

The tragedy of conservation

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Abstract

A central contention of this paper is that conservation strategies are failing because they have become increasingly integrated into, and share the assumptions of, the structures of capitalism. As a result, conservation is becoming a strategic specialty within capitalism, rather than an ethical challenge to its basic assumptions. The paper examines this integration by analysing the way Hardin's argument in the "tragedy of the commons" metaphor was taken up by policy makers in Canada's East Coast fishery and a case is made that, as seen in the case of the fishery, this strategic integration limited the analytical capability of conservation to highlight the causes of environmental degradation. The critical literature on Hardin's model points to the failure to recognize the importance of social relations and local institutional arrangements in combatting environmental failure. This paper contributes to the importance of "the social" in conservation debates by emphasizing Polanyi's contrasting definitions of formal and substantive economics and the way they relate to contrasting conceptions of tragedy, as set out by Hardin (formal tragedy from above) and Goldmann's conception of a historically specific tragedy that can be described as substantive tragedy from below. The analytical failure associated with Hardin's metaphor can serve as a cautionary tale for current strategic and specific conservation strategies that tend to downplay the importance of ethical and social issues.

Key words: Canadian conservation, Tragedy of the Commons, embedded and disembedded relations, East Coast fishery

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Introduction

A case can be made that *The Tragedy of the Commons* by Garrett Hardin (Hardin 1968; herein referred to as Hardin) has been the most powerful metaphor in environmental debates over the last 50 years. It raised the profile of population issues, increased the attention paid to the threats to the ecological commons posed by economic expansion, and generated extensive conversations regarding the increasing complexity of environmental problems "for which there is not a technical solution". At the same time, it can also be claimed that the Hardin article has played a role in short-circuiting the analysis of environmental problems. By short-circuit, I mean that in universalizing "every particular decision-making herdsman" as the utility-maximizing destroyer of the commons, Hardin's "greedy" rational actor is exported into all cultures at all times rather than being a specific depiction of modern market relations at the same time draining local contexts of any social significance. By framing all humans as "independent, rational free-enterprisers," Hardin's metaphor made the analysis of the causes of environmental problems profoundly ahistorical.

The reason that it is valuable to revisit this metaphor now is that the universalizing assumptions related to modern relations under capitalism dovetail with Hardin's utility-maximizing peasant and have only become more powerful since its publication and now pervade current conservation debates.

Conservation therefore has become increasingly instrumentalized as it makes use of the capitalist system to promote its goals (e.g., carbon off-sets). As [Fletcher \(2014, p. 87\)](#) stated, neoliberal conservation presents the “paradoxical idea that capitalist markets are the answer to their own ecological contradictions”. At the same time, the analytical and ethical dimensions of conservation lessen, and are replaced by, in turn, more strategically focused approaches that operate within dominant structures.

An example of this shift to more anthropocentric and strategic approaches to conservation can be seen in a forum in the journal *Conservation Biology* entitled “Conservation Science in the Coming Decades” (2011). In the concluding article entitled “Future Human Intervention in Ecosystems and the Critical Role for Evolutionary Biology,” [Hellmann and Pfender \(2011, p. 1143\)](#) argued that:

... evolutionary factors can be manipulated to foster particular conservation outcomes. In other words, acknowledging and harnessing evolutionary adaptation will be critical to enabling humans to facilitate adaptation of ecosystems to global change [e.g., climate change, habitat loss and fragmentation].

What this view represents is nothing short of the complete repudiation of the mandate of conservation biology, which is “to help develop the scientific and technical means for the protection, maintenance, and restoration of life on this planet—its species, its ecological and evolutionary processes, and its particular and total environment” ([Soule and Orians 2001, p. ix](#)). In [Hellmann and Pfender \(2011\)](#), the tables are entirely turned. Rather than the purpose of conservation being focused on the protection of life forms in all their evolutionary diversity, the goal of conservation is now to “harness evolutionary adaptation” so it can be marshalled in “enabling humans” to continue to engage in “global change”. So the enormous flexibility and power of evolution is no longer the life force that should be protected from human incursions. Instead, nature is now to be at the service of anthropocentric goals. If this view of human–nature relations is being promoted in a prominent conservation journal, it is clear that any resistance to the edicts of global capitalism have been severely circumscribed. Over the past 20 years, the more radical strains of conservation have waned, as conservation has taken on more strategic dimensions. In *Ideas of Nature* [Williams \(1980, p. 79\)](#) characterized this reduced standing of nature when utility-maximizers (“the great interferers”) dominate our view of human–nature relations:

What is gradually left behind, in the utilitarians, is any shadow of a principle by which a higher justice—to be appealed to against any particular activity or consequence—could be effectively imagined. And so we have this situation of the great interferers ... proclaiming the necessity of non-interference.

Conservation, in these terms then, is focused on the removal of interference. Capital abhors all communities but itself, and without any social ballast to challenge this juggernaut, management regimes wither within a shrinking mandate where ecological failure is underwritten by a larger ahistorical social failure in the perspectives that inform these conservation debates.

For example, as large-scale fish farms expand in former artisanal fishing grounds—carrying out [Hellmann and Pfender’s \(2011\)](#) edicts to make use of evolution for human ends and degrade diversity in the process—these alternative paths to social equity and conservation disappear in conceptual and territorial terms. The ethical and analytical ballast necessary to promote the conservation of biodiversity has become unmoored by the more powerful currents of economic development, leading to what can be described as analytical drift, where the causes of conservation failure retreat because these forces which cause failure now inform how these issues are understood. As [Ciobanu \(2006, p. 62\)](#) concluded in *Socially Constructed Scarcity On Lake Victoria, Tanzania*, “The analysts that criticize the current functioning of the economic system as detrimental to the environment or to social equity have a hard time in trying to come up with alternatives.”

This kind of analytical enclosure is also present in comprehensive conservation strategies such as adaptive management, as seen in [Holling's \(2001\)](#) use of the nested hierarchy modelling in “panarchy”. Social systems, economic systems, and ecological systems are unified into an all-encompassing model informed by various stages of adaptation and seek to establish syncopated resilience between the systems. In the process, all three systems are recast as forms of capital (social, economic, and ecological) and all actors are adapting at all times, even during stages of “creative destruction”. Over-exploitation of nature is recast as a stage in adaptation. The economic imperatives that cause environmental degradation cease to be identifiable and the market is recuperated as an agent of resilience, as opposed to the “poverty traps” that make those in developing countries a drag on the system. Capitalism is no longer the cause of environmental problems. Instead, it has been transformed into the metabolism of the system itself. Large-scale exploiters and polluters need not be offended. They are one of many adaptive agents.

In these contexts, conservation ceases to have an ethical basis rooted in an oppositional awareness, with assumptions that are in stark contrast to the forces that cause loss of diversity, and instead becomes a limited strategic project enclosed within a landscape where it is one of many agents that are “adapting” to new historical realities. And in the process, the deep regard for the wonder of diversity and abundance in nature is replaced by instrumental terms such as “sustainable levels of exploitation and pollution,” or nature as a “provider of environmental services”.

This shift from an ethical to a strategic focus in conservation locates it within the larger historical processes in modernity. For example, if one reflects on the emergence of a “social” perspective in the 19th Century, it is clear it appeared as an alternate pole from which to understand the role of the expanding economic realities linked to the industrial revolution. So “the social” emerged out of the economic as a way to analyze it, but at the same time the term “social” is unthinkable without economic domination. So the alternate pole is both oppositional, but also unthinkable without that dominant structure, and is therefore a creature of it. The same case can be made for feminism and patriarchy, for diversity and monoculture, for local and global, and, of course, for conservation and development. So alternate poles associated with a social, feminist, diverse, local, conservation foci emerged at particular moments in history to grapple with dominant forces associated with economic, patriarchal, monoculturized, global patterns of development. These alternate poles can be very useful analytically, but are always under threat of being re-incorporated into dominant structures, thereby losing their anti-hegemonic dimension. [Benjamin \(1973, p. 257\)](#) referred to this threat of re-incorporation as a “moment of danger” in history. This is what is happening to conservation currently as it moves from an ethical to a strategic focus. It is being re-incorporated into dominant structures.

This paper attempts to reflect on the way Hardin's tragedy of the commons metaphor was taken up and made use of by policy makers in Canada's East Coast fishery and how this form of analysis contributed to management failure. Building upon [Polanyi's \(1968\)](#) differentiation between formal and substantive economics, the paper highlights the difference between formal tragedy, as set out in Hardin—where characters are “locked” into their pre-ordained destruction by the forces of utility maximization and the externalization of costs—and that of a substantive conception of tragedy where transformations from embedded to disembedded relations engenders a social and ethical crisis that can be set out in social terms and is characterized by incommensurability and refusal ([Goldmann 1964](#)). In short, formal tragedy is destruction imposed from above propelled by economic edicts, while substantive tragedy is a crisis experienced from below in social/environmental terms. [Taussig \(1980, pp. 17–18\)](#) referred to this social crisis in substantive tragedy as “the collective representations of a way of life losing its life”. For this social crisis to gain visibility, the universalization of utility maximization and market relations needs to be challenged by the recognition that environmental agendas

need first and foremost to “create a frame of reference to which the market itself is referable” (Polanyi 1968, p. 174). Without an analytical frame that challenges modern economic forces in social terms, conservation strategies are at risk of taking for granted the very realities that require analysis.

Critical perspectives on the tragedy of the commons

The competitive individualism that Hardin believed inevitably led to “the tragedy of the commons” might not be a generic failing of the human species but rather the specific historical consequence of the social changes that followed the advent of modern capitalist modes of production and social organization (McEvoy 1987, p. 12).

There have been a wide range of commentaries on the “tragedy of the commons” metaphor since it was published in 1968 but these commentaries on the complexity of the issues related to the commons fall to the wayside as the “commons problem” is continually recast as an outlier that needs to be enclosed within the dominant structures of capitalism. Whatever counter movements that have been generated by Indigenous resistance or in disciplines such as anthropology, the universalization of rational actor utility maximization associated with modern economics is increasingly the standard frame in which environmental discussions take place. And as soon as you cast the commons as a problem in these terms, the only solutions are the “unified directing power” of the state or the privatization of property rights.

Bringing together a range of anthropological views on the commons issue, McCay and Acheson (1987, p. xiv) set out what this field has to offer:

Scholars in many disciplines, ranging from economics and psychology to biology, have explored the dilemma of the commons and debated its solutions. Anthropologists, too—in their studies of subsistence economics, cultural ecology, property rights, law and social evolution—have addressed the issue of common property, bringing with them a rich tradition of inquiry into the relations between human groups and natural resources.

These kinds of perspective have not only to do with the analysis of subsistence cultures of the past but also relate to challenges in the late 20th century.

The second half of the twentieth century may someday be recalled as the time that we became painfully aware of the social and ecological costs of industrialization, rising populations, and unsound resource management. . . . Problems such as those outlined above are explicable as tragic outcomes of common property tenure. . . . According to the theory popularized by Hardin, all resources owned in common—air, oceans, fish, grasslands and so on—are or eventually will be overexploited. . . . Hardin’s most important message was that we cannot rely on normal market forces nor on people’s best intentions to save their environments and themselves. . . . In the 1960s and 1970s. . . the only thinkable solution to commons dilemmas was government intervention. In the 1980s. . . the same problems and the same theory trigger discussion of another solution: privatization. (McCay and Acheson 1987, p. 7)

From the anthropological perspective, this focus on either external authority or private property rights as disciplining mechanisms to control “greed” undervalues the local social relations that play a role in regulating the use of the commons. By generating a single dynamic that always applies to all cultures, Hardin’s model collapses historical analysis into a universalized frame:

Unfortunately, many of those using the tragedy-of-the-commons model have failed to recognize its assumptions and verify their applicability to the case at hand. . . . The individualistic bias of the commons models leads to underestimates of the ability of people to cooperate in

commons situations and contributes to the tendency to avoid social, historical, and institutional analysis. (McCay and Acheson 1987, pp. xii–xiv)

By evacuating “the local,” the forces of state coercion and private interests are then provided with a rationale to rush in and save the day.

Ostrom (1990, p. 2) countered this perspective by focusing on local institutional arrangements that do not rely on privatization or the control of the central state and instead argues for “theoretical and empirical alternatives to these models to illustrate the diversity of solutions that go beyond states and markets”. For Ostrom (1990, p. 183), models such as the tragedy of the commons do not have a nuanced sense of local social relations and instead use “extreme assumptions” like rational choice theory or prisoner’s dilemma that are unable to predict social outcomes that are “outside that range” of “locked-in” behaviour, such as cooperation among participants who have access to common pool resources.

For McCay and Acheson (1987, p. 9) it is not so much what is outside the modern economic system that causes environmental degradation (the commons), but rather what is inside the system of industrial capitalism:

It can be argued that the common property status of resources is neither a necessary nor a sufficient explanation for resource depletion and economic impoverishment. Problems blamed on common property rights, such as depletion of resources and impoverishment of communities, may be more closely related to capitalism and other manifestations of a colonized and industrialized world than to common property per se.

When industrialization is seen as the problem there are very different policy outcomes compared with seeing common property as the culprit.

In the field of development studies focused on North–South relations, there is a clear sense of the colonial dimensions of exporting Hardin’s model to local cultures in the Global South. To quote Chopra et al. (1990, p. 25):

... the concept of common property (like any other property structure) must be defined in a manner that includes the nature of the institutions that enforce it. Not doing this can lead to erroneous policy conclusions in a situation in which these institutions tend to become weak and ineffective. Privatisation of common property resources, for example, is often suggested as a solution to ‘the tragedy of the commons.’ The protagonists of this view base their postulations on (a) the prohibitive cost of reaching and policing agreements to determine rates of use or exploitation of common property, or (b) the interpretation of common property as ‘ownership by all’ rather than by a group functioning under a specific set of rules.

Bromley and Cernea (1989, pp. 6–7) came to similar conclusions when analysing past failures of World Bank projects:

... common property regimes have attracted considerable analysis and debate, with both researchers and development practitioners distancing themselves more and more from the stereotype of the “tragedy of the commons.” ... Common property carries the false and misplaced burden of “inevitable” resource degradation that instead has to be causally attributed to situations of *open access* ... By confusing an open access regime (a free-for-all) with a common property regime (in which group size and behavioural rules are specified) the metaphor denies the very possibility for resource users to act together and institute checks and balances, rules and sanctions, for their own interaction within a given environment.

The Hardin metaphor is not only socially and culturally simplistic, it is historically false. In practice, it deflects analytical attention away from the actual socio-organizational arrangements able to overcome resource degradation and make common property regimes viable.

Shiva (1989, pp. 88–89) is well known for championing perspectives that challenge the imposition of Northern perspectives on the South, especially as they apply to the tensions between the “Green Revolution” and biodiversity issues:

There is, of course, the popular triage thesis that the poor have no right to survival and should be dispensed with. Hardin’s tragedy of the commons scenario emerges from male reductionist assumptions about nature and the logic of triage that such reductionism and its principles of exclusion and dispensability entail. Hardin is just a symbol of the new trend in reductionist science which uses the language of ecology and conservation to unleash another attack of violence against nature. More centralization, more uniformity, more manipulation become new and false prescriptions for overcoming the ecological crisis. Yet neither nature nor people can be saved when the destruction of the former and the dispensability of the latter are the presupposition for creating the new reductionist science of nature.

The centralization pointed to by Shiva is also reflected in McEvoy’s (1987, pp. 296–297) view of the enclosure of the commons:

Progressive conservation envisioned a powerful central state made up of impartial experts who would command a passive citizenry to obey efficient laws. Rather than correcting the market failures that might lead to Hardin’s tragedy of the commons, however, the structure and processes of lawmaking for the fishery merely duplicated them in a different forum.

Once again we see that Hardin’s metaphor has been incorporated into a broader agenda that attempts to align the assumptions of environmental debates with the market economy paradigm.

What Hardin is describing is not the tragedy of the “commons”. He is describing the tragedy of conservation when it takes for granted the assumptions of the dominant structures of capitalism. Conservation failure is not a problem with the commons. It is a problem with the economic relations that promote ecological degradation. By becoming increasingly instrumental in their focus, as seen in initiatives such as adaptive management, current conservation perspectives strategize with rather than challenge these powerful industrial realities. If we take the range of perspectives on Hardin into account, it is clear there is an emphasis on the analytical erasure of local social relations, the very relations that many of these theorists and practitioners see as a viable basis for promoting ecological diversity and social justice. Roberts and Emel (1992, p. 250) argued that resource degradation has more to do with uneven development within capitalism than with the dynamics attributed to the tragedy of the commons: “uneven development provides a more encompassing and more fundamental basis for understanding ... resources problem definition” and the key to this kind of analysis centres around appraisal of “the social processes of production”. The following section is focused on the work of Polanyi (1957) and sets out a frame of reference in which to reflect on the relationship between market economy and social relations.

Formal and substantive economics in Polanyi

The analytical consequences of universalizing capitalist relations within conservation strategies can be illustrated with reference to the way Polanyi set out his contrasting definitions of formal and substantive economics that he saw as essential to the viable study of the history of exchange relations. Central to Polanyi’s (1957, p. 47) discussion about the difference between the patterns of integration that predominated in differing historical periods, are the terms “embedded” and “disembedded” relations.

In socially embedded systems based on reciprocity, redistribution, and the household, humans do “not act to safeguard [their] individual interest in the possession of material goods; [they] act to safeguard social standing, social claims, social assets. [They] value material goods only in so far as they serve this end”. In other words, systems of exchange are embedded in wider social systems. For Polanyi, embedded relations have predominated throughout most of human history. Only in the modern period do social relations become disembedded by commodity relations in the context of the expansion of capitalism. Instead of economy being embedded in social relations, social relations under markets are transformed into commodity relations, or are disembedded. Within the disembedded framework of a market economy, “... [hu]mans and nature ... must be subject to supply and demand, that is, to be dealt with as commodities, as goods for sale” (Polanyi 1957, p. 130). Polanyi (1957, p. 163) referred to this process as the fictitious commodification of land and labour and described the ramifications of this transformation on human activity:

To separate labor from other activities of life and to subject it to the laws of the market was to annihilate all organic forms of existence and to replace them by a different type of organization, an atomistic and individualistic one.

This process had a similar annihilating effect on the natural world, both in conceptual terms (resources), as well as in terms of destruction of species and habitat.

What is noteworthy here for discussions of conservation is that there is a profound incommensurability between embedded and disembedded relations, and there is very little that can be negotiated or reformed that would make these alternate metabolisms more amenable to each other. This is not an operational or strategic problem or one of green incentives, it is a social problem in which the world has become inverted. By inversion, Polanyi (1957) meant that commodities have the dominant social relations in market societies, which humans and nature serve in material terms. This is a central structural element of capitalism. As Wood (1995, p. 19) states “... there is a tendency to perpetuate the rigid conceptual separation of the ‘economic’ and the ‘political’ which has served capitalist ideology so well ever since the classical economists discovered the ‘economy’ in the abstract and began emptying capitalism of its social and political content”. It is this emptying out of the social that creates the passive categories of human and natural resources, and it is this social constriction in the context of disembedded relations that, following Polanyi (1957), is a central challenge in forging a link between social impoverishment and environmental destruction.

For Polanyi (1968, p. 140), a useful way to challenge the exporting of market perspectives into other cultures—to historicize it in other words—is to differentiate between formal and substantive definitions of economics:

The formal definition of economics derives from the logical character of the means–ends relationship, as apparent in such words as “economical” and “economizing”. It refers to a definite situation of choice, namely, that between the different uses of means induced by an insufficiency of those means. If we call the rules governing choice of means the logic of rational action, then we may denote this variant of logic, with an improvised term, as formal economics.

It is this “logic of rational action” that we can associate with Hardin’s metaphor. In contrast to formal economics, Polanyi (1968, p. 139) defined the substantive meaning of economics in much broader terms as deriving from “... man’s dependence for his living upon nature and his fellows”. This substantive definition refers to the interchange which happens between the natural and social environment, and opens up a conception of economics that can be applied across a range of cultures and historical periods. Polanyi (1968, p. 140) outlined the difference between these two definitions in this way:

The two meanings of economic, the substantive and the formal, have nothing in common. The latter derives from logic, the former from fact. The formal meaning implies a set of rules referring to choice between the alternative uses of insufficient means. The substantive meaning implies neither choice nor insufficiency of means; man's livelihood may or may not involve the necessity of choice and, if choice there be, it need not be induced by the limiting effect of a "scarcity" of the means; indeed, some of the most important physical and social conditions of livelihood such as the availability of air and water or a loving mother's devotion to her infant are not, as a rule, so limiting . . . The laws of the one [formal] are those of the mind; the laws of the other [substantive] are those of nature.

In the context of the universalization of utility maximization and "greed" as can be seen in Hardin, economic analysis tends to merge these two meanings in a universalizing fashion when in fact the formal definition only applies to disembedded relations under market conditions. As Polanyi (1968, p. 141) stated, "as long as the economy was controlled by such a [market] system, the formal and the substantive meanings would in practice coincide" when markets dominate historical contexts. This framing of environmental problems in terms of market assumptions tends to universalize this logic in a way that makes it difficult to identify it as a cause of environmental problems. This is precisely the problem with Hardin's metaphor.

Moving from a formal definition to a substantive definition of economics allowed Polanyi (1968) to present various patterns of integration based on differing exchange relations. Further extricating the understanding of exchange from market biases, Polanyi defined exchange, not in terms of prices, but as an instituted process that organizes forms of social exchange without any consideration for quantified value. The economy as instituted process refers to the mechanical, biological, and psychological interaction of elements in an institutional frame of reference which in turn gives that process unity and stability, at the same time as highlighting the historic specificity of economic relations (Rogers 1994, p. 47).

In *Scarcity and Modernity*, (Xenos 1989) outlined the way in which scarcity moves from an episodic reality in the life of humans, to being a general condition in the context of market economy. Before there was generalized scarcity, there were temporary scarcities such as bad harvests and droughts that were limited in scope because human needs were interpreted as naturally fixed, and therefore scarcity could retain its limited sense. But once Westerners moved beyond the idea that needs are fixed (as inferred in "subsistence" livelihoods), and entered the expansion of "desire" the prospect of constructed general scarcity loomed (Rogers et al. 2004).

Throughout the period of economic expansion in the 17th and 18th centuries, the elasticity of needs became an engine of progress that drove the economy. As Sahlin (1996, p. 398) stated: "self-pleasing man turned out to be a good thing and in the end the best thing, since the greatest total good would come of each person's total self-concern". The expansion of industrial capability and the resultant increase in consumer choice grew to the point where market realities provided a new basis for understanding human behaviour.

The scarcity postulate provided the basis for this new economic science. It became generalized as a technical concept that could be applied to any number of situations, as set out in this famous quotation from Robbins (1932, p. 15):

We have been turned out of paradise. We have neither eternal life nor unlimited means of gratification. Everywhere we turn, if we choose one thing we must relinquish others which, in different circumstances, we would not wish to have relinquished. Scarcity of means to satisfy given ends is an almost ubiquitous condition of human behaviour. Here, then, is the

unity of the subject of Economic Science, the forms assumed by human behaviour in disposing of scarce means.

Robbins's statement is focused on individual desire and the consequent frustration caused by "scarce means" and the endlessness of "given ends". Individual vulnerability in the face of competition and consumption has replaced issues related to the ethical relationship between the individual and "the social whole." Neoclassical economics does not only generalize "a particular set of circumstances and a particular model of the rationality appropriate to it," it also generalizes "a particular set of institutions—property and markets—which are deemed to be the natural results of scarcity" (Xenos 1989, p. 72). Generalized economic scarcity not only has analytical and experiential consequences in "developed" countries, but it also has serious ramifications for people outside of the development ethos: "It is this artificial scarcity, a scarcity created by desire rather than need, that in large part drives the development projects that have destroyed the lives of Indigenous people in the name of "progress" (Smith 2002, p. 139).

Economic scarcity is therefore generalized, both as a way of seeing the world that operates at an individual level, and as a global political and economic agenda. As Jamieson (1992, p. 140) stated, "One reason for the hegemony of economic analysis and prescriptions is that many people have come to think that neoclassical economics provides the only social theory that accurately represents human motivation". The presumption of infinite desire for material goods becomes the basis for understanding how the world works, rather than a specific historical construction that is destroying the natural world.

It is this kind of universalization that Polanyi (1957, 1968) endeavoured to challenge with concepts such as embedded and disembedded relations, and the contrast between formal and substantive economics. Polanyi's attention to historical specificity can be of use in challenging the universalization that is present in Hardin's conception of tragedy. If we return now to the main argument of the paper—that Hardin universalizes "rational, free enterprise" to all cultures at all times as the basis for understanding the dynamics that led to the degradation of the commons, and that this same universalization currently dominates current analysis of environmental problems in the North—it is possible to link Polanyi's (1968) definition of formal economics with Hardin's conception of tragedy so as to characterize it as "formal tragedy," or what can be argued is "tragedy from above". By contrast, it is possible to set out a substantive version of tragedy that highlights the specificity of capitalist relations and the social crisis that these relations engender when they are imposed on human and natural communities as "tragedy from below".

Formal tragedy: conservation as enclosure

The conception of tragedy that appears to inform Hardin's metaphor can be linked to critics such as Bradley (1905) who characterized tragedy as a person of "high degree" who experiences a reversal of fortune because of a fatal flaw. The audience experiences the horror of seeing Oedipus or Macbeth strive against a remorseless decree as the action in the play unfolds in all its grief and misery as the inevitability of the fall is finally, and belatedly, revealed to the fallen hero as well, but not before social chaos has been visited on the whole of the community.

Hardin attempts to set out the perils associated with the free and unregulated access to scarce resources by focusing on the commons, as well as on the expansion of human population. If this exponential increase in human numbers takes place "without relinquishing any of the privileges we now enjoy" there will be an inexorable depletion of the Earth's resources. The recurrent theme in Hardin's work is the remorselessness of this prescribed fate which he sees in tragic terms:

Each man is locked into a system that compels him to increase his herd without limit - in a world that is limited. (Hardin and Baden 1977, p. 20)

... we are locked into a system of “fouling our own nests” so long as we behave only as independent, rational, free-enterprisers. (Hardin and Baden 1977, p. 22)

To couple the concept of the freedom to breed with the belief that everyone born has an equal right to the commons is to lock the world into a tragic course of action. (Hardin and Baden 1977, p. 24)

Individuals locked into the logic of the commons are free only to bring on universal ruin. (Hardin and Baden 1977, p. 29)

Is this historic “locked-in” tragic dynamic not exactly what Polanyi (1957, p. 42) described as the consequences of disembedded relations:

Machine production in a commercial society involves... a transformation... of the natural and human substance of society into commodities. The conclusion, though weird is inevitable.... [T]he dislocation caused by such devices must disjoint [hu]man relationships and threaten natural habitat with annihilation.

The pernicious aspect of Hardin’s short-circuiting of analysis is that he sets “rational free enterprise” in the context of herdsmen putting animals on a commons, thereby erasing the possibility of differentiating between Polanyi’s contrasting conceptions of the formal and substantive meanings of economics. Referring to Hardin’s tragic “myth”, McEvoy (1987, p. 300) described the relations that inform the herdsmen’s interactions with each other and with the commons in this way: “As individuals, they are alienated, rational, utility-maximizing automatons and little else. The sum total of their social life is the grim, Hobbesian struggle of each against all and all together against the pasture in which they are trapped.” Or more precisely, it is a dynamic that represents the triumph of disembedded relations.

The case of Canada’s East Coast fishery

Industrialized fisheries typically reduced community biomass by 80% within 15 years of exploitation (Myers and Worm 2003, p. 280)

Fishery management failed on Canada’s East Coast because managers kept trying to solve the wrong problem. The fishery was seen as not “capitalist enough” because it had a common property problem that required property rights (first state ownership and then private rights) if continuous market failure was to be overcome. In pursuing these management goals, resource managers accelerated the economic and technological pressures that marginalized inshore fishers and collapsed the resource. The idea that there was a social dimension to fishery management, and that fishers could also be managers, never came up for discussion.

Canada’s East Coast fishery therefore provides an evocative illustration of both the general application of the Hardin metaphor as the basis for understanding the “fisherman’s problem” and also of the universalization of market relations as the frame in which human behaviour is understood to occur. I spent many years as a commercial fisherman in Nova Scotia and have witnessed the decimation to ecological communities and human coastal communities that has taken place under Department of Fisheries and Oceans management regimes. The policies of the nation state supported the very dynamics that caused ecological collapse and economic marginalization, namely the increasing enclosure of fishing dynamics within the structures and processes of market capitalism that rewarded the most powerful exploiters of the fish stocks. This dynamic led to the complete ecological collapse of the cod in 1992.

What was presented as conservation initiatives ended up being little more than an enclosure movement. Or to put it another way, throughout the time it managed the fishery, from the declaration of the 200-mile limit in 1977 to the moratorium in 1992, the Canadian government put in place the very processes of modernization and industrialization that cause the “tragedy of the commons,” all the while identifying common property as the problem they were trying to solve. And in doing so, this regime destroyed the livelihoods of those members of coastal communities in whose name the Canadian Government managed the fishery. As a former inshore fisherman, I do not recognize Hardin’s herdsman as a member of any community to which I belonged. What I did witness was social constriction and dislocation and the dispersal of community members to such places as the tar sands of Alberta. From this perspective, the destruction of the commons requires a reconceptualization of tragedy that clearly identifies the tyranny of economic imperatives; at the same time, it asserts a broader social and historical context as the basis of analysis.

The tragedy of the commons metaphor informed both the way many national resource management regimes in many different countries understood ocean fisheries issues as well as informing how policy goals were shaped, ultimately leading to policy outcomes that led to the collapse of the ocean commons. But the “locked-in” nature of this dynamic did not have to do with the innate propensities of fishermen who acted out Hardin’s tragedy, as if propelled by some internal drive to maximize utility. The locked-in nature of the tragic dynamic is analytical, in that fishery managers enclosed the policy landscape within this formal tragic dynamic, and in doing so, the metaphor “served less as a heuristic device for understanding environmental problems than as a recipe for exacerbating them” (McEvoy 1987, p. 301).

In the name of increased efficiency and rationalization of operations, resource managers have attempted to control what they perceived as the expansionist logic of common property through a program of catch quotas, area closures, gear and vessel restrictions, limited-entry licensing, and the granting of property rights. A series of quotations illustrate the chorus of management complaints that have been levelled against the common property “problem” in the East Coast fishery:

In an open access, free-for-all fishery, competing fishermen try to catch all the fish available to them, regardless of the consequences. Unless they are checked, the usual consequence is a collapse of the fishery: that is, resource extinction in the commercial sense, repeating in a fishery context “the tragedy of the commons”. (Fisheries and Marine Service 1976, p. 39)

Economists have traced the special problems of the fishery to the circumstance that it depends on utilization of a common property resource . . . Where no property rights are exercised with respect to the resource, there is a tendency for excessive manpower and capital to enter the industry. This leads to dissipation of the rents the industry could earn and to low returns for labour and capital. (Copes 1977, p. 3)

It must be further acknowledged that the fishery is rife with incentives to expand. The most important of these are the common property nature of the resource. (Kirby 1983, p. 32)

The common property aspect of the fisheries is fundamental to many of the current problems of the fishery. (Weeks and Mazany 1983, p. 2)

The familiar “race to fish” leads to too much investment in fishing capacity, which puts the fishing industry in a fragile financial state even when fishing is controlled well enough to protect the stocks. (Hache 1989, p. 9)

Too much is being demanded of the fishery . . . A basic reason is that a fish swimming free in the ocean belongs to anyone with a legal right to catch it. It is the common property of everyone holding an applicable license. Everyone wants as much of the resource as possible. So,

without adequate controls, the resource declines. And, if more people can put pressure on the resource, average returns decline even faster. (Cashin 1993, p. 15)

Within Canada over the past 25 years a complex web of measures has been developed to deal with the problem of the “race for the fish” [related to common property]. These include allocation of access... limited entry licensing... and individual quotas. Individual quotas are a step in the evolution of property rights. (Parsons 1993, p. 118)

Groundfish resources in Canada have traditionally been treated as common property... where none own a particular share of fish. This basic characteristic creates what is called the common property problem... [which leads to] overexploitation..., is economically wasteful..., [and causes] competition and social conflict. (Angel et al. 1994, pp. 1–2)

This was the expansionist dynamic that was identified as the source of the problems of an unregulated or “open-access” fishery dominated by the international distant water fleet, and it was this dynamic that the Canadian government hoped to bring under control with a comprehensive management framework when it extended its coastal economic zone to 200 miles in 1977. It was the goal of the “unified directing power” of the state identified by Gordon (1954) that would mitigate the inefficiency and overcapacity in the fishery. Although it was greeted with great enthusiasm following the declaration of the 200-mile limit, the public-property-based comprehensive regulation of a “unified directing power” was perceived by the mid-1980s to be an expensive failure. As a result, the Canadian government gradually began to grant ownership of a share of the annual quota to the larger participants in the industry in hopes that privatization would stem the depletion of the fish and promote economic stability, while ridding the fishery of ongoing conflict between exploiters and regulators that had been generated by public property management approaches.

Privatization of fish quota did little to limit exploitation, as there was a massive increase in the dumping and high-grading of catches as the fleet tried to meet their very specific quota and species restrictions. At the same time, the privatization of quota generated a buy-out process where those with the least resources in the fishery could not survive on their allocations and had to sell out to the larger players in the industry. Rather than achieving their stated management goals of ecological and economic stability, Canadian fishery managers promoted the very realities that created the political economy of depletion and dependence.

A very interesting aspect of the debate over the common property “problem” relates to the recognition of the historical moment in which this debate appears. A case can be made that the cultures that practice common property management—in anthropological terms as the historically specific social and cultural institutions (such as “souming” in the Scottish Highlands) that prescribe the access to and the use of a shared benefit, as well as regulating the level of the demands made on that benefit—can be linked to Polanyi’s (1957) conception of embedded relations. There are many examples throughout history of the commons being managed by communities in a sustainable manner. In fact, this common property debate requires the existence of private property, as well as the appearance of overexploitation issues, for there to be an accompanying discussion of the common property “problem”. So, another pairing emerges here that we can add to conservation and development or social and economic matrix, that is common property or private property. The term common property is unthinkable without the concept of private property to give it meaning. Common property provides a window through which we can behold the significance of private property. As Durrenburger and Palsson (1987, p. 371) stated:

For common property to be defined, it must be problematic... This is likely to happen only under the pressure of overuse of the resource, which is the beginning of the tragedy of the

commons. Such overuse is a function of trying to produce more from the resource than it can yield over the long term. The conditions for such overproduction are found when production is organized for exchange rather than for use, a phenomenon of stratified societies.

This statement points to the importance of the social context in which particular issues become discussable. When one assesses the problematic nature of common property, this usually means that it is problematic at a very specific historical moment for those actors who want to intensify both ownership and industrial production, as well as a sense of the impediment posed by groups in a society who share the commons and are standing in the way of “progress”. Common property is not problematic for peasants, Indigenous peoples, or artisanal fishers around the world. It is, or was, the social basis of their lives in embedded terms. Therefore, it becomes possible to argue that Hardin’s version of tragedy is a formal one that can be characterized as “tragedy from above,” remorselessly imposed by the powerful on the powerless when production is organized “for exchange rather than for use”.

This “moment of danger” occurred in Canada’s case when the federal government declared the 200-mile limit in 1977 and proceeded to nationalize the fish stocks and impose the management structures of the nation state on the East Coast fishery. Because of the incentives provided by the federal government to the larger business interests in the fishery, by 1980 the Canadian dragger fleet was more powerful than the international distant water fleet that had been banished from its waters in 1977 because it was claimed that it threatened the survival of the fish stocks. The domestic dragger fleet also received the vast majority of the annual fish quota. These cultureless automatons then set about enclosing the commons, collapsing the fish stocks, and marginalizing the inshore fishing fleet in the process. So management of the fishery did not “fail” when the fishery collapsed. On the contrary, the Canadian government had succeeded in carrying out their own self-described goals of making the fishery more capitalist. All that was left now was to blame the victims still living in coastal communities for being inefficient spectators of the decimation, highlighting their failures at not being properly initiated into the work discipline of capitalism. So analytical failure follows ecological failure as conservation attempts to solve the wrong problem in the context of the universalization of market relations.

Substantive tragedy: social crisis in an inverted world

It now becomes possible to develop an alternate conception to Hardin’s formal tragedy by setting out a substantive version of tragedy that links [Polanyi’s \(1968\)](#) conception of substantive economics with [Goldmann’s \(1964\)](#) understanding of the historic specificity of the appearance of tragedy and the social crisis that accompanies it. For the purposes of this paper, substantive tragedy can be characterized as “tragedy from below” and linked to [Polanyi’s \(1968, p. 139\)](#) substantive meaning of economics as being derived from “... man’s dependence for his living upon nature and his fellows” has commonality with [Goldmann’s \(1964, p. 20\)](#) tragic vision, representing as it does a social crisis in “man’s relationship with his fellows and with the universe”. In the same way that there is a historic specificity to the appearance of the “common property problem,” there is, according to [Goldmann \(1964\)](#), a historic specificity to the appearance of tragic literature. The tragic vision chronicles the crisis in human relations that occurs in the transformation from rural agrarian cultures to urban merchant cultures (e.g., 5th Century BCE Greece, 16th Century England, 17th Century France, 19th Century Russia) or for the purposes of our discussion more specifically: tragic literature chronicles the crisis in human relations that occurs in the shift from embedded to disembedded relations. Tragedy is substantive in the sense that it focuses on the historical relations that preceded the encroachment of disembedded relations and the way of life that is being lost in the transformation of these relations.

A substantive version of tragedy also highlights the profound incommensurability between the world of embedded relations and the world of disembedded relations. As [Goldmann \(1964, p. 4\)](#) stated, in tragedy “the conflicts are necessarily insoluble”. This is because the world of disembedded relations has “destroyed the two closely connected ideas of the community and the universe” which were then replaced by “the concept of a collection of free, equal and isolated individuals, whose relationships were largely those of buyers and sellers” ([Goldmann 1964, p. 27](#)). This meant that “when individualism carried its own principles to their logical conclusion, ethics and religion ceased to play an independent part in determining human actions” ([Goldmann 1964, p. 29](#)).

Caught within this painful transformation, [Goldmann’s \(1964, p. 33\)](#) tragic protagonists encompassed two main realizations: “The complete and exact understanding of the new world created by rationalistic individualism . . . and at the same time, the complete refusal to accept this world as the only one in which man can live . . .”. As [Hunter \(1976, p. 90\)](#) stated with regard to the Scottish crofters who were cleared from the Highlands in the 19th Century:

[The crofter] had not been born into a culture familiar with the capitalist order in which he found himself, for that order had come from outside—insidiously, through the operation of economic forces of which the crofter had no comprehension and over which he could exercise no control.

This dislocation and crisis render the tragic vision “incapable of seeing itself in historical perspective [as engaged in “development”]. It is essentially unhistorical, since it lacks the principal dimension of history which is the future [progress]” ([Goldmann 1964, p. 34](#)). In the context of the social crisis that is engendered in the transformation in relations, marginalized peoples use the better life of the past as an analytic tool to understand their current strife:

And what *The Scotsman* [journal] and most landlords failed to realize, moreover, was that the enduring significance of the crofter’s [Arcadic] view of the past is not to be found in its historical accuracy or lack of it, but in the fact that it enabled crofters to set the grim realities of the nineteenth century present against a vision of an older order in which material plenty was combined with security and social justice. ([Hunter 1976, p. 93](#))

The unity that is lost in tragic literature is predominantly the unity of religion, community, and land. This loss is conveyed in what [Goldmann \(1964, p. 7\)](#) refers to as the transitory rendering of the hidden God: “though he is always present this God remains a hidden god, a god who is always absent”. Presence and absence capture the pain of transformation in social terms, where temporarily, two different worlds contend at the same time. This is a world in *King Lear* where Poor Tom a Bedlam will, with his nakedness, “outface the winds and persecutions of the sky” and of Gloucester, who, after he had his eyes gouged out, will have to learn to “see feelingly” and when he is reunited with his son Edgar, he dies, his heart having “burst smilingly” ([Shakespeare 1877, II, iii, 11–12](#)). This is the polarized world of the crisis of dislocation that substantive tragedy chronicles. This is how the inversion of the world is experienced from below by those who are being expelled from the commons.

Tragedy is therefore part of a longer, more varied, residual cultural record of loss that occurs in [Benjamin’s \(1973, p. 257\)](#) “moments of danger.” The danger is experienced as a crisis, of breathing the new air of an alien world, of being suddenly and irrevocable “newly stupid” in a world that is shunting one aside. For Elizabethan tragic literature, the threat was posed by the beginnings of mercantile capitalism, as chronicled in works such as *The World Turned Upside Down* by [Hill \(1972\)](#), where in times of rapid social change, there is a temporary conversation between what is entering and what is leaving culture. So at the same time as there is a heralding of a new period of economic expansion and scientific discovery, other groups, such as the radical sectarians associated with the Diggers, the Ranters, the Seekers, and the Levelers, experience these changes as a social crisis.

A similar case can be made that the Industrial Revolution engendered the “Romantic Rebellion” In *Perspectives on Romanticism*, Morse (1981, p. 257) describes a similar refusal to that of substantive tragedy: “What Romantic discourse foregrounds as a problem is the incommensurable: there is no common measure between ... the poet’s vision and the everyday, between the values of the past and the values of the present”. The struggles of Indigenous people all over the world are rife with this kind of incommensurable horror and are underwritten by a version of the world that saturates one’s entire being as, while at the same time, evaporating into a cloud of grief. This “moment of danger” is conveyed in the heartbreaking statement by the Crow Chief Plenty-Coups: “When the buffalo went away the hearts of my people fell to the ground, and they could not lift them up again. After this nothing happened” (Linderman 1964, p. 311).

Refusal and incommensurability, as well as the presence–absence tension, are central to the discourses of radical conservation that emerged as a counterpoint to the ramping up of economic globalization in a subsequent “moment of danger” in modernity. The unity of, and the threat to, nature and community are expressed in Livingston’s (1981, p. 101) *Fallacy of Wildlife Conservation* when he stated, “I rejoice in wildlife and I despair, in equal measure”. The more radical versions of nature conservation are based on a simultaneous recognition of unity and the loss of it; an identification with a world and the incommensurability of that identification finding a place within the intensifying realities of globalization that are characteristic of substantive tragedy.

So what could a substantive analysis of fisheries management have offered fishing communities that would have had a different outcome than the application Hardin’s formal tragedy to management decisions? It would have begun by highlighting the moment of danger that typifies the movement from embedded to disembedded relations that inverts the world, thereby posing a threat to the commons. Fishery management would then be understood as a social project rather than the acceleration in the privatization of political power in a market economy.

As opposed to the formal tragedy solution of instituting property rights that then accreted to larger players in the industry, a substantive response to privatization processes and increased pressure on the fish stocks would have emphasized a direct challenge to these forces by members of coastal communities. As a direct challenge, conservation would cease to be a strategic specialty, but is instead a self-consciously broad social and ethical agenda that shares few of the assumptions with the powers that threaten it, thereby unifying conservation and development polarity at the local level. It re-embeds management in those who have direct access to the fish so that a viable conception of human and natural communities can re-appear, rather than the “cultureless automatons” of Hardin’s commons. In this altered landscape, it would have then become possible to outline an agenda that would re-assert control of the commons. Local institutional arrangements could be based on processes that are underwritten by: (i) a clear definition of community, (ii) a declaration of local ownership of the resource, and (iii) a democratic decision-making process. In this way political and economic democracy are combined and conservation folds into a wider social agenda. This would have re-embedded management in the communities themselves and conservation would have become identical with community goals.

It is this kind of perspective that currently informs the Mi’kmaq pursuit of a moderate livelihood in Nova Scotia. The management plan they submitted to the Department of Fisheries and Oceans is shaped by conservation and community well-being. The violence and racism that the Mi’kmaq have faced in carrying out their lobster fishery is an indication of the extent to which the fishery is captured by the disembedded relations of market economy. Even in the face of recent catastrophe of collapse and dislocation caused by industrialization, the local relations that theorists such as Ostrom (1990) identified as the very basis of social and ecological success, are the ones that stand out as outliers and are attacked as a threat to the system.

Conclusion—analytical drift in conservation

By setting out contrasting conceptions of formal and substantive tragedy, two very different landscapes for conservation emerge. In formal tragedy from above there is a remorseless dynamic that dominates a socially impoverished landscape of pervasive utility and scarcity. This dynamic requires “mutual coercion mutually agreed upon” if conservation is to be achieved because otherwise individual greed will destroy the world. In the case of the East Coast fishery, none of these measures succeeded because conservation, in the formal context, attempted to solve the wrong problem (the fishery was not capitalist enough). Ecological collapse and social marginalization were the direct outcomes of fisheries policy.

On the other hand, a substantive approach to tragedy from below conveys the historic specificity of the common property “problem” that provides the excuse for enclosure that is then imposed upon particular groups by powerful entities linked to capitalism. These groups express a deep grief linked to “refusal and incommensurability” about finding a viable life in Hardin’s remorseless world. To paraphrase Kallis (2019, p. 4): Do we want to live in a world with unlimited wants and scarce resources mediated by coercion, or do we want to live in a world of limited needs surrounded by abundant nature mediated by community consensus? This is the difference between embedded and disembedded relations.

But conservation is also an analytical project as well as a practical challenge. To not be continually solving the wrong problems, conservation approaches may need to have more than a strategic component that adopts the mechanisms of dominant structures. To quote Polanyi’s (1968, p. 174) again, conservation may need to retain an analytical frame of reference that is not identical with markets but instead articulate a frame “to which the market itself is referable.”

In “moments of danger” throughout modernity, fracture and dislocation dominate the social experience of particular groups as generalized disembeddedness pervades more and more communities in the context of the expansion of capitalism. As economic forces expand, the window of debate is sealed over as more and more of the world is consolidated into a “new order”, which in turn impoverishes the analytical landscape. As Yapa (1996, p. 707) stated in *What Causes Poverty?: A Postmodern View*, traditional development discourse “is deeply implicated in creating poverty insofar as it conceals the social origins of scarcity”. In the North, conservation is being drained of its ethical content and rendered increasingly as a strategic project merely. This reality is conveyed at times in the tension between the natural sciences and social sciences that engage with conservation issues. As seen in Newton and Freyfogle (2005), there have been periodic calls for the natural sciences to withdraw from interdisciplinary conversations about sustainability because there is a sense that social concerns tend to sideline efforts to promote biodiversity conservation. As complicated as it is at times, viable conservation requires both the natural and social sciences to work together in the promotion of social justice and nature conservation. The idea that you can have a “stand-alone” project like science-based nature conservation in a world this stretched and conflictual is not a viable project. Otero et al. (2020, p. 2) argued for: “the need to move away from the global economies current foundation on economic growth while discussing the role of conservation science in the transition to a society focused instead on biodiversity and well-being”.

In the face of neo-liberal globalization, Indigenous peoples and local communities in the South struggle against the predatory forces that marginalize them. Latouche (1993, pp. 215–216) has referred to these groups as “castaways” who grapple with a double techno-cultural heritage of refusal and incommensurability: “the residue of their irredeemably lost former identity, and the aborted passage through an inaccessible modernity”.

Without a clear accounting for the centrality of substantive economics and the incommensurability between embedded and disembedded relations, analytical enclosure will tend to facilitate economic enclosure, and conservation strategies will confine themselves to being little more than an add-on to economic expansion, as formal tragedy from above triumphs over substantive tragedy from below. In this context, it may be possible to speak of the tragedy of conservation as it struggles with its own “moment of danger”.

Author contributions

RAR conceived and designed the study. RAR performed the experiments/collected the data. RAR analyzed and interpreted the data. RAR contributed resources. RAR drafted or revised the manuscript.

Competing interests

The author has declared that no competing interests exist.

Data availability statement

All relevant data are within the paper.

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