement. When Clemenceau decided to travel to England and America he broke ties with his father and declared his independence. George Adam stated, "He was too philosophically political to make a good general practitioner, or even a real man of science."¹ Clemenceau acquired his early leanings toward atheistic philosophy from his father, who advocated that man could reach

perfectibility through the application of scientific knowledge which would aid in developing moral standards.² In his senior year in medical school he chose a purely scientific topic rather than a practical medical one for his thesis. His treatise, reflecting the then existing materialistic philosophy, was titled, "The Generation of Anatomic Elements."³

He travelled to the United States for his first journalistic assignment where he recorded the end of the Civil War and its immediate effects. He was in the capital of the Confederacy during its capture by the Union Army. Clemenceau decided to remain in the United States and in order to support himself taught French to young ladies at a private school in Stamford, Connecticut. He continued to send critical articles describing the post-Civil War problems in the recovering Republic to the French newspaper, *Le Temps*. Clemenceau was repulsed by the social treatment of the newly liberated Negroes.

In 1869, he returned to France to become the Mayor of Montmartre and became involved with the politics of the Communards during the French Civil War. After the establishment of the Third Republic he served several terms in the Chamber of Deputies (1876-93) and during this tenure published his thoughts in the radical newspaper, *La Justice*. In 1893, he lost his seat in the Chamber and for the next four years he devoted his time exclusively to journalism. In 1900, he withdrew from *La Justice* and founded a weekly, *Le Bloc*. In 1902, he was elected to the Senate and four years later became Premier and Minister of Interior. He resigned in 1909 when defeated in the Chamber. Two years later he was once more called to serve with the Senate Commission for Foreign Affairs and was also given the responsibility of a high post in the Army. He soon returned to his first love and founded a daily newspaper, *L'Homme Libre*.

At the start of the Great War in Europe France performed poorly and there soon arose a need for a strong, determined leader who could generate confidence and bring the country to victory. Upon his own insistence, in 1917 at the age of seventy-six Clemenceau became both Minister of War and Premier. He served to the victorious end and helped to organize the peace talks. He became the President of the Versailles Conference which drew up the Versailles Treaty. After signing the Treaty he returned to his small village of Vendee.

However, very soon thereafter, at the age of eighty-one, he once again visited the United States in order to stimulate interest in the politics of the European continent. In his last years he was so disappointed at the public reaction to his model for a peaceful, harmonious, thriving Europe, that he wrote, "Everything I have done has been wasted. In twenty years France will be dead"⁴.

This last heir of the Encyclopaedists returned to his village and in 1926 completed a volume about the Greek orator and statesman Demosthenes' (385-322 B.C.)

interpretation of nature. In 1927 he published the two volume philosophical master-work dealing with the development of the cosmos which stressed his evolutionary theory. In this superior production, *In The Evening Of My Thought* (English Translation 1929) he expressed his universal grasp of scientific knowledge and proclaimed himself to be a nineteenth-century biological Lamarckian with admiration and respect for the person of Charles Darwin but with some reservation for complete acceptance of the Darwinian Theory. How remarkable that some authorities recognized this work as a masterpiece in an European environment dominated by biological neo-Darwinians. Clemenceau wrote these two volumes while in poor health and in intermittent pain. As he commented to his secretary Jean Martet, "I was eighty-five years old when I wrote it; I was racked by diabetes and could hardly stand."⁵

As a young journalist Clemenceau visited England and was introduced to the great English philosopher John Stuart Mill (1806-73). From Mill, Clemenceau received permission to translate into French Mill's study, "Auguste Comte and Positivism."⁶ Auguste Comte (1778-1857) originated the philosophy of positivism. Positivism is a system of philosophy that is based solely on the tenet that man's knowledge is restricted specifically to empirical phenomena, and that even this knowledge is relative and uncertain. Positivism clearly rejects all explanations which reflect metaphysical and speculative philosophies as well as the search for ultimate origins.

Clemenceau concentrated his research in positivistic philosophy at this time. The name of Claude Bernard (1813-78), a famous physiologist, was associated with the Positivists.⁷ Bernard's famous book, *Introduction a L'Etude de la Medecine Experimentale* (1865) probably served as source material, and Bernard was one of France's greatest positivistic scientists.

Clemenceau's philosophical and later admiration for Lamarckian theory was derived from the study of Comte's work. The application of Comte's schematic paradigm to the social sciences came from studying with the social philosopher Saint Simon (1760-1825). Comte's scientific combinations of man's social development were partially influenced by Lamarckian thought. In the *System Of Positive Polity or Treatise On Sociology* Comte proclaimed that "we need not wonder that the Theory of Organic Environments has made as yet but little progress, since its dynamic basis is still so imperfect. In this department nothing of importance has been added to the original outline sketched by the daring genius Lamarck."⁸ Additionally, Packard's definitive biography of Lamarck records the reports that Henri De Blainville (1777-1850), zoologist, anatomist, and contemporary of both Comte and Lamarck observed the high esteem that Comte had for Lamarck's *Philosophie Zoologique*.⁹

In 1859, Charles Darwin published his *Origin of Species* and in the following years western civilization intellectually accepted Darwinian biological and social thinking. Darwin's work was soon translated into French and it also served to revive interest in the study of Lamarckian theory. In 1873, *Philosophie Zoologique* was

reprinted by Charles Martin.¹⁰ This new printing allowed easy accessibility to Lamarck's masterpiece and served as one of the factors in the development of the school of neo-Lamarckism. Robert Ernest Stebbins in his doctoral thesis, "French Reactions To Darwin, 1859-1882", confirms the status of Lamarckism in France after the ascent of Darwinism by the intelligentsia. Stebbins submitted the following:

The emergence of Lamarck's star in the last two decades of the nineteenth century demonstrates the paradoxical effect of Darwin's influence in France from 1859 to 1882. Darwinism awakened the French from a period of relative evolutionary quiescence and allowed Lamarck to receive his first real hearing in the land of his birth, to gain the applause of an increasing majority of his latter-day compatriots, and to win the honor among them of being the father and greatest of prophets of transformism or evolution.¹¹

According to the philosopher, Jose Ortega Y Gasset (1883-1955), "the last sixty years of the nineteenth century formed one of the periods least favorable to philosophy. It was an anti-philosophic age."¹² In fact a majority of the French biologists of that period opposed the acceptance of Darwinism.¹³ In this same tradition Clemenceau in researching and organizing his book, *In The Evening Of My Thought* used the approach of the eighteenth and nineteenth-century Encyclopaedists. In other words, he attempted to achieve a panoramic view of the evolutionary history of the cosmos. Clemenceau started with the raw material of the atom to the birth of the single cell and culminated his study with the complex development of human thought. In order to accomplish this it was necessary for him to reinvestigate the major works of Lamarck and Darwin, and the publications of Spencer. His vast knowledge of the disciplines of philology, botany, zoology, paleontology, and archeology served to substantiate his belief in the Lamarckian theme. In 1927 Clemenceau's two volume text was published and two years later was translated into English. It was not received favorably by the scientific community. The reason for the scientific non-acceptance was that the neo-Darwinians dominated scientific thought and acted as the historic inquisitors did against heretics. Lamarckian philosophy at this time was heretical. Clemenceau viewed Lamarck as the predecessor of Darwinian philosophy and emphasized Darwin's acceptance of the theory of inheritance of acquired characteristics.

It would seem that if Clemenceau's two volumes were published today, they would be acclaimed by contemporary historians and philosophers who are currently engaged in establishing Lamarck's important position in the history of science. Both Clemenceau and Lamarck agreed that there are no vitalistic principles and that heredity is explainable through use and disuse of organs, inheritance of acquired characteristics from the direct adjustments to environmental conditions. Clemenceau was an atheist and Lamarck was a diest, and they did not believe in the catastrophic theory which advocated that biological and geological transformations were caused by divine intervention. In addition both men recognized that evolutionary change occurs over eons of time. Over these same eons of time organic habits become inheritable when

they are biologically advantageous to species survival. Lamarck can appropriately be considered one of the major interpreters of the importance of invertebrate paleontology because of his understanding of the mechanism of biological transformism.¹⁴

As regards the use and disuse of organs, Clemenceau recorded, "With repeated exercise the organ will soon be enlarged, as is shown every day by the development of well-exercised muscles."¹⁵ Similarly, Lamarck wrote:

In conformity with that law of nature which requires that every organ permanently disused should imperceptibly deteriorate, become reduced and finally disappear, the head, eyes, jaws, etc., have in fact become extinct in the acephalic molluscs: we shall see elsewhere many other examples of the same thing.

In the invertebrates nature no longer finds in the internal parts any support for muscular movement: she has therefore supplied the molluscs with a mantle for that purpose. Now the strength and compactness of this mantle of the molluscs is proportional to the necessity entailed by their locomotion and means of support.¹⁶

He added:

We have seen that the disuse of any organ modifies, reduces and finally extinguishes it. I shall now prove that the constant use of any organ, accompanied by efforts to get the most out of it, strengthens and enlarges that organ, or creates new ones to carry on functions that have become necessary.

The bird which is drawn to the water by its need of finding there the prey on which it lives, separates the digits of its feet in trying to strike the water and move about on the surface. The skin which unites these digits at their base acquires the habit of being stretched by these continually repeated separations of the digits; thus in course of time there are formed large webs which unite the digits of ducks, geese, etc., as we actually find them. In the same way efforts to swim, that is to push against the water so as to move about in it, have stretched the membranes between the digits of frogs, sea-tortoises, the otter, beaver, etc.

On the other hand, a bird which is accustomed to perch on trees and which springs from individuals all of whom had acquired this habit, necessarily has longer digits on its feet and differently shaped from those of the aquatic animals that I have just named. Its claws in time become lengthened, sharpened and curved into hooks, to clasp the branches on which the animal so often rests.

We find in the same way that the bird of the water-side which does not like swimming and yet is in need of going to the water's edge to secure its prey, is continually liable to sink in the mud. Now this bird tries to act in such a way that its body should not be immersed in the liquid, and hence makes its best efforts to stretch and lengthen its legs. The long established habit acquired by this bird and all its race of continually stretching and lengthening its legs, results in the individuals of this race becoming raised as though on stilts, and gradually obtaining long, bare legs, denuded of feathers up to the thighs and often higher still.¹⁷

The acceptance of inheritance of acquired characteristics was championed by Clemenceau as follows:

I have mentioned the great controversy as to the inheritance of acquired characteristics, which is the cornerstone of Lamarck's doctrine. Darwin, who accepted it, finally relegated it to a secondary rank, but could not do without it. . . . Without the inheritance of acquired characteristics, of which we see such remarkable examples, plants, animals, and men would have remained what they were in the beginning. . . . Darwin himself finally came back to his starting-point when he accepted the theory of the inheritance of acquired characteristics;

and the neo-Lamarckian of to-day does not dispute the secondary effects of natural selection. . . . There is not lack of examples of acquired characteristics which have been transmitted through inheritance. . . . To cite a single case; is it not remarkable that among the ants which live on mushrooms, the size of the workers is much greater than that of the warriors? Their greater size is the result of habitual activity and of the inheritance of acquired characteristics.¹⁸

The same point of view was propounded by Lamarck. For example:

Snakes, however, have adopted that habit of crawling on the ground and hiding in the grass; so that their body as a result of continually repeated efforts at elongation for the purpose of passing through narrow spaces, has acquired a considerable length, quite out of proportion to its size. Now, legs would have been quite useless to these animals and consequently unused. Long legs would have interfered with their need of crawling, and very short legs would have been incapable of moving their body, since they could only have had four. The disuse of these parts thus became permanent in the various races of these animals, and resulted in the complete disappearance of these same parts, although legs really belong to the plan or organisation of the animals in this class.¹⁹

A third principle upon which Cuvier and Lamarck agreed was the direct influence of the environment upon the inheritance of characters. The following example of his point of view is offered by Cuvier:

The influence of environment, of which Lamarck supplied so many examples, could not fail to attract attention through the arrested development of the growth of organs, according to functional activity in the struggle for adaptation. Consider the arrested development of the teeth of the whale, although its foetus still has rudimentary teeth. Consider the atrophied eyes of the mole, the disappearance of the feet of the snake, etc. . . .²⁰

Similarly, Lamarck stated:

I must now explain what I mean by this statement: the environment affects the shape and organisation of animals, that is to say that when the environment becomes very different, it produces in course of time corresponding modifications in the shape and organisation of animals.²¹

Cuvier's belief that habits are inheritable when they are biologically advantageous for the survival of a species is evidenced in the following statements:

It took primitive man a long time to understand what was happening to him. Habits, inherited from his animal ancestors, were bound to make his beginnings easy.²²

He continues further:

If we had been able to set up landmarks in the mental evolutions of the animal as we have begun to do in the case of man, we should be in a position to establish some interesting facts. If the fox and the wolf learn day by day to pursue their prey better, that prey, on the other hand, grows more skilled (through Lamarckian habit) in feints that sometimes permit it to escape. . . . If along with environment Lamarckian habit is the key to man's evolution, we must ascertain what organic changes took place to bring about a shifting of the posture of animal life from horizontal to vertical.²³

This belief was also held by Lamarck. He recorded:

Annelids owe their elongated form to their habits of life, for they either live buried in damp earth or in mud or actually in the water, mostly in tubes of

various materials which they enter and leave at will. Thus they are so like worms that all naturalists hitherto have confused the two.²⁴

To quote Lamarck once more:

Now, if a new environment, which has become permanent for some race of animals, induces new habits in these animals, that is to say, leads them to new activities which become habitual, the result will be the use of some one part in preference to some other part, and in some cases the total disuse of some part no longer necessary.

Nothing of all this can be considered as hypothesis or private opinion; on the contrary, they are truths which, in order to be made clear, only require attention and the observation of facts.²⁵

CONCLUSION

Why is it then, that Clemenceau is now remembered primarily as a statesman and that his contribution as a historian of science has been largely overlooked? In order to determine the answer to this question it is necessary to examine the ethos of the evolutionary theoreticians during the period. Modern microscopy and the concomitant excitement over Mendelian genetics which pushed the theory of inheritance of acquired characteristics into obscurity. This resulted in the neo-Darwinians dominating the scientific community. Throughout the United States and England neo-Darwinians held all the important seats in the departments of Biology of the large universities.

Clemenceau, living in isolation free from the influence of neo-Darwinian prejudices wrote his magnum opus, *In The Evening Of My Thought*. He makes abundantly clear, his admiration of Lamarck as is illustrated by the following:

It was Lamarck, a man of silent but unshakable courage, who lifted the last veil and gave us a genuine view of a too long misrepresented world... He had had his day. I cannot see that any of our most famous scientists had greater ability than he... Lamarck was one of the happy few who disregarded such considerations. He was a born investigator, and living in a halo of luminous thought, could be neither encouraged nor discouraged by any one or any thing.... As a matter of fact, Darwin only followed the broad path obscurely but gloriously staked out by the laborious efforts of the great man who had preceded him.... In his 'Philosophie Zoologique,' Lamarck boldly formulated the cogent synthesis, embodied in the doctrine of sequential relation, of lineage of descent,—or evolution, in a word,—which he developed into a scientifically established synthesis.... Do not forget that at the time when Lamarck wrote no rational explanation of the geological imprints had as yet been suggested.²⁶

It is now incumbent upon historians of science to reevaluate and analyze the significant theses of Georges Clemenceau's philosophy of evolutionary thought and thereby to place Lamarck in the context of his well deserved respectability as the true forerunner of Darwin.

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