

Introduction to Commons-based Peer Production



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Foreword

- This Commons-based Peer Production (CBPP) Mini-course is intended to provide an introduction to the topic, rather than an overall discussion of the topic.
- For that reason, please do search for additional reading and learning materials on CBPP and interacting with CBPP scholars and practitioners.

Syllabus

- Prerequisites
- Learning Objectives
- Materials Needed
- Course Outline
- Main Matter
- Excluded Sections
- Supplementary Readings

Prerequisites

- An interest in:
 - Commons-based Peer Production,
 - Commons/P2P movement,
 - Platform Cooperativism, or
 - Alternative modes of production.

Learning Objectives

- The Learning Objectives of this mini-course on Commons-based Peer Production are to obtain a basic understanding of:
 - Modes of Production,
 - Property Regimes, and
 - Types of Goods.
- From this basic understanding, to be able to discern Commons-based Peer Production from other forms of production; and
- A basic means of or model for applying CBPP or thoughts on how to apply CBPP

Materials Needed

- Access to a computer
- An internet connection

Course Outline

- Chapter 1: Types of Economic Goods
- Chapter 2: Property Rights Regimes
- Chapter 3: Production
- Chapter 4: Peer Processes
- Chapter 5: Commons
- Chapter 6: Commons-based peer production

1. Types of Economic Goods

Types of Economic Goods

- There are 4 primary types of economic goods:
 - Public
 - Private
 - Common pool resource (CPR)
 - Club
- How a good is categorized depends on the following attributes:
 - Rivalrous: Does the consumption of the good prevent others from consuming the good (i.e., subtractability)?
 - Excludability: Is it feasibly possible to exclude others from the consuming the good?

Types of Goods

	Rivalrous	Non-Rivalrous
Excludable	<i>Private</i>	<i>Club</i>
Non-excludable	<i>CPR</i>	<i>Public</i>

Types of Goods

- Private Good examples
 - Food, gasoline
- Public Good examples
 - Air, water, public parks, knowledge
- Common Pool examples
 - Fish stock, grazing land, timber sites, forests, atmosphere
- Club Good examples
 - Cinema, Academic Journals, toll roads, Membership Organization

2. Property Rights Regimes

Property Rights Regimes

- What is a Property Rights Regime?
 - An informal or formal social arrangement regarding ownership and use of a resource
- A property rights regime defines the following attributes
 - Ownership
 - Owner's rights
 - Owner's duties
 - Access
- 4 primary types of property regimes
 - Private
 - State
 - Common (aka Public Closed-Access)
 - Open Access (aka Public Open-Access)

Property Rights Regimes

- 4 rights that generally constitute a property right
 - Right to alienation (sell, transfer, or lease rights to the property)
 - Right to profits (receive income from the property)
 - Right to use (access the property and withdraw the fruits of the property)
 - Right to enforce rights
- Transaction costs associated with property rights
 - Monitoring: Scouting for proper and improper uses of property right
 - Enforcement: Punishing individuals who infringe property rights
 - Defining: Determining the boundaries and existence of a property right

Property Rights Regimes

Regime	Ownership	Owner's Duties	Owner's Rights	Access
Open Access	None	None	None	All
Common	Collective (i.e., joint owners)	Maintenance, restrict use of resources	Exclude non-members	Members-only
Private	Individual	Only socially-acceptable uses and maintenance	Access control	Closed
State	Government	Fulfill social objectives	Determine rules	All

Property Rights Regimes

- Description

- Open access property is a property that is non-excludable and non-transferable, that is not managed by anyone, and is not controlled by anyone. No restrictions on use.
- Public property is a property that is publicly owned and its access and use is managed by a government agency or organization granted with such authority
- Common property is a property that is owned by a group of individuals (i.e., joint ownership). The joint owners determine access, use, management, and exclusion of the property.
- Private property is property that is excludable and rival, that is owned by a private owner or a group of legal owners who determine access, use, exclusion, and management.

3. Production

Production

- What is production?

- The creation of goods and/or services for subsistence and pleasure
 - Alternatively, the transformation of inputs into outputs for subsistence and pleasure

- Modes of production

- Hierarchy/Firm
- Market
- Peer

- Transaction Costs

- Cost minimization: costs arising from efforts to minimize costs and harm as much as possible
- Benefit maximization: costs arising from efforts to maximize benefits as much as possible

Modals of Production

- Firm-Production (i.e., hierarchy-production)
 - Resource Allocation: Managerial decision (Authority)
 - Affiliation: Employment
 - Incentive: Compensation for time (i.e., Wages)
 - Goal: Owner's/Organization's goals; Alignment between Owner/Organization and agents
 - Resource Ownership: Owner/Organization
 - Property Rights Regime: Private-property Regime
 - Assignment: Managerial decision (Authority), centralized

Modals of Production

- Market-Production

- Resource Allocation: Price mechanism
- Affiliation: Market contract
- Goal: Actor-specific goals
- Resource Ownership: Actor
- Property Rights Regime: Private-property Regime
- Incentive: Compensation for outputs based on price mechanism
- Assignment: Bidding/price

Modals of Production

- Open Production (i.e., Commons-based Production)
 - Peer Production (Commons-based Peer Production):
 - Resource Allocation: Actors voluntarily mobilize resources in a commons
 - Affiliation: Membership
 - Incentive: Shared use of complementary, non-rival goods
 - Goal: Shared goals and values
 - Resource Ownership: Shared in commons
 - Assignment: Self-assignment, decentralized
 - Property Rights Regime: Common property regime

Modals of Production

- Open Production (i.e., Commons-based Production)
 - Crowdsourcing (Firm-hosted Peer Production):
 - Resource Allocation: actors voluntarily mobilize resources in a commons
 - Affiliation: Membership or Market Contract
 - Incentive: Compensation for outputs and non-monetary gains (e.g, status, reputation)
 - Goal: Owner/Organization's goals or Actor-specific goals
 - Resource Ownership: Owner/Organization
 - Assignment: Self-assignment, decentralized
 - Property Rights Regime: Private-property regime

Modals of Production

	Firm	Market	Open: Peer Production	Open: Crowdsourcing
Resource Allocation	<i>Managerial decision (Authority)</i>	<i>Price mechanism</i>	<i>Actor-based mobilization</i>	<i>Actor-based mobilization</i>
Affiliation	<i>Employment</i>	<i>Market Contract</i>	<i>Membership</i>	<i>Market Contract or Membership</i>
Incentive	<i>Compensation for time (i.e., wages)</i>	<i>Compensation for outputs based on price mechanism</i>	<i>Shared use of complementary, non-rival goods</i>	<i>Compensation for outputs based on price mechanism and nonmonetary rewards (e.g., reputation, status)</i>
Goal	<i>Owner's/Organization's goals; Alignment between Owner/Organization and agents</i>	<i>Actor-specific Goals</i>	<i>Shared goals and values</i>	<i>Owner/Organization's goals or Actor-specific goals</i>

Modals of Production

	Firm	Market	Open: Peer Production	Open: Crowdsourcing
Resource Ownership	<i>Owner/Organization</i>	<i>Actor</i>	<i>Shared in Commons</i>	<i>Owner/Organization</i>
Property Rights Regime	<i>Private-property</i>	<i>Private-property</i>	<i>Common-property</i>	<i>Private-property</i>
Assignment	<i>Managerial decision (Authority)</i>	<i>Bidding/price</i>	<i>Self-assignment, decentralized</i>	<i>Self-assignment, decentralized</i>

Transaction Costs

- Transaction Costs

- Transaction costs are the costs arising from market friction
 - Market friction: anything that may influence a party's decision-making to cause issues in a transaction
- A firm will engage in a transaction internally as long as the costs are smaller than transacting on the market. If not, then the firm will go to the market
- Arise from human (e.g., incomplete information, opportunistic behavior) and environmental factors (e.g., asset-specificity, frequency of transactions, unanticipated future events)

Transaction Costs

- Within-market

- “search and information costs”:
 - Finding a suitable counterparty to transact with and having enough information and time to process said information to reduce uncertainty and complexity of the market
- “bargaining and decision costs”:
 - Once having found a counterparty, negotiating the terms of the transaction in a contract
- “policing and enforcement costs”:
 - Once having the transaction completed, monitoring the counterparty to ensure they are complying with the transaction, and enforcing any violations by the counterparty to the transaction
- Additional costs to consider:
 - Switching costs: the cost of switching from a business’s good or service to another business’s good or service

Transaction Costs

- Within-firm
 - Agency costs
 - Principal-agent dilemma: When the interests of agents (e.g., managers and employees) differs from the principal (e.g., owners, shareholders) and the agent capitalizes on information asymmetry between the principle and agent (the agent has more information about the firm's day-to-day operations than the principle) to act in furtherance of the agent's personal goals rather than the principal's goals

Transaction Costs

- Within-firm

- Agency costs

- 5 Types of Agency costs:

- Monitoring agents: monitoring agents to detect and deter self-serving behavior to ensure agents are acting in furtherance of the principal's goals
 - Monitoring operations: monitoring firm's operations to reduce information asymmetry between agent and principle
 - Excessive expenses: expenses levied to keep agents happy such as perks
 - Interest Alignment: funds spent aligning the interests of agents with the principal's interests
 - Unrealized profits: lost profits arising from agents not always making profit-maximizing decisions

4. Peer Processes

Peer-to-Peer (P2P) Dynamic

- What is Peer-to-Peer (P2P)?
 - Peer-to-peer (P2P) is a relational dynamic in a distributed network where agents have the autonomy (decision-making and permission-less) to determine their behavior and linkages with other agents without an intermediary, particularized by horizontal relationships, distribution of decision-making, authority and access to resources among the peers, and peers working collaboratively towards a common goal or purpose
 - P2P dynamic plays out in many areas (social, political, economic, technological, etc.)
 - Important principle: “each contributes according to his capacities and willingness, and each takes according to his needs”

Peer-to-Peer (P2P) Dynamic

- What is Peer-to-Peer (P2P)?

- Notable characteristics:

- Distributed Networks: Networks in which autonomous agents can freely determine their behavior and linkages without the intermediary of obligatory hubs.
 - Equipotentiality or 'anti-credentialism.' No prerequisite for participation
 - Holoptism: free access to information about other participant's existence and contributions (horizontal dimension), and the goals, metrics and documentation of the project (i.e. the vertical dimension).

Peer Processes

- **Peer Processes**
 - Processes in a distributed network “that aim to increase the most widespread participation by equipotential participants.”
- **Peer Governance**
 - How a group of peers govern themselves while engaging in peer production
- **Peer Property**
 - Institutional and legal framework to protect, maintain, share and improve the common resource produced from peer production
 - More often than not, settles on a common-property rights regime
 - Refer to the slides on property rights regimes
- **Peer Production**
 - Refer to the slides on modes of production

Peer Governance

- Characteristics

- Heterarchical community structure: All peers are considered equal concerning making contributions but not concerning authority over the community. Any peer at anytime may gain more authority (i.e., a higher rank) in the project via their consistent constructive contributions, and may lose such authority (i.e., a lower rank) with subpar contributions or malicious leadership. Thus, any peer can have a higher position of authority or a lower position of authority based on the assessment of their contributions. In this model, every peer starts out as an equal and has the ability to rise or fall in the ranks
- Equipotentiality: All peers have an equal ability to contribute
- Holoptism: peers have free access to all information (of what is going on with the project, and the direction of the project)

Peer Governance

- Characteristics

- Meritocratic leadership:
 - Arising from the heterarchy community structure
 - Generally, leaders have more say on direction/strategy of the project, and determining valid contributions to the project
 - If peers are not fond of their leaders, they can usually leave the project and take the resources with them (though, this only really works for non-scarce, digital goods)
- Example governance model: Benevolent Dictator For Life (BDFL)

P2P Infrastructure

1. 5 Requirements

- 1.1. Technological infrastructure that enables distributed access to fixed capital (e.g., computer servers)
- 1.2. Alternative information and communication channels that allow for communication between peers without classic intermediaries to control such information
- 1.3. Software infrastructure for peers to collaborate (blogs, wikis) without intermediaries controlling the manufacturing or distribution of outputs
- 1.4. Legal infrastructure for creation and distribution of use-value that inhibits private appropriation (e.g., Creative Commons licenses, General Public License)
- 1.5. Cultural development of diffusing innovation and empowering peers to cooperate with each other.

5. Commons

The Commons

- The commons is a self-organized community that manages a common pool resource (CPR) for the benefit of community members (“commoners”) and the community (“collective”)
- Additional Definitions
 - Generally, a commons can also refer to a type of property not managed by a state, hierarchy or market
 - Additionally, a commons can refer to the social practice of a community creating institutions (e.g., a community land trust) to manage a CPR
 - Lastly, a commons can refer to an institutional form of structuring access, use, and control of a CPR that is distinct from the market and hierarchy/firm
- The commons arises from the political economy perspective

The Commons

- The term **commons** often refers to non-privatized spaces spaces that were not yet appropriated, enclosed or privatised, or spaces where the owner was obliged to allow others to seek subsistence there.
- The term **commons** is also attributed to the historical movements in medieval England (though, the commons has been in practice in most parts of the world) where nobles who owned manors (large plots of land) (the lord of the manor), and within the manor, there was an area called the **common** where the Lord of Manor was obliged to allow tenant farmers to farm on that land. and had certain rights to use the common, even though it was legally owned by the Lord of the Manor

The Commons

- Additionally, the history of the Magna Carta and the Charter of the Forest exemplify the idea of the commons (especially as a resistance movement)
- From a political perspective, the commons has refereed to anticapitalist movements, in which the commons (the common and the process of commoning) show a resisting movement to the prevailing thought of growth and exploitation of human and natural resources in capitalist societies.
- A **commoner** is anyone who is a right in, or over, the common jointly with another or others

The Commons

- Every commons requires four elements:
 - Commoners (the people who use the resource)
 - Commoning (social practices between commoners)
 - CPR (in\ tangible resource)
 - Governance mechanism (how to govern the CPR and commoning)
- Property rights associated with the Commons:
 - "Access: A right to enter a defined physical or digital property
 - Withdrawal: A right to take a product of a resource (e.g., timber from a forest)
 - Management: A right to regulate the use patterns of other commoners and to make improvements on the property
 - Exclusion: A right to determine who will have the right of access to a resource and whether that right can be transferred
 - Alienation: A right to sell or lease any of the above rights "

The Commons

- Examples
 - Tangible Resource
 - Maine lobster industry
 - Intangible Resource
 - Wikipedia

The Commons

- A typology of the commons can be based on two characteristics of the content of the resource:
 - Tangibility: Is the resource tangible or intangible?
 - Rivalrous: Does the consumption of the good prevent others from consuming the good (i.e., subtractability)?

The Commons

	Rival	Non/Anti-rival
Tangible	<i>Fish stocks</i>	<i>Air</i>
Intangible	<i>Intellectual property (e.g., Patents, Copyright when all rights reserved)</i>	<i>Language, Knowledge</i>

CPR Management

- The 8 guiding principles for CPR management were developed by Elinor Ostrom, a Nobel-winning political scientist after years of researching how commons are managed and mismanaged across the world.
- Ostrom's guiding principles for CPR management provide a guide for avoiding Garrett Hardin's conceptualization of the Tragedy of the Commons through decentralized governance in self-organized communities.

Ostrom's 8 principles for CPR Management

1. “Define clear group boundaries.
2. Match rules governing use of common goods to local needs and conditions.
3. Ensure that those affected by the rules can participate in modifying the rules.
4. Make sure the rule-making rights of community members are respected by outside authorities.
5. Develop a system, carried out by community members, for monitoring members' behavior.
6. Use graduated sanctions for rule violators.
7. Provide accessible, low-cost means for dispute resolution.
8. Build responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system.”

Common Pool Resource (CPR)

- Feedback Loop

- Negative feedback loop: the more the resource is utilized, the less it can provide in the future

- Variables

- Stock variable: core resource
 - Regeneration variable: time needed for Flow variable to regenerate from stock variable
 - Flow variable: limited quantity of extractable fringe units

- Issues

- Tragedy of the Commons (tangible resources)
 - Tragedy of the Anti-commons (intangible resources)

Commoning

- Commoning highlights the inherent social ties and in/formal practices between commoners, and how they influence the norms and values that set the scope and boundaries for use, access and maintenance of the CPR
- Commoning is the process of making a living of the land without appropriating, enclosing or privatising it, but by sharing in the natural resources that the forest or the land offers.
- Ideally, the governance mechanism for the commons would reflect the commoning among commoners.

The Tragedy of the Commons

- Summary

- Famous article published by Garrett Hardin in 1968 about how an unregulated common pool resource (more akin to an open access resource) will be laid to ruin by individual actors as they maximize their own benefit and short-term interest by over-consuming the CPR until the CPR is depleted or can no longer regenerate the fringe benefits, at the detriment of their own long-term interests and the collective good.

- Theme

- The overconsumption and mismanagement of a CPR (more akin to an open access resource than a CPR)
- Failure of collective action in the wake of individuals maximizing their own individual interests (See *also* The Prisoner's Dilemma)

Tragedy of the Commons

- Example

- In this scenario, there is a CPR, e.g., grazing land, upon which any cattle rancher may use for their own cattle. However, this CPR is unregulated. The local cattle ranchers seek to maximize their individual benefit, here being their cattle receiving sustenance from grazing land to . As each cattle rancher maximises their individual benefit, the grass (Flow variable) on the grazing land (stock resource) starts being depleted faster than the grazing land can regenerate the grass. Thus, the grazing land will be over consumed and can no longer provide the grass, which is terrible for all the cattle ranchers (“collective”) because they do not have any grazing land to raise their cattle. In this scenario, the individual cattle ranchers are providing negative externalities to the other cattle ranchers.
- Hardin’s original solution to the tragedy of the commons were privatization (i.e., individual ownership) or centralized control (a la government)

Tragedy of the Commons

- Helpful Terms:

- Externalities: “an externality is a cost or benefit that affects a party who did not choose to incur that cost or benefit.”
 - Negative externality: specifically a cost to a third party
 - Positive externality: specifically a benefit to a third party

- Solutions:

- Government or Privatization (Hardin’s original solution)
 - Regulation: Determining how actors can utilize the CPR
 - Privatization: Allowing private individuals to privately own all or parts of the CPR
- Non-government (Ostrom’s solution)
 - Self-organization: The commons

Tragedy of the Anticommons

- Description
 - The opposite of the Tragedy of the Commons, aptly named the Tragedy of the Anticommons.
 - Here, we have a privatized resource (private property regime) with fragmented ownership (i.e., many distinct owners), where the owners effectively block each other from creating or using the privatized property (or any meaningful action in general), which leads to underuse of the resource (and generally a lack of innovation)
- Coined by Michael Heller in 1998
- Generally, this is an issue associated with intangible resources such as intellectual property (copyright, patents, trademark, trade secrets)

Tragedy of the Anticommons

- Example:
 - Patents in biomedical research preventing certain medical products from hitting the market that would provide benefits to patients
- Solutions:
 - Determining who, when and how an owner can prevent another owner from using the resource
 - Can utilize market, cooperative, and regulatory solutions based on a government regulation dichotomy

Tragedy of the Anticommons

- Solutions

- Government:
 - Expropriating fragmented ownership rights from owners
 - E.g., eminent domain
 - Hybrid property regime
 - Users can bundle rights into one entity (or owner)
 - Regulation
 - Determining how rights will be regulated

Tragedy of the Anticommons

- Solutions

- Non-government
 - Cross-Licensing/Access pools
 - Owner's offering a license to use private property in exchange for counterparties offering a license to use their private property
 - Self-organization
 - Determining who, when and how an owner can prevent another owner from using the resource

Analytic Frameworks

- **Tangible Resources**
 - Stakeholder Analysis
 - Institutional Analysis and Development (IAD) Framework
 - Social-Ecological Systems (SES) Framework
- **Intangible Resources**
 - Stakeholder Analysis
 - Knowledge Commons Research Framework

6. Commons-based Peer Production

Overview

- What is commons based peer production?
 - Coined by Yochai Benkler in his 2002 paper "*Coase's Penguin, or Linux and the Nature of the Firm*"
 - Arose in the 1990s with the rise of Information Communication Technologies (ICT), the most prominent of which is the Internet and Internet-enabled structures
 - Conditions sufficient
 - High complexity
 - Low capital cost
 - High quality of participation
- Examples of commons-based peer production
 - Wikipedia
 - Linux

What is commons-based peer production?

- Definition:

- A mode of production where people, through Internet-enabled structures (or Information Communication Technologies (ICT)), co-create and govern (through participatory practices) the production and use of a commons (complementary, non-rivalrous goods)
 - Alternatively, an act of commoning centered on the production, reproduction, and sharing of complementary, non-rivalrous goods

- Characteristics:

- Horizontal organizational structures
- Peer Processes
- Commons
- Holoptism
- Equipotentiality

What is commons-based peer production

- Characteristics:
 - Decentralized task management and resource allocation
 - Participatory processes
 - Stigmergic (indirect communication among agents and actions) collaboration

What is commons-based peer production

- Necessary Conditions:

- Modularity: The extent to which a project can be divided into smaller components or modules that can be independently produced before being integrated into a whole (the more modular the better)
- Granularity: size of the modules. I.e., how much time and effort needs to be invested before producing them (the less time and effort, the more fine-grained)
- Low-cost integration: integration mechanism for combining contributions into a whole and determining quality assurance of contributions must be low-cost.
- Low capital costs: Physical capital costs of information production are low, existing information resources are freely or cheaply available, and cost of communication among many agents is low
- Waste v. Efficiency: when duplication of effort (i.e., redundancy) produces more efficiency than waste.

What is commons-based peer production

- Proposed advantages over other modes of production
 - Information Gain: since individuals can self-assign to tasks, we should expect contributors to generate dynamic content reflective of the individual skills and creativity and reduce uncertainty among individuals
 - Greater variability of human and information resources: Substantial increases in returns to scale for the number of people who contribute, and for the number of resources that can be used with few if any restrictions (i.e., when total number of participants is high relative to the total cost), such that monetary and nonmonetary motivations can coexist

What is commons-based peer production?

- Proposed advantages from transaction and coordination cost perspective
 - 2 major information processing costs that impeded collective action:
 - Uncertainty (whether with unknown or known probabilities) and
 - complexity (whether linear stochastic or non-linear)
 - I.e., the prisoner's dilemma game (or the tragedy of the commons)
 - Costs that arise from uncertainty and complexity:
 - Costly: cost of organizing an activity
 - Sticky: inflexibility of agents to share information and co-create value because of pre-existing relationships and property rights regimes
 - Lossy: loss of information arising from dealing with complexity and uncertainty (diversity of the quality of agents, resources and projects and the diversity of combinations or user interactions) of the agents to make a decision

What is commons-based peer production?

- Proposed advantages from transaction cost perspective
 - How CBPP tackles these information processing costs
 - Costly: CBPP is less costly when physical capital costs of information production, collection and communication are low among a set of agents
 - Sticky: CBPP is less sticky because agents can share information and co-create value without pre-existing relationships (from decentralized information gathering and exchange) and resources are shared in commons rather than tied up in pre-existing property rights regimes.
 - Lossy: CBPP is less lossy because of extensive exchange of information and feedback between agents through decentralized information-gathering and exchange, which reduces uncertainty as to the likely value of various courses of productive action and how to assign individuals to such productive action (Especially for identifying and allocating human creativity, which is highly variable, individuated and very difficult to standardise in the contracts necessary for market or hierarchy transactions) to work on information and cultural resources).

What is commons-based peer production

- 4 Types of Modularity:

- Artifact design: Decomposability of an object into smaller subsystems that may be designed independently but still function together as a whole.
- Production processes: How the artifact is produced (from design to its manufacturing and distribution).
- Use: The possibility that the users may have to mix and match modules so that the artifact suits their needs as well as their ability to maintain them.
- Services: A system of components that have a well-defined functionality via a precisely described interface with which a modular service is composed, tailored, customized, and personalized .

Commons-based Peer Production Ecosystem

- Institutional framework comprised of three institutions:
 - Productive community
 - Commons-oriented entrepreneurial coalition(s), and
 - For-benefit association.

Commons-based Peer Production Ecosystem

- The Productive Community
 - It consists of all the contributors (paid or volunteer) to a CBPP project and must remain open to contributions.

Commons-based Peer Production Ecosystem

- Commons-oriented entrepreneurial coalition(s)
 - It aims to create either profits or livelihoods by creating added value for the market, based on the shared resources. The participating enterprises can pay contributors.
 - Relationship between entrepreneurs, community, and common-pool resource:
 - Regenerative (take and reinvest),
 - Extractive (take and not reinvest), or
 - Both
 - Important Notes
 - Entrepreneurship and markets should not be identified exclusively with capitalism (Entrepreneurs can be motivated by social or environmental maximization, rather than profit maximization; Non-capitalist market systems can coexist with capitalist markets)

Commons-based Peer Production Ecosystem

- For-benefit association

- infrastructural organization of the commons that manages commons-based cooperation.
- Features:
 - Non-coercive
 - lack command-and-control apparatus over contributors
 - Operate based on abundance rather than scarcity
 - Assume enough contributors exist to help solve or resolve issues
 - Stewardship of the commons
 - Conflict resolution among stakeholders
 - Fundraising
 - Build general capacity
 - E.g., education and certification

CBPP Examples

- Commonly Cited Examples
 - Wikipedia
 - GNU/Linux
 - Apache HTTP server
 - Mozilla
 - Sensorica
 - OpenStreetMap
 - RepRap project
 - 3D Printing Files (.stl)
 - Farm Hack: <https://farmhack.org/tools>
 - L'Atelier Paysan

Wikipedia Example

- **Modularity**
 - articles are broken down into smaller components (e.g., entries, sections, paragraphs, or sentences)
- **Granularity**
 - People can contribute from one word to thousands of words (or figures) depending on their motivation and availability.
- **Low-cost integration**
 - Easy for editors to combine contributions into an article by evaluating how contributions make sense in light of the article.

Wikipedia v. Other Online Encyclopedias

- Why Wikipedia won out at the end of the day?
 - Formatted similarly to an encyclopedia, of which most people were already familiar with
 - Focus on substantive content development rather than developing technologies
 - Low transaction costs to participate
 - E.g., on Nupedia, you needed to have a complete draft and expertise in an area before you could add or edit an article on Nupedia; A long and arduous editorial process
 - De-emphasized social ownership of content
 - Greater freedom for users to participate in governance and management of the encyclopedia

Movements related to the scope of CBPP

- Platform Cooperativism
- Open Cooperativism
- Web3 (specifically blockchain)

Drawbacks of CBPP

- Members of CBPP projects are often unpaid volunteers and the benefits of the use-value is often non-monetary, thus requiring such members to offer their services back to the market
- Co-optation of language and outputs by commercially-driven entities for their own private gain (i.e., these entities do not share the benefits with the peers in the CBPP project)
- Does not directly address issues with Information Communication Technologies such as resource extraction and labor exploitation
- The majority of work in CBPP projects is done by 20% of the contributors which may perturb or inhibit new contributors.

Additional Readings

- [Peer Production: A Modality of Collective Intelligence](#)
- [Open Value Networks](#)
- [Distributed Ledger Technologies, Value Accounting, and the Self Sovereign Identity](#)
- [Public-Common Partnerships: Building New Circuits of Collective Ownership](#)
- [Commons Based Reciprocity Licenses](#)
- [From Platform to Open Cooperativism](#)

Excluded Sections

- References
 - Assignments
 - Case studies
-
- You may request one or more excluded sections by sending an email to ledgerback@gmail.com

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