

Comparing the Ecological Thinking of Marx and Veblen

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Abstract

Karl Marx and Thorstein Veblen have often been compared and contrasted, but seldom for their writing on environmental issues. This oversight appears to be more the result of the economics profession's general avoidance of ecology than a lack of writing on the subject by Marx or Veblen. Interestingly, both Marx and Veblen were quite aware of the relationships between the economic system, human society, and the natural environment. Marx and Veblen each developed unique methodologies and models, took very different career paths, and described different societies and times, which complicated comparisons. Nevertheless, despite the differences, it is clear that the two agreed that the capitalist system was causing humans to often deal with nature in destructive and exploitative ways. They reached similar conclusions because they both embraced materialist dialectics as their methodology of economic analysis. However, Marx expected the change to come in the form of a socialist revolution, but Veblen feared a more fascistic turn of events. We conclude by discussing the relevance of these different evolutionary perspectives for our contemporary world. The fact that environmental issues are being successfully exploited by right-wing political movements might, were they still alive, surprise Marx but it would certainly not surprise Veblen.

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I. Introduction

Few modern economists, even heterodox economists, devote much attention to humanity's economic interaction with nature, even as the consequences of capitalism's destructive effects on the natural environment have become more and more alarming. Such ignorance of the natural environment was not always characteristic of the field of economics, however. For example, the 18th century Physiocrats argued that all productive activity involved the use of land and natural resources. And, in the early 19th century the Classical school made diminishing returns to land a key assumption in their models. But by the latter half of the 19th century, Neoclassical economists, no doubt influenced by the extraordinary growth of material production in most Western economies, focused instead on the interaction between labor and capital, and they pushed nature to the background. Fortunately, not all economists lost touch with nature. In this paper, we will focus on the ecological thinking of two such thinkers, each a leader of a major school of thought: Karl Marx in the 19th century and Thorstein Veblen in the early 20th century. We then examine why these two thinkers were led to keep the ecosystem in their framework of analysis.

II. Karl Marx

In his examination of Marx's ecology, John Bellamy Foster (2000) begins by pointing out that Marx wrote his doctoral thesis on Epicurus, the ancient Greek thinker who was embraced by many scientifically-oriented thinkers during the Enlightenment. Epicurus is best known for rejecting religion in favor of materialism and the study of nature as a natural, not a divine, phenomenon. Of course, Marx's primary purpose in his major work, *Capital*, was to describe the

capitalist system and the internal contradictions of this system. For our purpose here, however, Marx's materialist approach meant that he would have to incorporate nature into his study of human society and its economic system.

First of all, Marx criticized David Ricardo for linking land rent to the permanent quality of the soil. Marx argued instead that the quality of the soil on any given plot of land was variable and depended on the efforts and methods of the farmer. Marx relied on the scientific work of one of Germany's leading chemists, Justus von Liebig. Liebig had found that soil quality varied from season to season, as the growing of crops extracted nutrients from the soil and the return of waste to the land restored fertility. Liebig emotionally described research that showed the quality of German soils was deteriorating rapidly:

Truly, if this soil could cry out like a cow or a horse which was tormented to give the maximum quantity of milk or work with the smallest expenditure of fodder, the earth would become to these agriculturists more intolerable than Dante's infernal regions.²

While Liebig advocated positive actions to restore, or even improve, the soils, Marx would take Liebig's findings much further.

Marx specifically linked the variations in soil fertility to the management of the land under a capitalist economic system. Marx wrote that "the differential rent of landlords is partly the result of the fertility that the farmer has given the land artificially."³ This intentional improvement in the quality of the soil was motivated by the capitalist quest for surplus. Marx also linked the

² Justus von Liebig (1859), pp. 130-1.

³ Karl Marx (1981), *Capital*, Vol. III, p. 757

variable fertility of the soil to British imperialism. He pointed out that when British capitalists learned that they could improve the quality of the soil on their landholdings in Britain and Ireland, and thus earn higher rents, they began a frantic search for soil nutrients throughout the world. In Marx's time, their attention centered on guano deposits in Peru, which had accumulated naturally from migrating birds over the millennia were, by force and corruption, completely exhausted in just a couple of decades. Marx further described how the gruesome work of shoveling the guano was mostly done by Chinese migrants brought to the islands by British recruiters; this work was so unhealthy that only a small minority of the workers ever returned home. But, the quality of British soils was enhanced and land rents in Britain rose.

Marx also noticed another aspect of British imperialism and the exploitation of natural resources overseas, which he referred to as capitalism's ecological *rift*. With the capitalists from Europe and North America searching the world for resources — effectively beginning to build what would become the global supply chains that we observe today — there was a growing geographic *rift* that was not ecologically sustainable. The tobacco, cotton, wheat, and many other cash crops absorbed nutrients from the soil where they were grown, they were then hauled from the countryside to cities within the same countries or, more often, to other countries and continents, where they were consumed. Marx noted that “In London ... they can do nothing better with the excrement produced by 4.5 million people than pollute the Thames with it, at monstrous expense.”⁴ Hence the rift between the extraction of nutrients from the soil and the creation of waste.

⁴ Karl Marx (1981), *Capital*, Vol. III.

Marx blamed the rift—the breaking of the normal crop cycle—on the global capitalist system of exploitation (Capital, Vol. 3, p. 754):

The way that the cultivation of particular crops depends on fluctuations in market prices and the constant changes in cultivation with these price fluctuations—the entire spirit of capitalist production, which is oriented towards the most immediate monetary profits—stands in contradiction to agriculture, which has to concern itself with the whole gamut of permanent conditions of life required by the chain of human generations.

Marx further pointed out that, just as industrial capitalism alienated human workers from the full processes of production, capitalist resource exploitation also alienated workers from nature. The ecological stresses and contradictions that capitalism creates is further described by Marx (1973) in his *Grundrisse*:

It is not the *unity* of living and active humanity with the natural, inorganic condition of the metabolic exchange with nature, and hence their appropriation of nature, which requires explanation or is the result of a historic process, but rather the *separation* between these inorganic conditions of human existence and this active existence, a separation which is completely posited only in the relation of wage labor and capital.

Marx therefore argued that the solution to the capitalist-generated contradiction between nature and society was socialism, which, freed from the continual pressure to generate surplus, would

avoid the various alienations imposed by capitalism and allow for a rational organization of the earthly metabolism.

III. Thorstein Veblen

Thorstein Veblen was born in Wisconsin, the sixth of twelve children of Norwegian immigrants. His family was later able to purchase enough farming acreage in Minnesota to put all their children, sons and daughters, through college, with two of the sons earning PhDs and becoming noted academics. The Veblen family purchased the land from earlier settlers, who had depleted the soil by growing whatever cash crops commanded the highest prices and paid little attention to the need for sustaining the quality of the soils as the elder Veblen's had learned to do in Norway.⁵ Veblen referred to this rapid exploitation and subsequent abandonment of nature sarcastically as "the American plan."

Veblen was born just a few years before Marx died, but he was strongly influenced by Marx's historical approach to economics. Veblen saw society as evolutionary, following a trajectory driven by what Marx would describe as a *dialectic process*. He furthermore fully embraced a materialist perspective of reality, openly clashing with his Lutheran upbringing.⁶ Veblen never claimed to be a Marxian. In fact, Veblen never felt part of any specific school of thought or identifiable group. He would come to be seen as the founding member of the American school of institutional economics, largely because of his work on the the dialectics of institutional development. In Veblen (1924), *The Theory of Business Enterprise*, he detailed how the

⁵ See Veblen (1923), pp. 86-88

⁶ On the other hand, during the infrequent contacts with his siblings and their families, Veblen seems to have tolerated his family's Lutheran culture as a reasonable institutional guide to social behavior.

institutional structure of society was being driven by the growth of technical know-how and the use of ever-larger scale machinery. He followed Marx and when he described how the evolving methods of production shaped human society, including how large-scale machinery created a class system based on (1) workers with no other means of production and (2) owners of the means of production who employed workers. His analysis of resource exploitation in the United States anticipated the evolution of agriculture into the environmentally disastrous industry that it is today. Veblen's emphasis on institutions was uniquely his contribution, and his description of the American class system and how it would dialectically play out over time was also quite unique; Veblen did not anticipate a socialist revolution, only new variations of corporate capitalism and more traditional forms of social organization.

From his early 20th century perspective, Veblen saw a system consisting, on the one hand, of *productive* people and, at the top, of unproductive thieves. Among the former were the laborers, farmers, engineers, and technicians. These people produced the real wealth in society. Veblen claimed that, of the five main human behavioral tendencies — *the instinct for workmanship, predation, idle curiosity, the parental bent, and emulation of others* — the first was the most important human behavioral tendency for achieving collective macroeconomic well-being.⁷ Yet, the fundamental human satisfaction in working was being perverted by the rise of predation by an elite class. This elite class was enabled by the growth of machine technology and economies of scale, which was driving the growth of absentee ownership, which enabled clear separations — a rift in Marxian terms — between basic human well-being and the predatory actions of the corporate elite. Under absentee ownership, the “captains of industry” devote much of their effort

⁷ See Veblen (1914), a work appropriately entitled *The Instinct of Workmanship and the State of the Industrial Arts*.

not to producing useful products, but, rather, to manipulating and exploiting the institutional structure of capitalist society to seize profits from the productive activity of the rest of society.

In his first major work in 1899, *The Theory of the Leisure Class*, Veblen did not refer to the destruction of the natural environment when he discussed the wastefulness of capitalism. But, Veblen's understanding of the natural environment comes out clearly in his last major work, *Absentee Ownership and Business Enterprise in Recent Times* (1923), where he describes in great detail how social wealth is diminished by capitalist practices such as programmed obsolescence, the intentional creation of scarcity to raise prices, competitive advertising, and manipulative sales techniques:

It is, accordingly, scarcely an over-statement to say that something like one half of the wood-pulp that goes through the paper mills, together with one-half the man power and mechanical equipment engaged in the paper industry and the printing trades, is consumed in the making of competitive sales, the net effect of which is to raise the prices paid for goods by the consumers....⁸

Note how Veblen expanded the capitalist production of waste to directly link the production of primary products such as paper directly to the exploitation of nature.

In his 1923 work, Veblen further discussed, among other issues, the appropriation of American farmland by absentee owners (corporations), wasteful resource extraction from both public and private lands, and the tendency for the American owners of farmland and to over-

⁸ Thorstein Veblen (1923), p. 317

exploit the soil. Veblen severely criticized lumbermen, miners, and industrialists who, in accordance with “sound business principles,” gained ownership of nature by force and collusion (p. 51). He lamented how public lands throughout the US were often exploited by companies “who did not rightfully own the land but nonetheless exploited natural, material, and human resources (or land, capital, and labor) for financial gain.” Wrote Veblen (1923, p. 168): “This American plan or policy is very simply a settled practice of converting all public wealth to private gain on a plan of legalized seizure.”

Interestingly, Veblen (1923) detailed how the first natural resources to fall under this plan were the fur bearing animals. He described how fur trapping was carried out “with exemplary thoroughness and expedition and has left the place of it bare.”⁹ Veblen (1923, pp. 168-9) further described the fur trade as “an unwritten chapter on the debauchery and manslaughter entailed upon the Indian population of the country,” which resulted in “the sclerosis of the American soul. Americans have forgiven themselves for the fur trade and its hideous accessories and have nearly forgotten it all.”¹⁰ (p. 169). Very few economists had linked the dialectic processes the economic system to such a broad range of social and natural processes.

Similarly, Veblen (1923) wrote about the “shortsightedness” in timberland management, how lumbermen only transported out the marketable, large diameter pine logs and left less valuable resource behind, noting that often, “by accident or intentionally, the land would catch fire and all remaining timber would be destroyed.” The inefficient resource use “has destroyed appreciably more timber than it has utilised.” (p. 190). Veblen showed his deep political economy perspective by concluding his chapter on logging with this additional comment on the exploiters of

⁹ Thorstein Veblen (1923), p. 168.

¹⁰ Thorstein Veblen (1923), p. 169.

America's immense lumber resources: "[Many] find their way into the federal senate, sometimes even at a cash outlay ... and have honorably kept faith with all the vested interests." (p. 192)

Veblen (1923) wrote that what transpired with other natural resources did not substantially differ from the case of America's timberlands; "these others, too, show the characteristic traits of the American plan—initial waste and eventual absentee ownership on a large scale and on a quasi-monopolistic footing" (p. 194). Veblen indicated that coal, iron, and waterpower had already reached a reasonably settled state "of collusive management under corporation control on a basis of unqualified absentee ownership," and the extraction of crude oil, "resembling the earlier lumbering enterprise," was already "marked by a headlong competitive rush to disembowel the available resources expeditiously at any cost." (p. 197)

Veblen described how already at the start of the 20th century, farmers were caught between monopolistic merchants, who charged a lot for supplies and equipment, and the monopolistic merchants who paid them little for their agricultural produce but eventually sold to consumers at inflated prices. According to Veblen, "the margin of benefit that comes to [the modern farmer from his work is commonly at a minimum. He is commonly driven by circumstances over which he has no control, the circumstances being made by that system of absentee ownership."¹¹ The only way out for small farmers, according to Veblen, was to sell or consolidate to where they, too, became like absentee owners. Farmers tended to acquire more land than they could afford and maintain properly. Traditional values of teamwork, workmanship, and community spirit were being replaced by the "pecuniary interests" inherent to capitalism. Veblen clearly saw where farming was heading in the 20th century: A monopolistic corporate enterprise of suppliers and

¹¹ Thorstein Veblen (1923), p. 130.

marketers who exploit the farmer in much the same way as labor is exploited, but with the added twist that the farmer is forced to assume business risk, financial burdens, and responsibility for the financial damage his precarious financial state forces him to engage in. As a result, the natural environment is also exploited because that is the farmer's only salvation.

Veblen also anticipated that many economists would refute the existence of an “American plan” by arguing that the capitalist pursuit of surplus would induce enough technological progress to prevent environmental damage and resource depletion.¹² However, Veblen described how the “wild-cat” enterprises of large absentee corporations were usually ill prepared and undermanned and lacking “competent technical advice and experience” to apply new technologies safely, efficiently, or responsibly.¹³ Veblen sarcastically described how managers and absentee owners never take responsibility “for any derangement, waste or unemployment which this 'safe and sane' business practice entails on the rest of the industrial system.” Veblen had a different take on Garrett Hardin's call for the privatization of natural resources in order to avoid the “tragedy of the commons,” that is, the overuse of natural resources in the public domain:

The natural resources of America are, or have been, unexampled in abundance and availability, and they have always been the main factor on which the life and effort of the inhabitants have depended. What stands in the way of this matter of good fortune, immediately and directly, is the absentee ownership of these natural resources....¹⁴

¹² See, for example, the popular growth models by Joseph Schumpeter (1936) and Paul Romer (1990).

¹³ Thorstein Veblen (1923), p. 198-199.

¹⁴ Thorstein Veblen, (1923), p. 124.

That is, the privatization of the commons would itself become a “tragedy of the commons” because the resources end up in the hands of monopolistic corporations and other types of absentee owners with little direct awareness of the consequences of their actions and an acute temptation to limit production in order to raise profits.

IV. What Marx and Veblen Had in Common

So we have two different economists with different backgrounds and purposes going against the Neoclassical mainstream of economics. This leads us to wonder what these two economists had in common to lead them to give the ecosystem a central role in their economic analysis. Certainly they shared a common influence from the German Historical School, which emphasized the historical development of human society and its economic systems. And both Marx and Veblen saw the economy as an ever-evolving system embedded within evolving social and ecological systems. We argue that the key to understanding the ecological thought of Marx and Veblen is to recognize their embrace of *materialist dialectics*.

A brief introduction to materialist dialectics

The concept of *dialectics* dates from ancient Greece and philosophers such as the Stoics, Plato, and Aristotle, who advocated *dialogue* as the best method for finding the truth about some phenomenon or issue. Unlike a *debate* or *rhetoric*, dialogue or *dialectics* involved an objective back and forth of ideas during which all the participants could flesh out the details, the contradictions, and the missing pieces in order to get closer to the truth of a matter. All participants may end up changing their views and understanding of the subject under discussion.

In the early 19th century, the German philosopher, Georg Wilhelm Friedrich Hegel essentially adapted Socrates' argument that human knowledge naturally evolves according to a dialectic process as people struggle find answers to various problems, conflicts, inconsistencies, and gaps in their knowledge of their world. Hegel's description of how human ideas about the world change and shift over time is commonly referred to as *idealistic dialectics*.

The 19th century economist, Karl Marx, combined the idealistic dialectics of Hegel with the *materialism* of the 16th century Dutch philosopher Baruch Spinoza and the 19th century German philosopher Ludwig Feuerbach to arrive at *materialist dialectics*. Unlike Hegel, who prioritized human thought over the material world, Marx observed that the natural, social, and economic structures in which people exist also appear to evolve dialectically in response to the stresses, conflicts, contradictions, and openings that emerge as populations grow, capitalists accumulate capital, technologies change the processes of production, new generations modify cultures, political activities change formal institutions, and all other interrelated complex systems move in contradictory directions, at different speeds, and with different intensities. Marx thus urged social scientists to stop interpreting the economy or society as a constant and unchanging system.

In an economic or social system in which so many dynamic processes and accumulations interact in complex ways, relationships between any subset of variables are conditioned by the changing states of all the other variables, relationships, and accumulations, the structure of an economy or social system is never the same across different times and places. This is not to say that there are no universal "laws" that govern the actions and reactions of humans, or that there is no pattern to the overall movements of the economic, social, and natural systems in which humans live and act. But materialist dialectics requires the social scientist to look for the

capabilities, forces, and conditions that make the system change rather than the characteristics of stable or equilibrium relationships.

For example, Marx's life-long collaborator, Friedrich Engels ([1883]1940), brings up the fact that people are endowed with consciousness, they act with deliberation or passion, and they usually work towards some vague set of goals. But deliberate individual behavior does not neatly translate into predictable aggregate outcomes. Individuals exist within different institutional environments and have different experiences, education, status, and levels of wealth, so they will not all make identical choices. And, of course, the complexity of economic and social systems means that aggregate outcomes are never the simple sum of the desired outcomes of its individual members. Wrote Engels (1940): "in spite of the consciously desired aims of all individuals, accident apparently reigns on the surface. That which is willed happens but rarely." One obvious conclusion that emerges from the embrace of dialectics is that no static model can ever accurately describe economic relationships across all times and places. This is certainly the case for economic systems.

In general, the processes of change that drive the evolution of our economic, social, and natural systems occur on multiple levels, at different velocities, with varying intensities, and over different durations. These varying and interacting processes of change cause conflicts, contradictions, stresses, and opportunities for action to emerge. It is the task of the economist to find the most significant processes of change to explain what brought about this great variety of economic and social changes throughout the world. For example, in macroeconomics, a materialistic dialectic approach involves uncovering the causes of (1) changes in the system's main sectors, (2) changes in the connections through which those sectors interact, and (3)

changes in how the economic system interacts with the other systems, such as the social system and the ecosystem. Environmental economics focuses on the latter. Neoclassical economists have usually analyzed the effects of events in related systems as *exogenous* shocks to the economic system; these are usually simply taken as givens. Marx looked at the world through “a single science” in which “the dialectic of change subverts all reductionisms.”¹⁵ Or, in the language of mainstream economics, all aspects of human evolution are *endogenous* to an ever-evolving complex multi-layered economic/social/natural system. The question of how much economic change is triggered by internal forces and how much by forces emanating in related systems becomes part of challenge of modeling an economic system. For example, Engels described how the mere growth of things can change the composition and meaning of those things. And, these transformations often comprised the complex mixing of opposites that leads to the “emergence” of new phenomena. We can think of developments such as the origin of life, the emergence of human society, and the emergence of capitalism.

The ecological implications of the materialist dialectic approach

Among the many types of dialectic conflicts, stresses, contradictions, and opportunities, human societies continually come up against ecological contradictions that undermine their own natural conditions and cause the emergence of new economic, social, and natural phenomena. Engels described the dialectical process as possessing a an “arrow of time” because it consisted of irreversible transformations.¹⁶ According to Marx: “The nature that preceded human history ...

¹⁵ Clark, and York (2010), p. 247

¹⁶ Rachel Carson (1999), p. 230, describes the emergence of life on earth as follows: “this single extraordinary act of spontaneous generation could not be repeated.”

no longer exists anywhere (except perhaps on a few Australian coral islands of recent origin).”¹⁷ Marx’s close collaborator, Friedrich Engels, further draws on materialist dialectics to argue that humanity’s self-confidence in its ability to dominate nature is misplaced:

Let us not, however, flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us. Each victory, it is true, in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects which only too often cancel the first.... Thus at every step we are reminded that we by no means rule over nature like a conquerer over an foreign people, like someone standing outside nature—but that we, with flesh, blood and brain, belong to nature, and exist in its midst...¹⁸

The last 200 years of human “progress” are today revealing multiple alarming manifestations of such “second” and “third” places in the dialectic progression of human society. Marx would no doubt agree with the tendency among many scientists to refer to the current era in the evolution of the earth as the *Anthropocene*, in recognition of the huge impact that humanity has come to have on the ecological system.

Veblen’s embrace of materialist dialectics

Thorstein Veblen was greatly influenced by Marx, and he unhesitatingly urged his contemporary mainstream economists to abandon their acceptance of “the notion of a definitive normality” in

¹⁷ Quoted by Foster et al. (2010), p. 13.

¹⁸ Friedrich Engels (1940), Chapter IX.

favor of a “substantially materialistic habit of mind which seeks a comprehension of facts in terms of a cumulative sequence.”¹⁹ If that is not clear enough of a reference to materialist dialectics, he was even more precise in his first work, *Theory of the Leisure Class* (1898, p. 391):

The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the last process. His methods of life to-day are enforced upon him by his habits of life carried over from yesterday and by the circumstances left as the mechanical residue of the life of yesterday.

Veblen is, of course, best known for his focus on how the accumulation and evolution of institutions interacted with other social and natural processes to shape human societies. In various works he showed how the historical evolution of institutions lagged the material changes in the economic system brought about by technological change and capital accumulations, and how the resulting inconsistencies between the material world and the guidance for human behavior provided by society’s institutions affected the evolution of human society.²⁰ Note that the way Veblen viewed institutions placed him solidly in materialist dialectic territory.

V. Why Didn't the Mainstream Embrace Materialist Dialectics?

The scientific evidence is indisputable. Over the next 50 years, the earth will most likely heat up to levels that will make whole parts of the planet uninhabitable. Cities on or near a coast,

¹⁹ Thorstein Veblen (1906), “The Socialist Economics of Karl Marx and his Followers,” *The Quarterly Journal of Economics*, Vol. XX, August. Veblen

²⁰ For example, see Veblen, 1904, 1914, and 1923.

including New York and London, will be submerged., perhaps hundreds, of millions of people will be displaced. Many people will die. In addition to global warming and climate change, humans have triggered many other ecological catastrophes. Biodiversity is declining in the midst of a mass extinction caused by the growth of the human population and its economic footprint. A mass extinction of sea life is already under way, the first in some 55 million years. Also, many important ecological cycles have been interrupted, directly threatening the provision of the natural services required for human life on Earth. Humanity's close relationship with nature cannot be ignored. And yet, economists continue to prescribe economic policies that ignore their ecological effects, much less promote economic policies that reverse capitalism's unsustainable exploitation of nature.

Undermining any claims of innocence in this matter by mainstream economists is the fact that earlier economists did incorporate nature into their economic analysis. In this paper, we have described how Karl Marx and Thorstein Veblen, benefitting from their materialist dialectic perspectives, provided as much insight as any social scientist would need to correctly evaluate the ecological contradictions and stresses we face today. Marx and Veblen understood ecology because, unlike the Neoclassical school's preference for static equilibrium models, they embraced materialist dialectics. A materialist dialectic perspective on human society, once taken, makes it nearly impossible to ignore the current path of ecological evolution. The systemic analysis required by dialectics reveals not only that human provisioning activities require a great many natural resources, but we human beings evolved a complex mixture of individualistic and social behavioral tendencies within an evolving natural environment. Humans do not merely interact *with* nature; they are *part of* nature.

What was it then that led mainstream economics to effectively close its eyes to the integral role of nature in human society and its economic systems? Perhaps this separation between humanity and the natural environment began with Adam Smith (1776) and his focus on the Industrial Revolution that was emerging in the late 18th century. Then the Classical economists of the 19th century focused on industrial production, investment in capital, and the labor markets where the alienated working class sought employment. Production was increasingly described as a function of human capital accumulation and technology alone, separate from nature. The separation became complete with Léon Walras' (1874) mathematical model of an economy that consisted entirely of product and factor markets; anything for which there was not a market thus became (in currently popular terms) *non-economic* activity and was not included in the economist's scope of activity. The Walrasian model provided the basis of what became neoclassical economics, in which economic activity is a purely human endeavor within a static economic structure consisting of one big set of impersonal markets. It is important to recognize that From Smith onwards, mainstream schools of thought gradually abandoned earlier dynamic perspectives in favor of static equilibrium modeling. This shift in perspectives was, to a considerable degree, responsible for the disappearance of nature from economic analysis.

Interestingly, we can gain some insight into this paradigm shift from the work of Veblen. After all, he provided so much insight into the dialectics of institutional change. Marx and Veblen did not provide identical perspectives on how ecological and social stresses would dialectically reshape human society. Marx foresaw capitalism's internal inconsistencies and

conflicts leading to class conflict and, ultimately, a social revolution.²¹ Veblen was much less certain about the future course of economic and social evolution. Veblen effectively adhered to the materialist dialectic methodology proposed by Marx, but his more detailed microeconomic perspective led him to better appreciate the complexities of human behavior and the difficulty in making specific predictions about the future. Veblen merely provided warnings and suggestions, which nevertheless turned out to be closer to how reality unfolded in the United States and other industrial countries in the 20th century than Marx's more specific prediction of a proletarian uprising.

Veblen (1904, p 185) also provided a most useful insight for understanding today's continued rejection of ecological thinking; he explained how the accumulation of wealth provides the rich with the means to distort science and bias human knowledge. As an institutionalist, Veblen understood that business leadership was an important dimension of social change. He accused business managers of training their workers to become less capable — what he called “trained incapacity” — in order to better control and exploit workers. Veblen then reasoned that this trained incapacity — embodying the narrow, profit-oriented, and bureaucratic outlook of the corporation — leads managers and absentee owners to carelessly exploit nature as well as workers. Veblen effectively extended the spirit of Marx's materialist dialectic to a level where the dialectic evolution of human *perceptions* of what is true — Hegel's *idealist dialectic* — is materially based, but at a much higher level of political economy and with a keen appreciation for the dominant role of a dialectically evolving set of formal and informal institutions in

²¹ Other post Marxians provided explanations for how the world has evolved after Marx. For example, Rosa Luxemburg (1915), Lenin (1916), and Baran and Sweezy (1965), among many others, explained how capitalism was able to continue its accumulation of capital by means of imperialism and, today, neoliberal privatizations of the commons.

shaping people's behavior. Where Marx believed that perceptions of reality could not deviate far from true reality, Veblen, on the other hand, believed that the materialist dialectics of social and natural evolution — most notably the accumulation of wealth — would enable the vested interests to manipulate both formal and informal institutions, and thus human perceptions, in ways that would obscure the true forces of change. Under the distorted perceptions of reality promoted by capitalist-owned news media, capitalist-funded universities, and the profit-driven entertainment industry, all augmented by the US cultural institutions of individualism, settler colonialism, and an arrogant sense of American exceptionalism, would make it unlikely that the exploited working class would follow a socialist agitator into a violent revolution to seize the means of production from a wealthy class most workers half admired.²² Veblen already observed in 1904 that the wealthy no longer just exercised disproportionate influence over the state, they had increasingly *become* the state.

²² Antonio Gramsci would conclude two decades later that the capitalist elites find it relatively easy to continue their economic and social domination in a democratic capitalist system.

References

- Carson, Rachel (1999), *Lost Woods*, Boston: Beacon Press.
- Daly, Herman (2014), *From Uneconomic Growth to a Steady-State Economy*, Northampton, MA: Edward Elgar.
- Engels, Friedrich ([1877]1947), *Anti-Dühring: Herr Eugen Dühring's Revolution in Science*, New York: Progress Publishers.
- Engels, Friedrich ([1883] 1940), *Dialectics of Nature*, New York: International Publishers
- Engels, Friedrich (1847), *The Condition of the Working Class in England*, Leipzig: Otto Wigand.
- Engels, Friedrich (1886), "Ludwig Feuerbach and the End of German Philosophy," *Die Neue Zeit*, Issues 4 and 5.
- Foster, John Bellamy (1999), "Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology," *The American Journal of Sociology* 105 (2): 366–405
- Foster, John Bellamy (2000), *Marx's Ecology*, New York: Monthly Review Press.
- Foster, John Bellamy, Brett Clark, and Richard York (2010), *The Ecological Rift: Capitalism's War on the Earth*, New York: Monthly review Press.
- Foster, John Bellamy and Brett Clark (2018), "The Robbery of Nature: Capitalism and the Metabolic Rift," *Monthly Review* 70(3):1–20.
- Hardin, G Barrett (1968), "The Tragedy of the Commons," *Science* **162** (3859):1243–1248.
- Keynes, John Maynard (1936), *The General Theory of Employment, Interest, and Money*, New York: MacMillan.
- Lenin, V. I. (1917 [1939]). *Imperialism: The Highest Stage of Capitalism*. New York: International Publishers.
- Luxemburg, Rosa (1913 [1951]). *The Accumulation of Capital*. London, Routledge & Keegan Paul Limited.
- Magdoff, Fred (2015), "A Rational Agriculture Is Incompatible with Capitalism," *Monthly Review* 66(10):1-18.
- Malthus, Thomas (1798), *An Essay on the Principle of Population*, London: W. Pickering.
- Marx, Karl (1867), *Das Kapital*, vol. I. Hamburg: Verlag von Otto Meissner.
- Marx, Karl (1981), *Capital*, vol. III. New York: Vintage.
- Marx, Karl ([1857-61] 1979), *Grundrisse: Foundations of the Critique of Political Economy*, trans. Martin Nicholas, London: Penguin Books.
- Smith, Adam (1776 [1976]), *An Inquiry into the Nature and Causes of the Wealth of Nations*, Chicago: University of Chicago Press.
- Solow, Robert (1956), "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics* 70(1):65–94.
- Solow, Robert (1957), "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics* 39:312–320.
- Veblen, Thorstein (1899), *Theory of the Leisure Class: A Study of Institutions*, New York: Macmillan.
- Veblen, Thorstein (1906), "The Socialist Economics of Karl Marx and his Followers," *The Quarterly Journal of Economics*, Vol. XX, August.
- Veblen, Thorstein (1904), *The Theory of Business Enterprise*, New York: Charles Scribner's Sons.
- Veblen, Thorstein (1914), *The Instinct of Workmanship and the State of the Industrial Arts*, New York: MacMillan.
- Veblen, Thorstein (1915), *Imperial Germany and the Industrial Revolution*, New York: MacMillan.
- Veblen, Thorstein (1917), *An Inquiry into the Nature of Peace and the Terms of Its Perpetuation*, New York: MacMillan. Also at Project Gutenberg
- Veblen, Thorstein (1919), *The Vested Interests and the Common Man*, New York: B. W. Huebsch.
- Veblen, Thorstein (1921), *The Engineers and the Price System*, New York: B. W. Huebsch.
- Veblen, Thorstein (1923). *Absentee Ownership and Business Enterprise in Recent Times: The Case of America*. New York: B. W. Huebsch.
- Von Liebig, Justus (1859), *Letters on Modern Agriculture*, London: Walton & Maberly
- Walras, Léon (1874), *Éléments d'économie politique pure, ou théorie de la richesse social*.