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The Political Framework of the Common Good [1]

A Complex Adaptive Assemblage

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***Abstract*— This paper assumes the common goods as emergencies in a political arena while simultaneously tackling the dialogical relations among its economic, institutional, and material-technical dimensions. We relate to such interaction as the Political Framework of the Common Good (PFCG). The research provides information for complex adaptive institutions, attenuating the gap between human communication (the social system) and its mediated reality (ecological system), focusing on institutional resource regimes. The framework moves beyond current literature staticity and unidimensionality on the commons and expands its concerns beyond property regimes.**

Keywords-component; Common goods; common-pool resources; complex adaptive systems; institutions; complexity

1. Introduction

A central point in the General Systems Theory emphasizes the differences between physical and biological systems and their dynamic equilibrium relationship [1]. The discussion takes on Complexity studies, focusing on the inter-constitution between social and ecological systems. Both resonate on ecological movements dialogically, flourishing an enterprise for redefining society's needs and productions regarding resources [2]. The emphasis goes from the distinction to co-drift situations between systems, assuming the violence underlying their separation.

In an inter-constituent dialogical journey, the complexity in the systemism and the systemism in the complexity engender the notion of Complex Systems as autonomous dependent. This means that nothing active in nature is self-sufficient [3], including the social system. Also, as socio-cognitive (epistemological) constructs [4], complex systems can be understood as emergences from a problematization process in which intervenes values and dynamics of self-organization, emergence, non-linearity, adaptive behavior, and sensibility to initial conditions [5][6].

The way we undertake complexity regarding resources, whether in the material and/or analytical scope, converges to governance tensioning its staticity and hardness, demanding responsive actions. Thus, institutions, as a Complex Adaptive System (CAS) [7], [8], are tensioned under the current context (ecological flourishment) and environment (social, ecological, and economic crisis). A world society within the scope of the intellectual effervescence that resonates with the Earth System Sciences elucidates the importance of the Common Pool Resources (CPR), both natural and knowledge commons, moving the scope of its discussion as a political, multidimensional, and multiscale issue to urgently respond beyond the fascination with tragedies that may prevent and even invalidate intelligibility [9].

Garret Hardin's 'The Tragedy of the Commons' tackles the problem of human freedom over free-access resources [10]. We may confabulate the existence of three heroic figures in such a tragedy. The first is the Earth and her imminent destruction imposed by humans' institutional violence. The second relates to Hardin's problem solving, leading to free access, i.e., institutions are the heroic figure that imposes strict limits for human materialistic desire. The third pertains to a consequence of the problem solving, which considers the customary citizen as the hero, inflicted by the coercive history of agricultural society, assembled into modern capitalism and its implications [11]. These three interpretations — Earth, Institutions, and Citizens perform nested relations and attribute to 'tragedy' the ambiguity in the heroes' tragic expectations.

The ruthless manner in which human society mediates materiality is by officializing distinctions from other components of the cosmos. Therefore, we may relate to the politics of the common goods as 'Oedipal.' As the gap between humans and non-humans gets wider, a dilemma gains prominence: the dissociation of ownership (institutional dimension) and resources (economic dimension) from land (material dimension). Such a dilemma occurs as a consequence of the society's bureaucratic apparatus — Land, thus, gets detached from the commons.

This paper relates to the commons as emergencies in a complex political arena. This arena is simultaneously virtual and physical with an agency between materiality,

society, and institutions — each performing a complementary, competing, and antagonistic dialogical relationship. We represent this relationship in Fig. 1, which we call 'The Commons Hypercycle.'

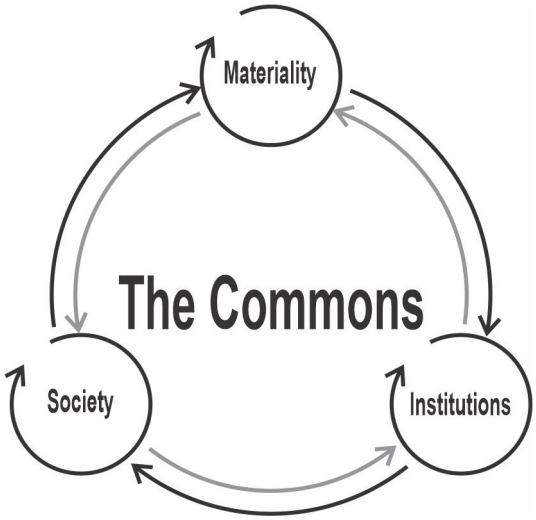

Fig. 1. The Commons Hypercycle

Rivalry and excludability are crucial features of the commons during times of scarcity. The scarcity would imply societal adjudication on legitimacies of exclusion, ownership, and rivalry. Those adjudications permeate institutional, economic, and material dimensions. We assemble these three dimensions under the Political Framework of the Common Good (PFCG). Such a framework responds to static and unidimensional analyses on the commons, repopulating it by its existential beings [5]. Thus, we discuss the potential for better communication between humans (the signifiers) and their mediated materiality (the referent). We also discuss the transmutation of this communication on institutions (the meaning).

Following this introduction, we also discuss the commons' politics and semiotic implications beyond tragedy and unrest. Then, we present a complex adaptive assemblage, the PFCG exemplified by two cases: the several 'waters' in the same resource system and the commons politics in a university campus. Then, we discuss the framework's implications and provide concluding remarks.

2. Commons Goods' Politics: Beyond Tragedy

Tragedy represents the struggle of existence regarding its finitude. The one struggling to exist (the hero) relies on oedipal mediation. Its conscious differences impose itself under defying environmental conditions. However, when existence affirms itself on a complex autonomy, its dependency becomes prominent, and alterity may become empathic — even political.

Complexity in politics finds its roots in the underlying (fuzzy) boundaries of society's choices, implying a role in decision-making arrangements while assembling consensus, authority, tasks, and responsibilities for an organization while mediating the risk of its bureaucratic pathologies [12].

The cosmos and social systems' diversity interacting with nuances of scarcity infer a political inevitability. It is a perspective of this inevitability that Hardin tackles when portraying the "Tragedy of the Commons."

Literature assembles an imbroglio when dealing with the commons by merging free-access problematic with the common good concept. The tragedy asserted by Hardin [10] settles on the pessimistic perspective on humans' communication with each other due to their freedom in communal life. Hardin analyzes this communication through users and uses, counting on their rivalries over resources free-access to study the commons through tragedy. The preference for injustice to total ruin under the narrative of efficiency and maximum utilization becomes prominent, and private property or state control are the natural choices to deal with overexploitation [13].

However, Aguilera Klink [14] clarifies the importance of distinguishing the concept of common property (multiple owners) and its underlying problem. According to the author, the concept is misguided as unrestricted access and the problem related to free access without agreements. Here, we discuss the problem's path under the lenses of political arrangements.

Literature broadly refers to the commons under the Ecosystem Services framework [15], [16], which involves land-grabbing discussions in the current ecological worldwide crisis. Those are pungent due to the transnational land acquisitions, or the 'land rush' at the commons' expense [17], [18]. Due to this concern, it is also relevant here to mention Vogler's 'Tragedy of Dispossession' [19], which maintains that from the moment a common good becomes private, the concept of sharing and exchange loses their essence.

On the other hand, Illich [20] discusses the transition from agrarian to industrial society as "the enclosure of the commons." Such enclosure results from a moral economy that confines the market economy at the expense of self-subsistence independence. Aguilera Klink [14] converges to Illich's argument by reiterating that the origin of the common good problem is on the individual economic rationality that distances economics from ethics. Therefore, for the author, common property and private property does not imply tragedy as long as an organized institutional set of rules governs it.

In the rationality that humans do not exploit isolated resources but ecosystems, private property full ownership is virtually impossible [14]. Thus, it is clear that the commons encompass a complex communication agency mediated by multiple information exchanges emerging from different existences (humans and non-humans). The society and its artifacts (e.g., institutions) transmute this complex communication into a complex-dynamic meaning-making device: the aegis of the commons in the realm of politics.

It is essential to acknowledge that by using the common good frame, an observer self-relates using five sets of lenses that crystallize as commitments, generating intentional and unintentional consequences about society's action upon materiality [21]. Those are (i) appropriation and the consequence of pollution as a form of appropriation; (ii) economic quantification and the consequence of nature as a financial capital market; (iii)

exhaustibility and the consequential unbridled competition over resources; (iv) property rights and anthropocentric management doctrines and the consequence of formalism; and finally, (v) externalities and impacts arising from the consumption of an actor from a resource's unit over other actors in the same resource system.

3. A Complex Adaptive Assemblage

Ostrom [22] distinguishes common goods in common-pool resources (CPR) from toll goods (literature also relates to 'club goods' and natural monopoly). The commons goods have multiple configurations in a dynamic existence co-responding to societal paths of legitimation.

Tonucci Filho and Magalhães [23] stand that it is the human activity that "turns a thing common," inscribing it in an institutional space under collective productions of specific rules. To better frame 'the commons,' Tepper [24] elucidates two dimensions: the economic and the legal. The former relates to resource uses and benefits, and the latter to property regime, functioning in dialogical influence. Choe and Yun [25] elucidate excludability and rivalry (i.e., subtractability) as social constructs and not purely physical or technical attributes. Therefore, excludability and rivalry are flexible and dependent on society and biophysical conditions. Based on these authors, we assemble a political construct for the commons, based on institutional, economic, and material-technical dimensions.

Aguilera Klink understands the commons as institutions [13]. When following Castoriadis, we refer to the former author. Castoriadis relates to institutions as a socially-sanctioned symbolic network, where functional components of a social ecosystem interact with social imaginary in a recursive process [26]. Thus, the aim of an institution is the social ecosystem's self-organization [27]. Such an organization relates to a self — every society is composed of selves. These multiple and singular selves relate to each other and their environment in a regime of asymmetries driven by differences. An emergence of this complementary, competing, and antagonistic relationship is the idea that crystallizes as a paradigm in the institution of ownership (i.e., the possession idea and property regime). The discussion above follows the institutional, economic, and material-technical dimensions as we understand it.

When there is a property regime, the institutional dimension relates to sets of property rights [24], from which the symbolic instance of law (formal rules) limits users and owners. Those property rights conditions a material mediation that is more or less private (individualistic) or public (collective). If there is no property regime, the institutional dimension will relate to informal rules to perform individualistic or collective mediation. The complexity (i.e., complementary, competing, and antagonistic) of formal and informal rules lead us to move from a legal dimension to an institutional one to better deal politically with the commons (the legal dimension as a subsystem of the institutional system). Even in situations with a property regime (e.g., when the owner establishes a particular policy for its goods, permitting free access), the informal rules may configure specific situations different from legal provisions.

The economic dimension relates to the societal legitimacy and non-legitimacy of economic exclusion [25]. In other words, it relates to the difficulty in preventing others from using the resource. This difficulty may be due to taxation, control, or accessing difficulty (physical barriers).

The material-technical dimension adheres to the eminence or the presence of scarcity. Scarcity emerges from ecosystem dynamics (drought, floods, natural forest fires, etc.), anthropogenic factors (pollution, overfishing), societal expectations (societal asserting a value for ecosystem availability), and societal praxiological mediation (crowded cinema, traffic jam, few places available to a large number of interested parties, etc.). Rivalry and exclusions also arise from corporate response to scarcity. The rivalry is both a biophysical and socially constructed attribute, and it is within this notion that its existential beings can repopulate the common good. By existential beings, we mean entities that are more or less stable, autonomous, with reference to themselves (closure) while dependent on ecosystemic relations (openness) [5]. The corporate rivalry may not make sense for the entity. In this case, the societal rivalry transforms the ecosystem reality, presenting it with quantitative-qualitative scarcity (spatial restrictions, water withdrawal, pollution, etc.).

Scarcity then, would imply a societal interaction with the presence or absence of rivalry. Under rivalry, one actor's (the ecosystem, the polluter, the people who occupy the cinema seat) usage subtracts the potential use by other actors in the same regime system.

Fig. 2 represents the PFCG. In this, rivalry attributes follow the social legitimacy of economic exclusion. The blue hatch represents the common goods. The institutional dimension cross-section the commons vertically, representing communitarian/individual formal/informal orientations. The resource may transit within the framework, depending on its social-legal-material context, changing its conditions (that is why the dashed lines). The reader should note that our framework is not attained on typological but situational, implying an analysis that converges time and space.

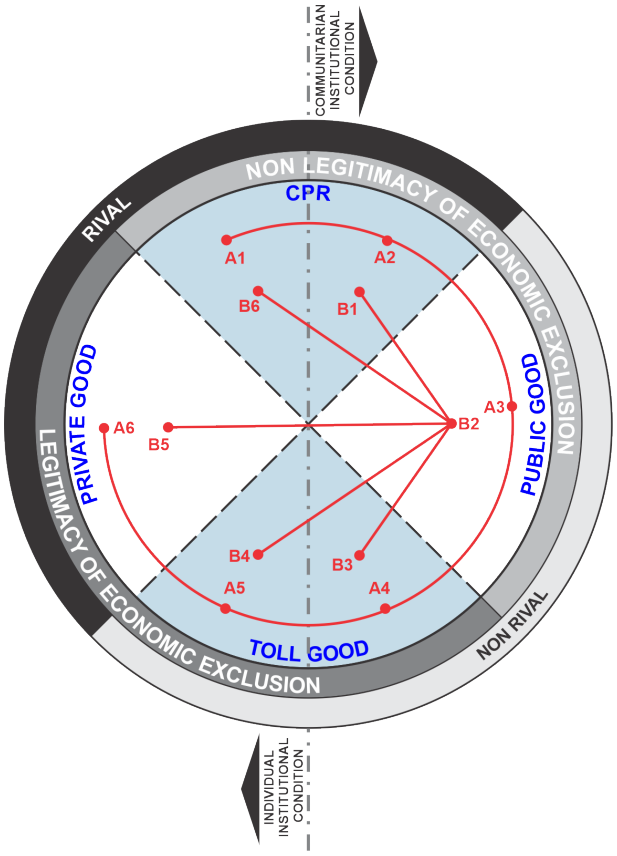

Fig. 2. The Political Framework of the Common Good

Another point is that by enunciating resources, we mean the production system of different goods and services to be appropriated by a wide array of final users [28]. A resource is an emergence of continually changing practices and uses. Therefore, it represents a system that evolves, according to social-economic, cultural, and biophysical conditions. Therefore, a narrow economy is crucial for any commons' policy as much as the Institutional Resource Regime (IRR) [29], i.e., the constellation of public policy and property rights focusing on a specific resource. Those are dialogical and, when standing upon a narrow discourse, reinforce each other.

Our understanding of CPRs is political arrangements under a specific institutional and/or situational frame, configuring private, public, or communal traits when addressing a resource used in a competitive, rival situation. However, it is socially not excluding potential users.

The importance of recognizing CPRs under different institutional regimes, even in the absence of a property regime, dialoguing but not merged with rivalry, is a reminder of the existence beyond the resource, i.e., the reality despite society mediation. It is also a reminder of human responsibilities and limitations under those existent beings' ecosystemic conditions.

Fig. 2 offers some examples (red punctuated line) by discussing different water interpretations in the same water body and the universities' case. The water analysis follows the Brazilian constitutional bias and the university case centers in the public university, as the federal and state universities in Brazil. We discuss the examples ahead.

4. Several 'Waters' in the same Resource System

The 1988 Brazilian constitution establishes water as a public domain, and the following discussion involves its implications. Dams and lakes on private property under the condition of drought relate to position A1 because, as long as the institutional regime attributes water as a public domain, there is no legitimacy for the economic exclusion (e.g., during drought, the state may require this water for humans and other animal consumption). However, the lake's access may be difficult if the area is fenced (so there is rivalry). We can analyze the same case in the absence of drought; thus, we may better frame the lake in situation A6.

A2 situation refers to rivers used as water catchment areas in drought, causing water scarcity and conditioning a rivalry situation. However, the institutional context does not legitimize economic exclusion. Situation A3 refers to rivers where their water has qualitative and quantitative reasonableness within a non-economic exclusion condition.

Situation A4 refers to mangroves, fishing, and riparian forest areas in which the state attributes the right of use for aquaculture, indigenous subsistence, and fishing. This attribution constitutes the legitimacy of economic exclusion but does not admit rivalry. No admission of rivalry in this situation addresses the users responsible for maintaining the proper environmental conditions and prohibiting resource commercialization. It also implies reviewing the attribution of rights if the natural imposition of scarcity situations (e.g., forest fires, unusual rainfall regimes) changes.

Situation A5, we may highlight the 'private' marinas and 'private' islands in an institutional context that do not allow rivalry but legitimate economic exclusion.

Finally, the A6 situation refers to the bottled water or billed water (which comes from the tap).

5. Commons Politics in a University Campus

The public university configures situation B1. In this condition, the competition of the selection process conditions rivalry, but the economic exclusion is not legitimate (there is no fee collection). If some program relies on the lack of subscribers, it may be better portrayed as in situation B2 because this implies the nonexistence of rivalry. Situation B2 also portrays the university campus's physical space in which there is no access control (e.g., fences and walls).

Situation B3 represents the same campus, this time with its buildings, where the administration establishes access control to those who study and work there (turnstiles, biometrics). The building becomes a toll good — it is easier to prevent others from using or accessing the space, but its appropriation does not impede others from enjoying it.

The B4 situation is about paid parking at the university. Curiously, this example is significantly related to Hardin's point that if there are no fees to restrain free access for someone's vehicle on the campus, the parking space gets typically full. Once at B2 situation, parts of the campus go to B5 (there is rivalry due to the high demand for parking and legitimacy of economic exclusion as cars are socially allowed). In a

paid parking instance, the B4 situation is related, but if the parking gets continuously full, it moves to a better-framed situation as B5.

We also refer the B5 situation to a university auditorium of the same B3 building, where there is an exclusive event for specific public and significant demand (i.e., there is both rivalry and economic exclusion). The B5 situation also relates to the case of universities that charge tuition. In such a case, the competition for vacancies is where rivalry emerges, and the economic exclusion is legitimate as there is fee collection.

Finally, the B6 position exhibits the campus assignments for cafeterias, banks, and other establishments (i.e., rivalry emerges due to the impossibility of occupying the same space). B6 is about a political situation between the university and the assemblage. However, the relation of these spaces with people and the university community better portrays situation B4 (if there is a good turnover, so people get the opportunity on using) or B5, if the place is always full. Therefore, the same university includes multiple, coexistent, and dynamic political situations. In such a case, ownership depends on autonomy relations to act upon those different sets of situations.

We now allude to the cases of water bodies, conservation units, and historical buildings permeating a university campus. Therefore, such entities and artifacts would encompass other political sets autonomously and despite university policy. However, this is an autonomy-dependent situation, and shows the coexistence of differences that must be complexified in politics. In such a complexifying process, asymmetries would dynamize societal and institutional lenses for actions. For the university administration, a polluted water body may not be as critical as the building's infrastructural needs. Many factors such as culture, resource assets, university agenda, environmental policy (municipality, the state, the union), and many others participate in this mediation.

The reader should not be paralyzed in the face of the parts' complexity concluding the uselessness of an ideal type for the whole, such as the Brazilian constitutional standing water as a public good. This ideal type in the symbolic instance of the law evokes an idea about the whole and serves as a parameter for instantiating props of the parties' deviations. Thus, by establishing water as a public good, the Brazilian Constitution establishes the idea of morality underlying human mediation in the face of water and its multiple existences. Even if, in practice, the union or state does not require the transfer of the title of ownership of the water bodies and riparian areas, it establishes a condition for the entity (rivers, springs, lakes) to be respected. The symbolic instance of property rights is nothing more than virtuality to material and social ecosystems.

6. Discussion

The implication for analyzing natural resources or human artifacts under the scope of the PFCG stands on the need for an in-depth inquiry on constitutional laws, governance, and resource regulation characteristics. The inquirer must align the institutional stand with an interpretation of its societal referents and the biophysical context at the moment of the analysis.

Understanding the commons as emergencies in a political arena requires a complex adaptive characteristic on institutions, where adaptiveness is not on the resource's biophysical attributes itself, but on society's arrangements and actions. Therefore, a hypercyclic relation is always underwriting the resources' usage regulation. The complex assembly of the institutions' adaptive dynamics (e.g., the balancing of rules, innovation, and resistances, i.e., the rules' resilience), the adaptive materiality dynamics (e.g., hydrological cycles and other natural cycles), and the societies dynamics (e.g., the whole market chain, human activities, culture, etc.) are synchronistical driven emergencies. The causality relations influencing those systems may have convergences but are not the same.

The commons implies political revindication on the control authority over resources where citizens are the primary stakeholders, above investors [30]. It does not mean expressing the public will as it is, but a third force in public life that struggles to coexist with the market [31]. Besides, the commons relate to political arrangements that portrayed a broad set of situations. When in a competitive rivalry, it may be allowed or not economic exclusion under private/public/communal, or even under the absence of property regime, i.e., ownership does not exhaust the legal dimension.

Property regime influences but does not determine societal arrangements. Despite the inexistence of a property regime, tribes, communities, and other anthropoid organizations establish more or less private laws and rules (the limits for hunting, territorial affirm between different tribes). In such cases, the property regime's violence, introduced by the land rush, relies on the gap between culture and dispossession. This dispossession is not ownership-related but relates to the truth — the necessity of certainty (private-state property) blinds the necessity for truth (the violence), configuring a sort of ontological communion with reality [32]; Therefore, in these cases, ideological violence is a trigger for armed conflicts between those who hold the truth (the colonialist) and those possessed by the truth (the tribal).

The formal rule, the law, is endowed with intelligence, and so, is always strategic and a general problem solver. However, it is devoid of conscience and thought. Only when mediated that this intelligence is reified in the dictates of strategy, consciousness, and thought. In the hypercycle, institutional intelligence nests societal intelligence, thoughts, and consciences in interacting with society and materiality. It is only in the hypercycle that institutions constitute a CAS. Outside the hypercycle, what we have is just a system of interests.

7. Conclusion

Under specific semiotic interactions (disjunction/conjunction), the common good as a language has implications (permeated by contingencies and conflicts) on the societal attitudes regarding human activities, i.e., the mediated materiality. Activities are nothing but phenomena in time under the double condition of sequential irreversibility (works for dissipation) and circular, repetitive, asymmetrical irreversibility (works for organization)[5].

The commons' emergence under a complex adaptive institutional set, configures a political assemblage that

addresses society as discursive signifiers, institutions as the carrier of more or less consensual meaning that evokes the existential entities (the referent). The common good goes beyond ownership and resource access rationalization. It points to an existential imbroglio — a dissent between humans and non-humans that appeal for complex communication. That is why the common goods remind humans of property incoherencies, portraying different sets of tragedies while reminding their heroes through the political assemblages. Both the heroes and the commons are dynamic, complex, and interact dialogically.

Our framework shows that separating institutional arrangements of land material attributes detaches land from its resources and implies symbolic violence. The resources' politics is situational, and any typification of it would encompass an (instrumental) sign. That is where may lies the positive side on generalizing resources (such as water) by a political frame, as it encompasses the evocative sense of the presence and virtue of what symbolize: the existential being (i.e., the river, the mangrove, the forest, the university campus).

The PFCG helps bridge the gap between Social System and IRR while sewing the social with the ecological, encompassing how the social system perceives a resource, far beyond static frames, but using System Thinking, i.e., contextualizing the assumptions by assembling both parts/whole and a resource instance under a dynamic endeavor related to the law's ideal type and its symbolic instance.

The perspective then, facilitates accommodating actions and responses due to deviances, while demonstrating the real-time states of the parts of a whole (different parts of the same campus) and circularity of a resource reentering in the hypercycle (such as different waters in the same resource system).

The assumption on the whole, whose content is embodied on laws and symbolized as an ideal type, must be sufficiently complex to allow situational diversity. That is why the assumption should be related to complex adaptive institutions. The whole-parts, parts-whole, and circular dynamics of a resource, under the complex influence of society, institutions, and material aspects recursions, implies novelty emergencies inevitability to which governance must be responsive.

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