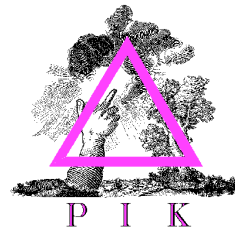




Environmental Management as a Social and Political Process

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BTU Cottbus
Summer Term 2007

Seminar Overview

1. Introduction (15.6.)
 - Environment
 - Management
 - Society
2. Environmental Economics (29.6.)
 - Basic Principles
 - Economic Instruments
3. Environmental Policy & Law (6.7.)
 - Domains & Problems
 - Actors & Dynamics
4. Environmental Management in Protected Areas (13.7.)
 - Challenges & Conflicts
 - Tools

What I expect

- Listen & Understand
- Talk/ask/discuss
- Write down 1-2 pages after each session (recommended) and send it to me
 - Essential statements
 - Core questions
 - Ideas...
 - don't forget your name and matr. #
- Term Paper (6 credits) (10-15 p.)
 - Menu and literature: next time

Term Paper

- What is a **bad** paper?
 - You try to write what you think is my opinion
 - You copy and paste from elsewhere in the web (dangerous: one can find out easily; even more dangerous: you don't learn anything)
 - You forget about the reader
- What is a **good** paper?
 - Use your own thoughts/write
 - Try to be clear and explicit
 - Use a clear structure (Intro, question, theories, case/data, application/insight, conclusion/outlook, references)

Communication

- At PIK: Dr. Fritz Reusswig
 - Phone: 0331/288-2576
 - E-mail: fritz@pik-potsdam.de
 - <http://www.pik-potsdam.de/members/fritz/teaching-1>
- At BTU: Dipl. Päd. Andrea Tönjes
 - Phone: 0355/69-2977
 - E-mail: toenjes@tu-cottbus.de
 - Room: Lehrgebäude 10, Raum 522k
 - Hours: Tuesday 3-5 p.m.

Management

- The **staff** of a (larger) company
 - Organization/Hierarchy
 - Commercial/Profit
 - People
 - Tasks/Problems
 - Property rights
- The **way** this staff runs the company
 - Management literature
 - Motivation
 - Skills
 - Human capital
 - Power, influence
- The way **humans** handle problems
 - Problem situation & perception
 - Human capabilities & resources
 - Goals & means

Environmental Management

- **Micro level**
 - Households managing a garden/field and/or commons
 - Companies managing their material stocks & flows
 - Individuals influencing environmental management
- **Meso level**
 - Communities managing their commons
 - Organizations managing environmental areas and/or environmental sectors
 - Communities and organizations influencing environmental management
- **Macro level**
 - States/Governments managing environmental conditions
 - Global Environmental Governance

Environment

- Natural Environment
- Social Environment
- Built Environment
- Cultural Landscape
- Nature
- Natural Resources
- Ecology
- Wildlife
- Wilderness
- You can always ask:
the environment of
what?
- Each ,environment‘
implies something
that it is an
environment for or to:
 - Organism(s)
 - System
 - Subject

Environment

- Jakob Johann Baron von Uexküll (1864-1944)
 - „Umwelt und Innenwelt der Tiere“ (1909)
 - Basic: Relation between organism and its environment
 - Merkwelt & Wirkwelt _ Funktionskreis
 - Tick: up-down, warm-cold, butyric acid ($C_4H_8O_2$) yes-no.
- Helmuth Plessner (1892-1985)
 - „Die Stufen des Organischen und der Mensch. Einleitung in die philosophische Anthropologie“ (1928)
 - Plants: Open organisms
 - Animals: Centric organisms (Umwelt)
 - Humans: Excentric organisms (Welt; we *are* our life, but we *have* our body). Humans explicitly (consciously) relate to their biologic existence and their environment. ‚Relate to‘ implies: ‚are distinct from‘.



Uexküll



Plessner

Actors and Natural Resources 1

- There are **no 'natural' resources**.
 - From an exclusively 'natural' point of view, nature is the ensemble of entities (e.g. plants, animals, oceans), processes (e.g. growth, migration, circulation) and networks (e.g. food chains, ecosystems, carbon cycle) on planet Earth (a semi-closed system) for an observer (e.g. science).
 - Natural entities use other entities or processes as 'resources', i.e. as inputs for their own processing (e.g. the sunlight is a necessary input for plant photosynthesis, or grass for cows). However, their processing or, in higher forms of development, behavior, does not occur as action, and their relation to the resource is not defined as an action based relation.
- A 'resource' is **a resource for human action**.
 - Human actors (individuals, groups, organizations) select an aspect of nature according to their actions (needs, wants, duties, perceptions...).
 - Using wood for building a house
 - Coal and oil for energy production
 - Genetic code for pharmaceuticals production
 - A natural resource is the result of a specific social selection. This selection determines the
 - character (nature)
 - size
 - location
 - value
 - social statusof the natural resource.

A Note on Science

- The standard assumption of science and scientists is:
,What science tells you about nature is real/true‘.
- This is a more complicated and demanding statement than you might think!
 - Sometimes there are competing theories/paradigms in science
 - Science is often (always?) incomplete
 - Many statements lack certainty
 - The history of science displays major shifts (Newton _ Einstein)
 - Everyday (lay) knowledge/language is the ultimate basis for understanding (_Phenomenology (e.g. Husserl), Habermas)
 - Scientific descriptions are possible descriptions, others co-exist
 - How do you justify the claim that scientific statements are ,true‘?

Science

- Science is a specific cognitive and practical human effort, requiring particular education, skills, and training.
- Science is trying to find out 'the truth' about the world, i.e. a system of true statements about a particular domain of reality.
- Science is about finding out 'new truths' (facts, laws, regularities, problems...). Science as discovery (questions, hypotheses).
- Scientific statements are usually based upon
 - Logic and mathematics
 - Empirical evidence
- Scientific truths are no eternal truths, but temporally (and sometimes spatially) localized truths. They are fallible.
- Even logical and mathematical truths, despite being less attached to fallible empirical evidence, can change over time.
- Science is in need of a scientific discourse among peers in order to sort out what is valuable and what not. Publication, criticism, peer review, conferences, proposal reviews, evaluation... But also: schools, fights, power...
- By finding out (new) truths/facts, scientists can as well contribute to some social 'progress' (e.g. technology, medicine, education, management...)
- Science can also cause problems or contribute to them (Nazi race theory & Holocaust, Nuclear complex, Genetic engineering, Ozone layer, AIDS)

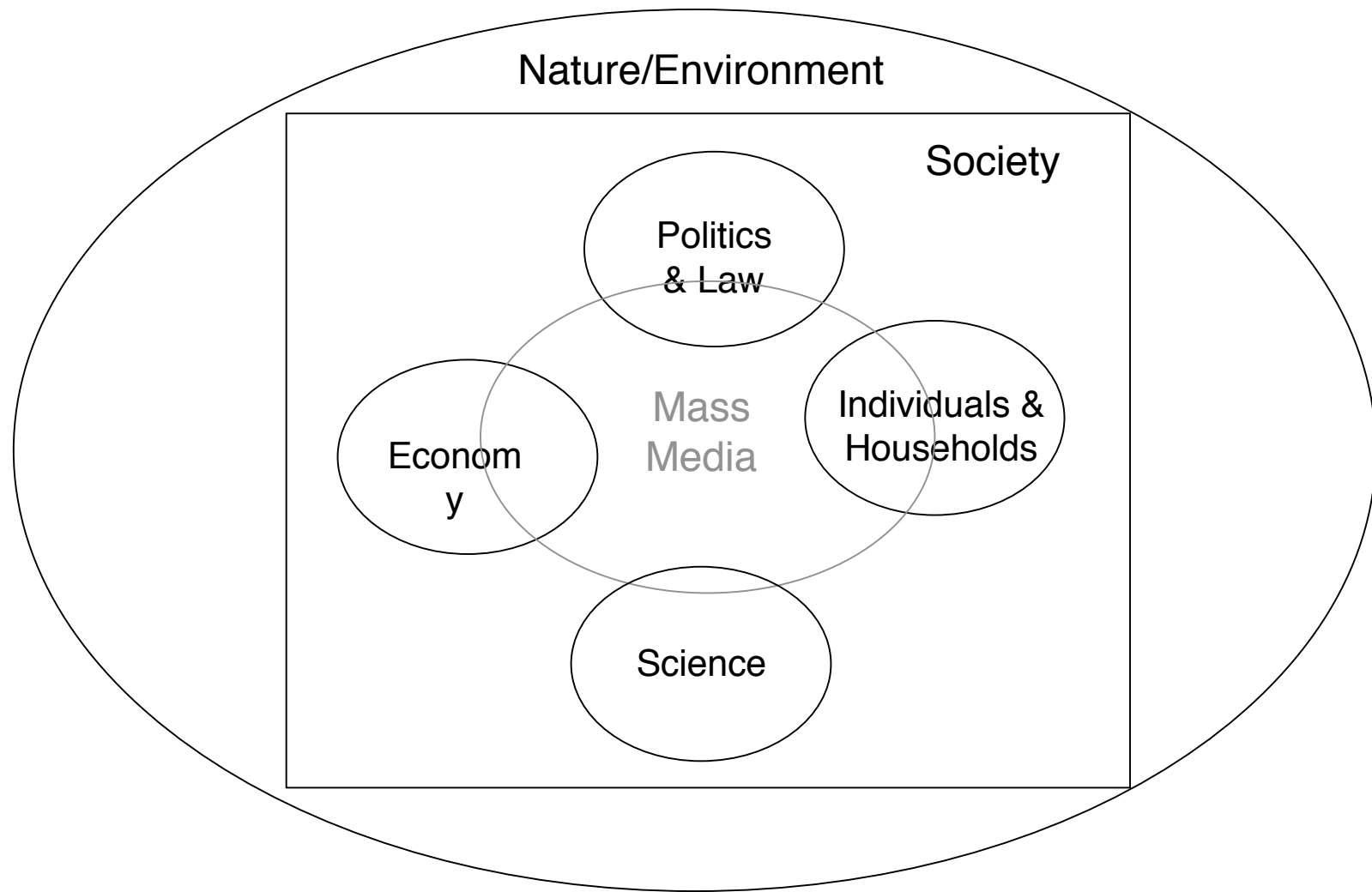
Natural vs. Social Sciences

- Natural scientists use their language and their tools in order to interpret nature (their particular objects). These objects **do not interpret themselves**.
(_ Simple Hermeneutics)
- Natural scientists discover structures at the macro-level (e.g. pressure and temperature of a gas). These structures do not have a **meaning** for individual entities
(_ Observer Structuration)
- Social scientists do the same thing. Humans and their relations are the objects of the social sciences. They **inevitably engage in meaningful activities and interpret themselves**.
(_ Double Hermeneutics)
- Social scientists discover structures at the macro-level (e.g. class relations or social roles). These **structures** are **relevant for** social actors.
(_ Actor Structuration)

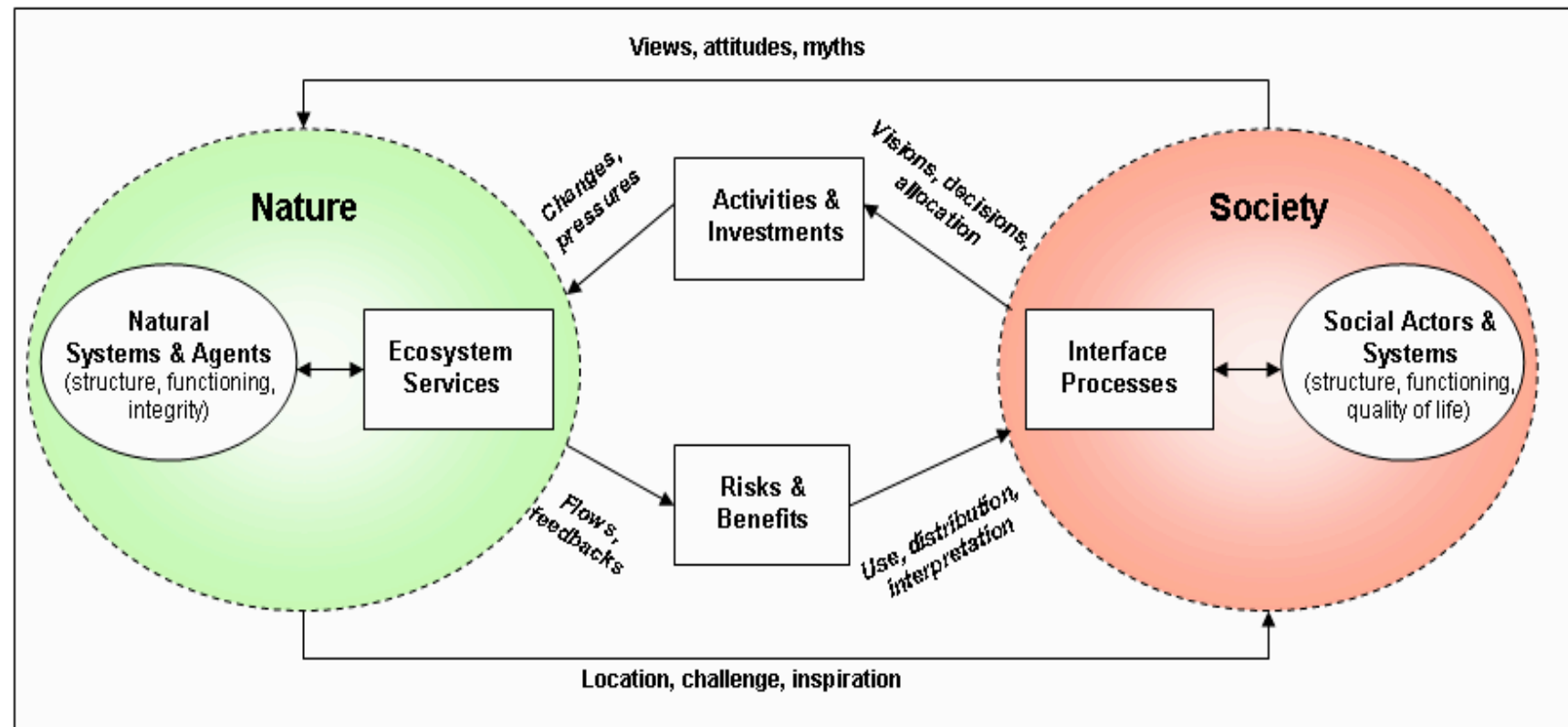
Actors and Natural Resources 2

- That humans are ‘**part of nature**’ means that human agency (body, incl. brain) and human action do occur in the biophysical world according to some **observation** (everyday life, science). This renders them to some biophysical ‘laws’ (e.g. evolution, gravity, entropy...) stated by an observer. Examples:
 - Humans get older, are less able to perform certain actions, and die.
 - Organizations run out of time.
- Natural resources, being purely nature from a non-action point of view, are **subject to natural laws and processes** as well (holds in part for hybrids), according to an **observer**:
 - Entropy growth due to energy use
 - Climate change might shut down the Thermohaline Circulation (THC, Gulf Stream) or endanger the tropical rainforests
- Natural resources, being part of **both** the bio-physical world and the world of social action, offer **opportunities** for humans they otherwise would not have, but also **constrain** human agents using them. They enforce conditional constraints, i.e. constraints that are conditioned by the goals and other characteristics of the actor.
 - The depletion of a resource ‘forces’ an actor to end a specific activity depending upon it, but may also challenge his/her search for alternative resources or alternative uses (e.g. from fossil fuels to renewable energy sources).
 - The degradation of a resource impedes upon the quality of life of people having no other choice (e.g. due to their powerlessness).
 - The location and concentration of a resource influences the social settings, but it does not enforce them

Society: Important Subsystems for Environmental Management



Society-Nature Interactions





Caribbean Differences



Jamaica

- Island
- Sugar cane + black slaves
- Resource density: high (concentrated)
- Division of labor: low
- Family—work: close
- Exit options: none
- Degree of slave control: high
- Character of slavery: harsh ('Massa' occurs in Jamaican English)

Belize

- Terra firma
- Logwood, Mahogany + black slaves
- Resource density: low (disperse)
- Division of labor: high
- Family—work: distant
- Exit options: some
- Degree of slave control: low
- Character of slavery: milder ('Massa' does not occur in Belizean English;

Actors, Resources, Control, Interest, Worldviews

Actors need **resources** (natural, social, individual) in order to achieve their goals.

Resources (1) enable actors to do, be or have something, but (2) they are limited and put constraints on actors. These limitations have different characters/origins:

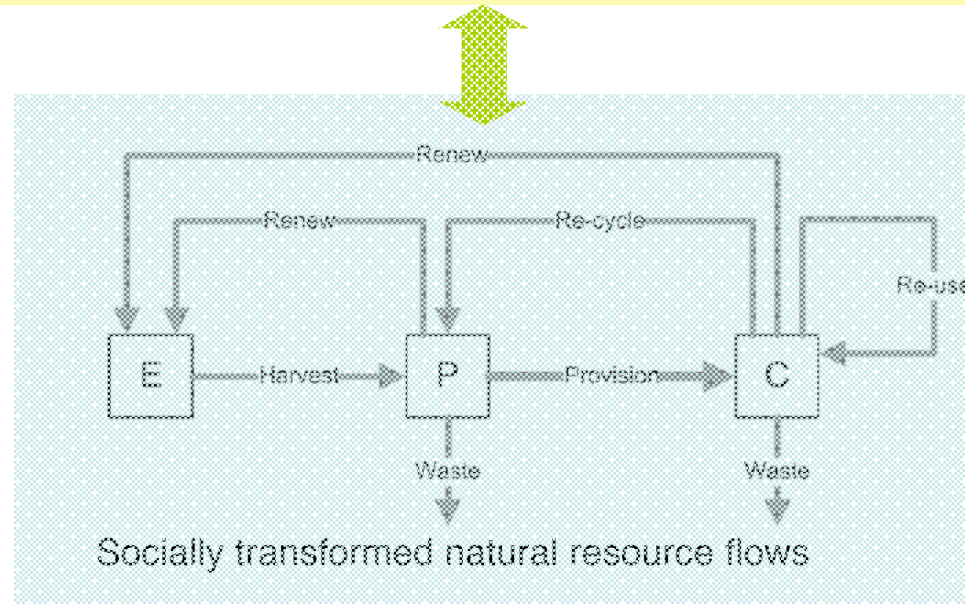
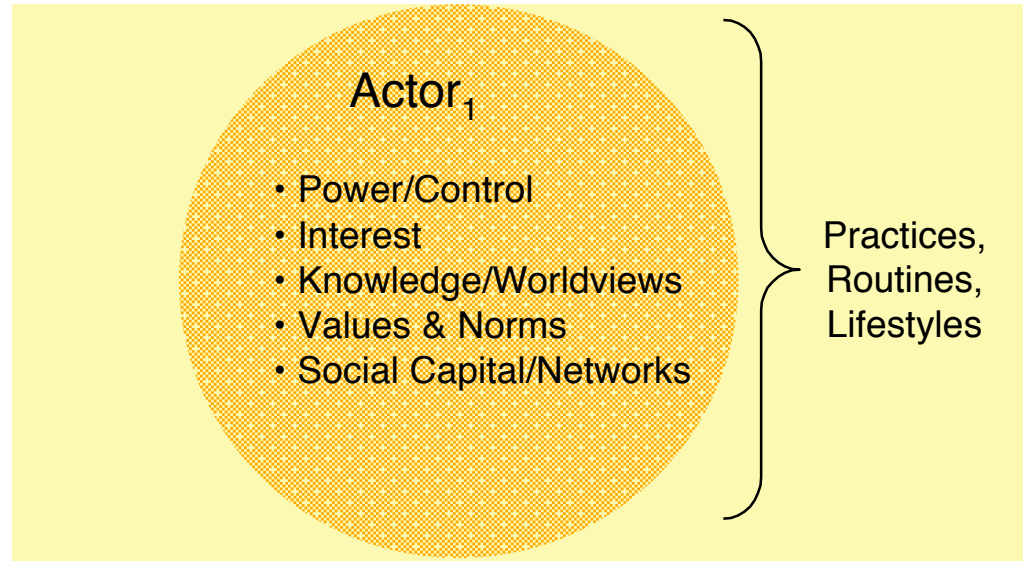
- most natural resources are scarce (oil in the earth crust)
- every natural resource requires human input (economic price of oil)
- most natural resources are under someone else's control (political price of oil)

Actors have **interests**. Interests arise from (1) basic needs, (2) culturally/socially driven wants, (3) individual and social evaluations. (To assess the interest of an actor implies to go beyond the immediate actor level)

Actors have (limited) **control** over resources. The degree of control depends upon (legal) ownership, (moral) entitlement, and physical control. Social arrangements usually 'control' individual control.

Actors do **view** resources in a particular way. These worldviews include perceptions and evaluations, and they are attached to the resource, but do not 'flow' from it. Worldviews depend upon (1) the preferred type of action, and (2) on assumptions about the systems behavior of the resource.

Actors necessarily **interact**, i.e. the social world consists of (1) a multitude of actors (endowed with interests), (2) a complex world of resources, and (3) a complex structure of social interaction.



Actor₁

- Power/Control
- Interest
- Attitudes/Worldviews
- Values & Norms
- Social Capital/Networks

Practices,
Routines,
Lifestyles



Conflict

Actor₂

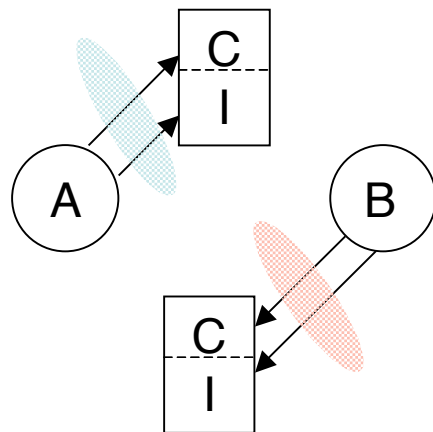
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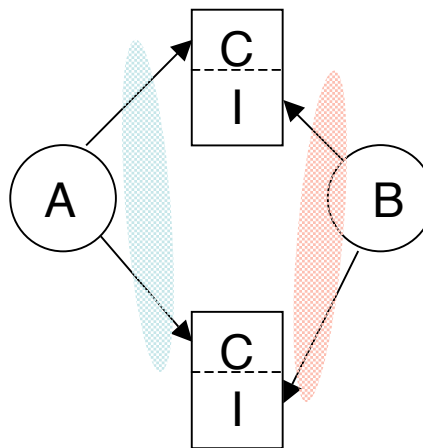
Basic Forms of Social Interaction

It characterizes the human condition that interests and control do usually not coincide. We are interested in things we don't control, and we control things we are not interested in. This enables and enforces interdependency and cooperation in various forms.

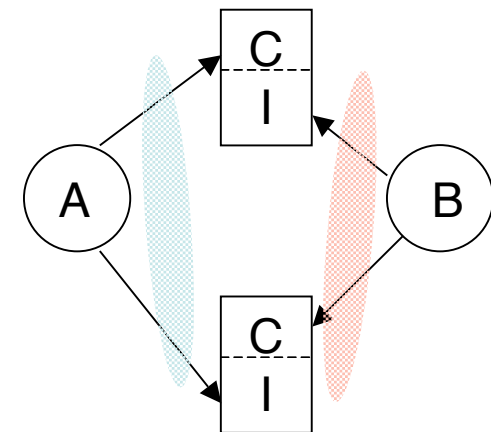
Autonomy



Dependency



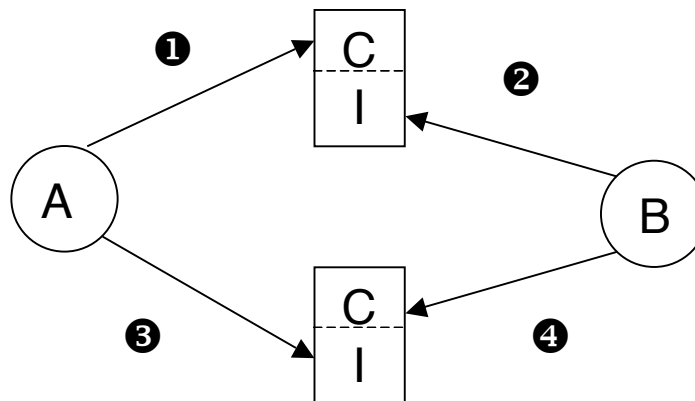
Interdependency



Power and Power Shift

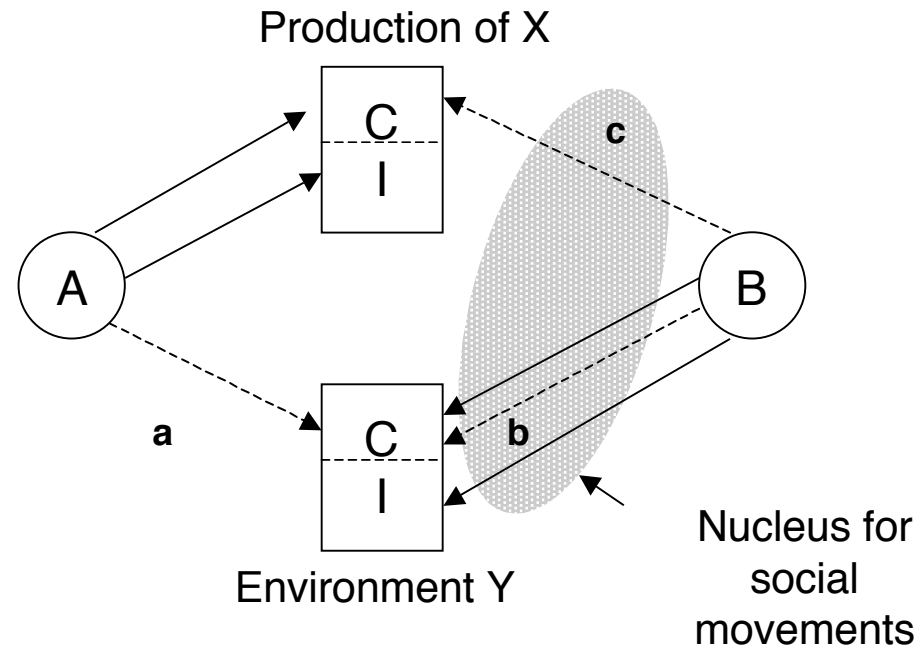
Power can be defined as a special case of interdependency: Actor A controls more of a resource X that actor B is interested in. Thus different forms of power shift are possible. You can gain power not only by increased control, but also by decreased interest.

- ❶ Actor A gains more control over resources B is interested in.
- ❷ Actor B develops a greater interest in the resource actor A controls.
- ❸ Actor A loses interest in resources B controls.
- ❹ Actor B loses control over resources actor A is interested in.



External Effects

Firm A produces a good (X), which it is interested in and controls. The population B located at the production site is interested in a clean environment (Y), which it initially controls exclusively (and is interested in). If firm A creates environmental pollution as an external effect of X, it develops a form of control over resource Y (arrow a), and the population develops an interest in regaining control over Y (arrow b), possibly by trying to get control over the activities of firm A, e.g. by protests and boycotts (arrow c). This might be the beginning of a social movement.



Next steps

- Economy
 - What is a resource?
 - What is scarcity?
 - Who defines it?
 - What is an externality?
 - Nature excluded?
 - Ecological economics
 - Economic Instruments