

# Probing Deeper Inside of Evolution:

Competition and Struggle Versus Cooperation and Mutual Aid

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**Abstract:** Our inquiry reintroduces a debate occurring in Russia in the 19<sup>th</sup> and early 20<sup>th</sup> century. Responses to Charles Darwin's *The Origin of Species* are considered, especially critiques that stress Darwin's emphasis on competition and struggle in natural selection that can be traced to his reliance upon ideas taken directly from Thomas Robert Malthus, and that appear integrated into *Origins* as Chapter Three: "Struggle for Existence." Considering challenging contributions made by several Russian scholars, we place special emphasis upon Peter Kropotkin's focus on cooperation and "mutual aid" in natural selection and evolution. In conclusion, Thorstein Veblen's connections to Kropotkin are speculated.

(100 words)

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Debates can prove fruitful for Economic Science, as integral to debates various points of view can be advanced that serve to shed light on a subject of inquiry and concern. While some debates are settled, others remain ongoing so that fundamental issues are left unresolved; especially when ideology enters in and undermines earnest social science inquiry.

Our intention with this inquiry is to revive a debate that took place in Russia, commencing in the 1860s and stretching to the early decades of the 20<sup>th</sup> century. The participants were dealing with some pressing questions. Namely, does competition and struggle serve as the main variables initiating and driving natural selection and evolution? Or is cooperation and mutual aid the driver? While these registered as burning questions to Russian scientists many decades back, we think these questions remain fundamental for those seeking to advance what is recognized as the tradition of Original Institutional Economics (OIE).

### **Darwin's Importance**

Exploring this debate helps us to better understand the seminal ideas advanced by Charles Darwin. What we can note is that Darwin's ideas regarding natural selection hardly moved beyond biological processes. In *The Descent of Man* [1871] indeed he considered relationships between natural selection and civilized societies. However Darwin (1871, pp. 158-184) qualifies that as a process, natural selection sheds little light upon human communities, at least not in manner that it does upon the plant and animal kingdoms. (Footnote 1) Then there arises a problem related to the misuse of Darwin's thinking as it has been applied to the societal sphere. Namely, we

can identify a noxious and pernicious tradition established by social Darwinists emphasizing connections between race and competition. Typically, their thinking reinforces a status quo related to the dominance of those groups displaying success in advancing industrialization, and touting technological prowess and relatively high levels of per capita income as measures of racial superiority. Eduard Kolchinsky (2015, 4) helps us to understand this tendency for instrumentalizing Darwin's thinking by noting that evolution as a subject of theorizing registers as "... one of the most ideological of sciences."

Our research suggests that indeed *place* can play a role in the development of ideas. And after his grand voyages Darwin formulated his ideas while based back in Great Britain during a period in which this nascent but powerful nation-state had established itself at the center of an extensive and still expanding empire spanning the globe. In 1859 at the time when Darwin published his monumental *The Origins of Species*, his country registered as one of the most densely populated in Europe, and competition for space contributed to pressures encouraging outmigration to colonies and former colonies. An economic competition also characterized the realm of family-owned businesses that composed the industrializing economy during this era described by the term *laissez-faire*, and which is reflected in Economic Science with the first and later editions of Alfred Marshall's *Principles of Economics* [1890]. In contrast to Darwin's Britain, the empire of Russia included a vast geographic area that stretched past Europe's continental boundary at the Ural Mountains, all of the way across Asia to the Pacific. Russia offered a fundamentally

different environment and place from which ideas regarding natural selection and evolution could be drawn.

Research of Daniel Todes emphasizes how *place* and related variables like population density could indeed bear influence on scientific inquiry that sought to establish the forces and variables at work driving natural selection and evolution. In *Darwin Without Malthus: The Struggle for Existence in Russian Evolutionary Thought* (1989), Todes considers how a wide-range of Russian thinkers responded to Darwin's ideas. Though reactions were indeed mixed, what Todes emphasizes is how Russia's distance from major European centers, the relatively low population density related to her vastness and that are found especially in the landscapes of Siberia, could serve not only as the sources for reactions to Darwin's thinking posed by selected Russian thinkers, but could also serve to generate alternative understandings of what drives natural selection and evolution.

### **Darwin, Malthus and the "Struggle for Existence"**

What concerns Todes are key ideas advanced by Thomas Robert Malthus that are presented in various editions of *An Essay on the Principles of Population* published just before and during the first decade of the 19<sup>th</sup> century. We can emphasize that Malthus' thinking benefited from wide-circulation several decades prior to Darwin's arrival on Britain's scientific scene, thereby providing a foundation for the intellectual and cultural environment into which Darwin hypothesized and theorized. The powerful influence of Malthus' ideas are integrated into Darwin's

understanding of the “struggle for existence,” what registers as the title and also the subject matter of Chapter Three of his *Origins*.

Integral to developing a structure for his thinking, author Michel Foucault introduces what he means by an “episteme.” In *Foucault’s Archeology of Political Economy* (2010), author Iara Vigo de Lima defines Foucault’s *episteme* as a structure of relations that includes collective frames of reference; as an approach to knowledge combined with an ontology, and that can be enhanced through the study of linguistics and signs. In Foucault’s understanding, an episteme offers context so pervasive as to suggest a widely shared—if not universal—understanding of reality.

In the view of De Lima (2010, 102-105), Adam Smith’s *Inquiry* made toward the end of the 18<sup>th</sup> century registers as emblematic of a transition to a *Modern Episteme* that she notes as the “Age of History.” In this Age “Man” (or humans) becomes the object of knowledge and inquiry, and this development offers foundation for the emergence of social sciences that include political economy.

(Footnote 2) With the establishment of this Modern Episteme, Malthus advanced his ideas on population and their relation to food supply, applying mathematics to characterize the geometrical increases in population relative to arithmetic increases in food supply. (Footnote 3) It appears that Malthus’ ideas of “checks on population” contributed toward and helped to characterize this *Modern Episteme* into which Darwin was born in 1809.

What Malthus advances is an inherently moralistic position, positing that the passion between the sexes remains constant, while the means of subsistence that workers need to purchase in order to nourish their children can change. And if the

purchasing power of the wage falls, then children could indeed perish from lack of nutrition. For Malthus, the problem is that more are born than will survive. Our research suggests that this Malthusian kernel of thinking became integrated into the Modern Episteme that appears to have provided Darwin's scientific frame of reference.

If many are born and not all survive, then what contributes toward their survival? To quote from his *Origins*, Darwin (1979, p. 118) stresses "... the geometrical tendency to increase must be checked by destruction at some period of life." Darwin (1979, p. 117) stresses:

Hence, as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with physical conditions of life. It is the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms; for in this case there can be no artificial increase of food, and no prudential restraint from marriage.

Our understanding is that Darwin relied upon Malthus' notion of *checks* on human populations, and carried this over into his hypothesizing about plants and animals. What Darwin introduces as *natural selection* and infers as evolution can be added on and integrated as the corollary to complete what Malthus regarded as checks on population. Namely, if indeed many are born, then those creatures

benefiting from favorable adaptations, with some adaptations possibly coming through mutations, could indeed serve to increase their chances of survival; of producing progeny and thereby increasing their numbers. In this sense Darwin's understanding of natural selection and evolution carries the birthmarks of Malthus' thinking.

### **Critical Reactions to Darwin's Thinking in Russia**

Alexander Vucinich (1989, 17) teaches us that the first Russian response appeared shortly after 1859. To be precise, in 1861 the Russian journal *Biblioteka dlya chteniya* (*Library for Reading*) published an essay stretching over two hundred pages in length that dealt with Darwin's novel ideas. In 1863, the first issue of *Russky Vestnik* (*Russian Herald*) published an article by Sergei Rachinsky entitled: "Flowers and Insects." This well-known Professor of Botany at Moscow University explained Darwin's theoretical structure in a language that was accessible to the general reading public, and Rachinsky (1863, 392) stressed *Origins* as "... one of the most brilliant books ever written in the natural sciences." One year later, in 1864, Rachinsky produced the first Russian translation of *Origins*. One outcome is that during the 1870s and 1880s, Darwin's thinking became firmly entrenched in Russia and embedded in the full range of natural and social sciences, as well as in philosophical thought. Vucinich (1989, 31) stresses that in these decades near the end of the 19<sup>th</sup> century, many scholars "... made Darwin's theory the point of departure in wide areas of scientific research."

At the end of the 19<sup>th</sup> century Russian scholars shared a belief that science could be identified as the driver for social progress and humanitarian values, while fully acknowledging Darwin's contributions as a body of positive knowledge that served to emancipate the human mind from the tyranny of prejudice and superstition. Voicing the appreciation of many scholars, Nikolay Danilevsky (1885-9, vol. 1) stressed that: "Darwinism changed not only our commonsense and scientific ideas but also our world view."

In addition to such forms of praise, Darwin's thinking also drew vociferous criticism as many scientists shared serious doubts, especially the applicability of the biological principles of evolution like the "struggle for existence" to Russia's social and cultural fabric. As Darwin's thinking became the target for attacks, many of the critics united in a determined effort to expose the flaws in both the substance and the logic of his theory. It appears that conflicting values goaded his Russian critics.

Since Darwin's thinking was clearly rooted in positivism and also materialism, its substance and meanings then represented the antithesis of dominant values underpinning Russian society. Historian and writer Mikhail Pogodin (1873, 105) purports that Darwin's ideas were both incorrect in substance and non-Russian in their soul. This aversion and rejection of Darwin's ideas reflected in Pogodin's critique were also connected with on-going antagonisms between Russia and the West (see also: Sorokin, 1963, 52). In this vein, authors like Nikolay Danilevsky (1888; 1885-1889) stressed that differences that were philosophical and cultural could be considered as conscious as well as unconscious historical instincts.

The general reaction that we can note is for representatives of different political groups and ideological wings to focus on Darwin's Malthusian influences. Among the critics were groups known as Slavophiles, Liberals, Populists, and Anarchists. (Footnote 4)

As an example, Vucinich (1989, 333) teaches us of Nikolay Mikhailovsky, a leader of a movement known as the *narodnichestvo*, a group defined as populist. Mikhailovsky's critique focused on Darwin's emphasis upon competition and "struggle for existence," as these were clearly not Russian, but moral and political orientations characteristic of Europe's capitalistic values.

In addition, Danilevsky (1885-9) authored a major study entitled *Darwinism*, with the subtitle *A Critical Study* that, in the view of Vucinich (1989, 126), offers a summary of the anti-Darwin critiques in the late 19<sup>th</sup> century. Danilevsky took Darwin to task over his use of data upon which he based his understanding of organic evolution, while Danilevsky relied upon his own collection of data in an effort to undermine Darwin's main points. Representing the liberal, pro-western group, as another point for critique, Nikolay Chernyshevsky (1886) defended the idea of organic evolution, but argued that the mechanism for "checks on population" failed to contribute in measurable ways to organic evolution as a progressive process. Chernyshevsky advocated going beyond what Darwin had set up as Malthusian limitations.

Russian populists such as Nikolay Nozhin and Nikolay Mikhailovsky also argued that the weakness in Darwin's thinking related to his reliance on the notion of *struggle for existence* as the driver of natural selection and evolution. For these

thinkers this *struggle* served, not as an instrument for species development, but as a pathological phenomenon. In particular, Nozhin (1866, 175) reduced Darwin's contributions to a "theory of a bourgeois naturalist." Challenging Darwin, Nozhin formulated a law stressing that animals are united by common interests and cooperation, and are not split by a division of labor and competition. Adding perspective, Vucinich (1989, 332) emphasizes that Nozhin's "Law" served as the point of argument for Mikhailovshky's sociological criticism of Darwin's thinking.

With these authors' views considered, it was Prince Peter Kropotkin who appears to have offered the most constructive criticism of Darwin's reliance of Malthus' notion of *struggle for existence*.

### **Kropotkin, Cooperation and Mutual Aid**

Kropotkin displayed a profound respect for Darwin's thinking and regarded the theory of natural selection as "... perhaps the most brilliant scientific generalization of the [19<sup>th</sup>] century" (Avrich, 1988, 58). In addition, Kropotkin accepted that the *struggle for existence* played an important role in the evolution of species and went further and argued that life is a struggle; and in this struggle the fittest survive. However, in his foundational book *Mutual Aid: A Factor of Evolution* [1902] (2006), Kropotkin criticized Darwin's emphasizing *competition* and the *struggle for existence* as a valid and universal law. In its place, he introduced the *Law of Mutual Aid*. (Footnote 5)

Kropotkin supposed that mutual aid would be considered, not only as an argument in favor of a pre-human origin of moral instincts, but also as a Law of

Nature and as a factor in social evolution. Kropotkin (2006, 244) juxtaposed his understanding of mutual aid to individualism, arguing that:

“... [t]he animal species, in which individual struggle has been reduced to its narrowest limits, and the practice of mutual aid has attained the greatest development, are invariably the most numerous, the most prosperous, and the most open to further progress.”

It is Kropotkin’s view that when considering ethical progress, that indeed mutual aid—not mutual struggle plays the leading role. Kropotkin (2006, 247) singles out mutual aid as the variable that would lead our societies to a “loftier evolution.”

## **Conclusion**

In *Veblen and His European Contemporaries, 1880-1940* author Rick Tilman establishes that Veblen read especially widely and absorbed a broad range ideas from the writings of numerous European economists and social scientists. Unfortunately, nothing in Tilman’s research suggests that Veblen was reading the ideas coming out of Russia, especially those ideas pertaining to the importation of Darwin’s thinking and various reactions to them. However, since Kropotkin was spending his exile in London, his ideas were being published and were readily available in the English language. In our efforts to establish connections between the thinking of Veblen and Kropotkin we cannot help but wonder: was Veblen indeed

familiar with and even influenced by Kropotkin's writings, and possibly vice-versa?

Sidney Plotkin, coauthor with Rick Tilman of *The Political Ideas of Thorstein Veblen* (2011), offered us some perspective. Responding to our query, Plotkin (2015) wrote us: "Of course, Veblen is notorious for not mentioning his sources." Clearly, Plotkin's remark has left us with a program for future research. This involves seeking to establish the parallels and departures in two of the major thinkers considering the dynamics of social evolution.

While Kropotkin finished life as perhaps the most famous theorists of anarchism when combined with socialism, he started out his career as a research scientist with broad interests spanning from geology and geography, to botany and biology. What is more, Kropotkin gained his insights from fieldwork. In particular, his two expeditions to northeastern Siberia led him to recognize how the harshness of climatic conditions registered as the greatest challenge in the struggle for existence. And rather than observing what Darwin had hypothesized, namely that intra-species competition served as the "bitter struggle for existence" among animals, Kropotkin (2006, xi) noticed that groupings of species thrived through cooperation. Researching human settlements in Siberia, Kropotkin likewise noted cooperation and mutual aid as the foundation for dealing with the larger struggle for survival against natural challenges.

Veblen, on the other hand, earned his undergraduate degree in Economic Science. And in his efforts to challenge the dominating approach, Veblen (1900; 1909) offered penetrating critiques that focused on the vacuous character of

neoclassical economics; critiques that underlined the need for what he had earlier advocated as an evolutionary approach to Economic Science (Veblen, 1898).

Clearly Veblen, like Kropotkin, expressed a deep-seated appreciation for cooperation over competition, and this is expressed when he considers some of the problems arising in the capitalistic system. Veblen's *The Theory of Business Enterprise* [1904] stresses a wide array of problems arising when businessmen, and their interests in pursuing profits, dominate over the engineers' interests in producing efficiently at capacity, and the laborers imbued with workman instincts seek to apply their abilities for producing quality products. While we hope to further explore these relationships, for now we think it correct to conclude that the thrust of Veblen's contributions conform with Kropotkin's, stressing that indeed cooperation proves more conducive to a favorable social evolution than does competition.

(2,844 words of text)

## Footnotes:

1. See especially Chapter V, "On the Development of the Intellectual and Moral Faculties during Primeval and Civilized Times," (Darwin, 1871, 158-184).
2. De Lima (2010, pp. 79) emphasizes three episteme that Foucault develops. The first is known as a pre-classical episteme that is termed the "Age of Resemblance," and this time frame extends up through the 16<sup>th</sup> century. God is noted as the object of knowledge. Signs are thought given by God and knowledge is communicated by analogy. The second episteme is dubbed the "Age of Representation" and spans the 17<sup>th</sup> and 18<sup>th</sup> centuries. Nature is taken as the object of knowledge and signs serve as representations. In this age human efforts go toward explaining the world by use of analysis and by imposing order. De Lima equates the "Age of History" with the third and *Modern Episteme* that Foucault considers.
3. In key respects Malthus's approach can be understood as an early contribution to political economy that employs the application of two different mathematical formulations and that lead toward what is thought of as a Malthusian "doomsday." Ricardo integrated Malthus' understanding of checks on population into what we term as the "iron law" of wages. Writing some decades after Ricardo, Karl Marx relies upon Ricardo's understanding of wages in order to develop his labor theory of value, and what serves as the cornerstone of his analysis of 19<sup>th</sup> century capitalist production.
4. Slavophiles advocated what can be termed as *Slavophilism* and this term can be related to an intellectual Russian movement of the 19<sup>th</sup> and early 20<sup>th</sup> century. The Slavophiles proclaimed their opposition to the influences coming in from Western Europe, and

instead promoted Russian development based upon values and institutions from Russia's early national history. On the other hand, starting in the late 19<sup>th</sup> century Russia's Liberals advocated a continued orientation toward Europe and to model development after more advanced European countries such as Germany and France. Populism registers as an actual social movement in Russia that ran from the years 1869 to 1897. Peter Kropotkin can be associated with developing key ideas regarding anarchism. His approach opposed state structures such as: autocracy, monarchy, and later bolshevism after 1917.

5. Furthering ideas first advanced by Karl Kessler [1880] regarding *mutual aid* as a law found in Nature, Kropotkin began to analyze data collected while on expeditions to northeastern Siberia in 1864-65. Then, Kropotkin's main ideas on the issue were introduced between 1890 and 1896 when he lived in exile in Great Britain, and within a series of essays appearing in a British monthly literary magazine known as *Nineteenth Century*. In his articles, Kropotkin criticized what he labeled as the "struggle-for-life" manifesto advanced by Thomas Huxley in his 1888 article: "Struggle for Existence and its Bearing upon Man." In 1902 Kropotkin summarized his articles in the book: *Mutual Aid: A Factor of Evolution* published in London by William Heinemann. Kropotkin (2006, p. xviii) emphasizes that: "It is a book on the law of Mutual Aid, viewed at as one of the chief factors of evolution—not on *all* factors of evolution and their respective values; and this first book had to be written, before the latter could become possible."

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