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Using the Treadmill of Production to Inform a Political Economy Approach to Green Criminology.

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I would like to provide an overview of a political economy approach to green criminology. I will first provide an overview of the treadmill of production (ToP) theoretical framework that I (along with Paul Stretesky and Michael Lynch; see: Long, et al., 2012) have adapted from environmental sociology to understand and explain green crimes in a political economy framework. I will then use examples from the coal industry to illustrate the usefulness of the ToP approach to green criminology.

In his 1980 work, *The Environment: From Surplus to Scarcity*, Allan Schnaiberg described the relationship between humans and the environment. His focus was on how and why humans contribute to environmental problems. To answer these questions, Schnaiberg posited a political economy explanation. Political economy focuses on structural explanations, in this case, how class relations shape economic production and consequently environmental problems. The initial formulation of the ToP focused on Post-World War II United States, but was later extended to focus on environmental problems in the global political economy.

So, what is the treadmill of production? In short, it describes how environmental harms are the direct result of the process of economic production, economic growth and capital accumulation under the capitalist mode of production. Capitalism is based on the need for the constant expansion of production in order to extract surplus value (i.e. profit). Capital has one goal, profit accumulation. As a result, environmental destruction that occurs as part of production is not factored into the price of the commodity that is produced, leading capitalists to view the environment as a free resource. Schnaiberg observed the capital – environment relationship and proposed the concept of the ToP as an explanation for how human economic systems interfere with the organization of ecological systems. The ToP notes that capitalism needs to constantly expand to create economic growth, and to do so, it needs to increase environmental withdrawals (e.g. coal, oil, timber, etc.) and environmental additions (e.g. hazardous waste, carbon, lead, etc.) in ever greater amounts. To complete the process, an increase in consumption must accompany the increase in production. This process repeats itself over and over again, hence the use of the treadmill metaphor by Schnaiberg. In short, environmental degradation is the result of the expansion of surplus value extraction.

The ToP is driven forward not only by the accumulation tendencies of capitalism, but also by the intersection of the interests of labor, the state and capital. These three groups have an interest in keeping the treadmill running. The ToP can create jobs for workers, it produces tax revenue for the state, and of course, it provides surplus value for capital. Therefore, there is little incentive for these actors to slow the treadmill to protect or preserve the environment.

The ToP does not propose a direct solution to environmental destruction. That is, the constant motion of the treadmill continually produces ecological degradation, and as long as the capitalist treadmill of production is in motion, it will continue to add to ecological destruction. This view of the relationship between economic production and the ecology is in direct contrast to another main environmental sociology paradigm, ecological modernization. Ecological modernization theorists argue that advancements in technology (e.g. the production and sale of hybrid automobiles) and increases in global environmental governance, will slow (and eventually decrease) environmental degradation.

Green Criminology can benefit from the ToP framework in several ways. First, the structural explanation of environmental harms offered by Schnaiberg directs attention to one of the main causes of environmental crimes, the endless search for profit and capital

accumulation. Second, green criminologists should focus on two categories of crime: *crimes of environmental additions* and *crimes of environmental withdrawals*, as they demonstrate how green crimes are a result of economic production. Crimes of withdrawals, like the extraction of natural resources, are committed because the results are needed as inputs for capital. Crimes of addition, like air and water pollution, are committed as byproducts of the production process. Third, ToP theory can be expanded to examine social consequences of environmental harms that result from the capital accumulation process (i.e. how does environmental crime lead to street crime?).

An Example of the Treadmill in Action

Now that I have provided a brief introduction to the theory informing a ToP-based political economy approach to green criminology, I would like to turn to coal mining to provide examples that illustrate the utility of the ToP for examining green crimes. Over the last few decades, coal strip mining has moved from primarily underground mining to surface mining in the form of mountain-top removal mining. Repercussions of this change include the increased use of chemicals and explosives to increase the extraction of value from nature, while simultaneously decreasing the labor costs association with the ecological withdrawal of coal.

An examination of the coal industry can demonstrate how production, environmental degradation and crime are linked. The coal industry heavily lobbies the government for increased access to natural resources and donates money to politicians when coal executives see environmental violations on the horizon. For example, Long et al. (2012) found that coal companies dramatically increase their level of political donations in the time period preceding an environmental violation. In this example, two ToP actors, the state and corporations, are collaborating to facilitate forms of capital accumulation that could occur as a result of breaking the law. It is in the best interest of the coal companies to continue to produce coal at the highest rate possible, regardless of the environmental consequences. Therefore, donating some money to representative of the state may lessen the economic impact of receiving the violation by reducing penalties for environmental violations. Data from Long et al.'s study confirms this interpretation.

Let's look at a second example of how the coal industry and the ToP interact, this time focusing primarily on labor. This case is a little different however, and demonstrates how environmental harms (i.e. a crime of environmental withdrawal) can lead to an increase in street

crime. Imagine a new mountain-top removal coal mine site. Initially, labors are attracted to the area to work in the mine. Recall that mountain-top removal mining is very environmentally destructive due to the use of chemicals and explosives in the extraction process. Mountain-top mining is a relatively quick process; the mining company blows the top of the mountain off to reveal coal seams. Employing large equipment (some of the machines are 20 stories tall), miners strip the coal from the mountain, and when the coal is gone, the mine shuts down (for examples of the destruction see, EarthJustice.org SlideShow). During the time the mining operation is open, the town where the mine is located experiences an economic boom, stores open to service the miners and the miners spend money in the town. However, when the mine closes and the primary income source of the miners is no longer available and the locals no longer benefit from the additional revenue brought in by the miners, some miners and townspeople find themselves unemployed, while others remain employed but see a reduction in their income. As numerous criminologists have demonstrated the link between increased unemployment and increased street crime (see for example, Cantor and Land 1985), one likely result of the mine closing is an increase in the violent crime of robbery and property crimes like burglary and larceny.

In sum, the coal industry in the search for expanded capital has moved from underground to mountain-top mining. This process employs fewer people, but is more environmentally destructive. Furthermore, for those it does employ, the employment period is short-term, leaving miners without incomes after the mine closes. Some of these miners may find that the only way they can support themselves and their families are to engage in street crime. In this case, the ToP ignores both environmental and social crimes.

This brief introduction to the ToP was meant to demonstrate to those interested in green criminology that a political economy approach for studying green crimes has many benefits. It is important to understand the role that capitalism and its primary actors (labor, the state and corporations) play in the creation of green crimes. Green crimes are not isolated incidents; rather they are systemic and should be studied as such. The ToP approach, adopted from environmental sociology, provides a useful framework for studying green crimes from a structural political economy perspective.

Cantor, D. and Land, K.C. 1985. Unemployment and Crime Rates in the Post-World War II United States: A Theoretical and Empirical Analysis. *American Sociological Review*, 50: 317-332.

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