

Human-centered design

Its epistemology, principles, and key concepts

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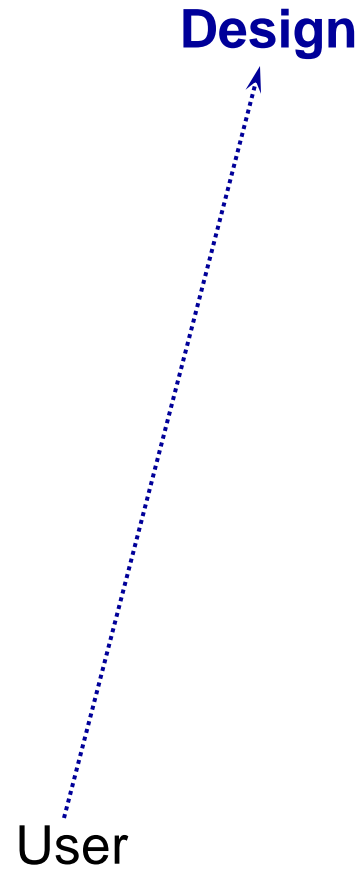
I will argue for four propositions:

Design must

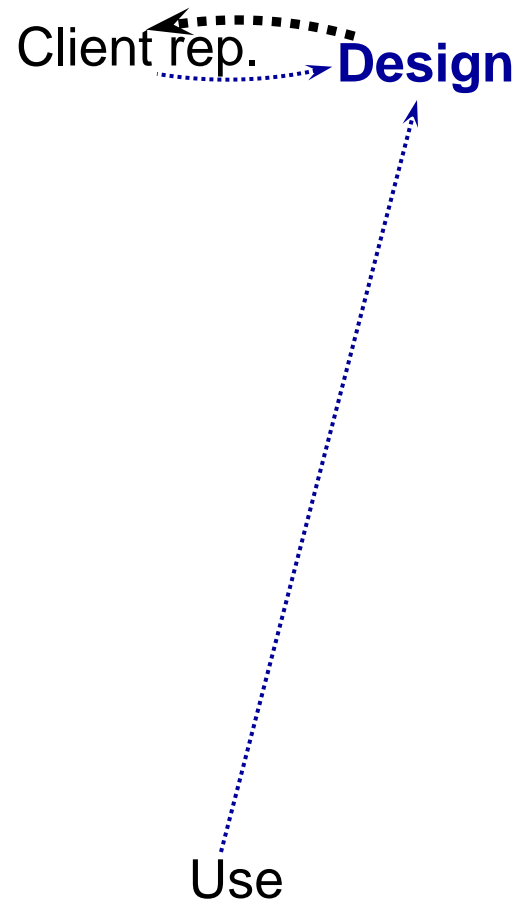
- **Acknowledge the multiple worlds of its stakeholders**
- **Address the increasingly virtual nature of its concerns**
- **Be human-centered and employ interactive conceptions of meanings artifacts may acquire in use**
- **Realize itself in communication**

Acknowledge the multiple worlds of its stakeholders

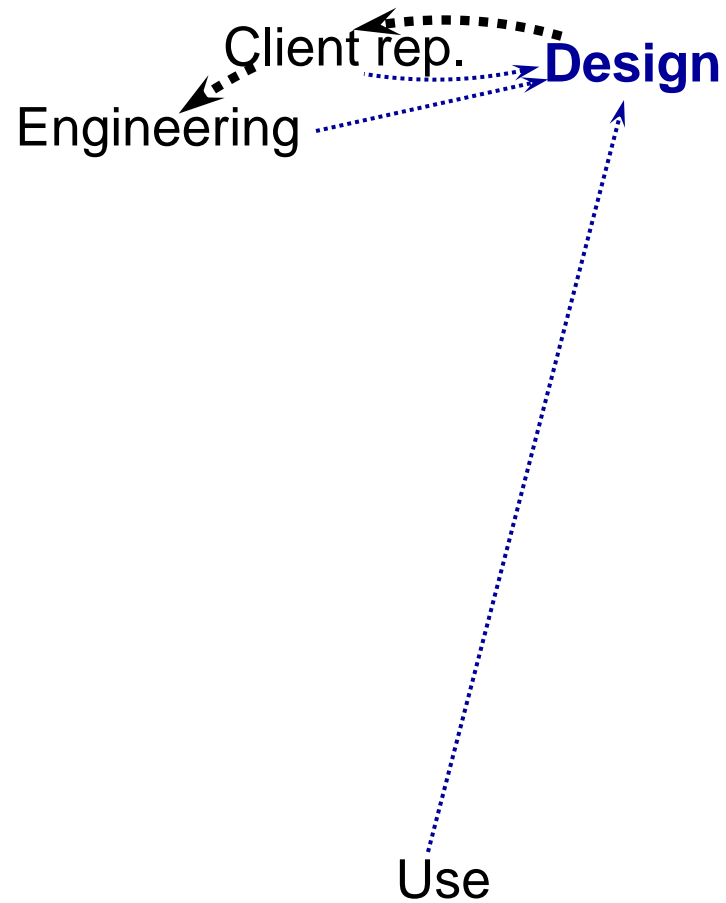
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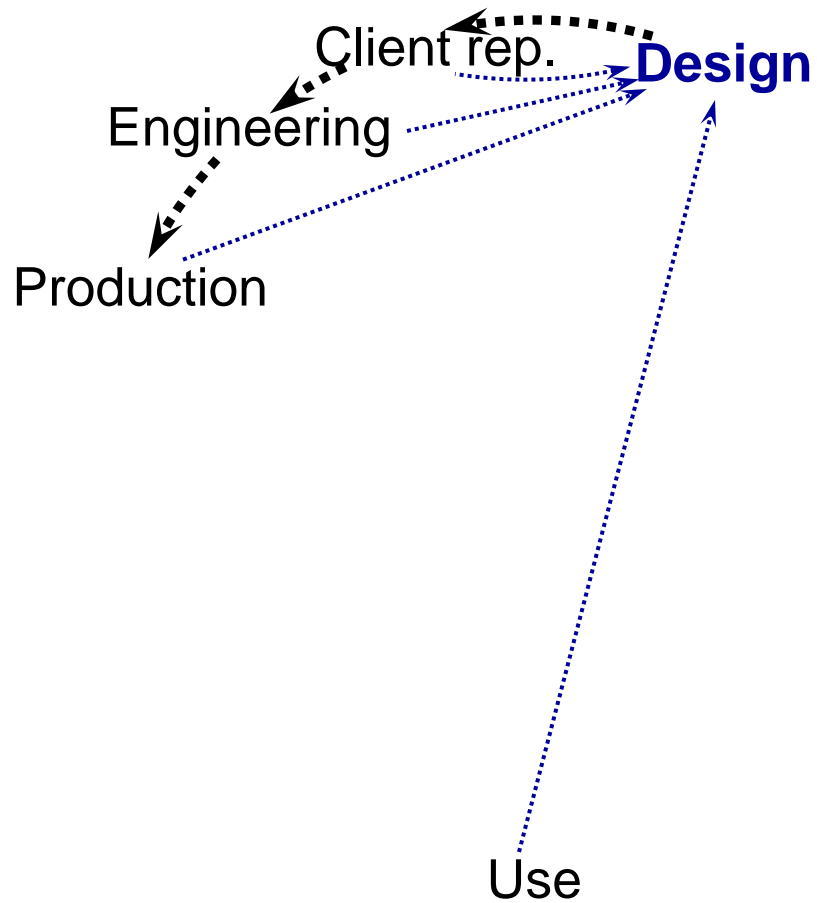
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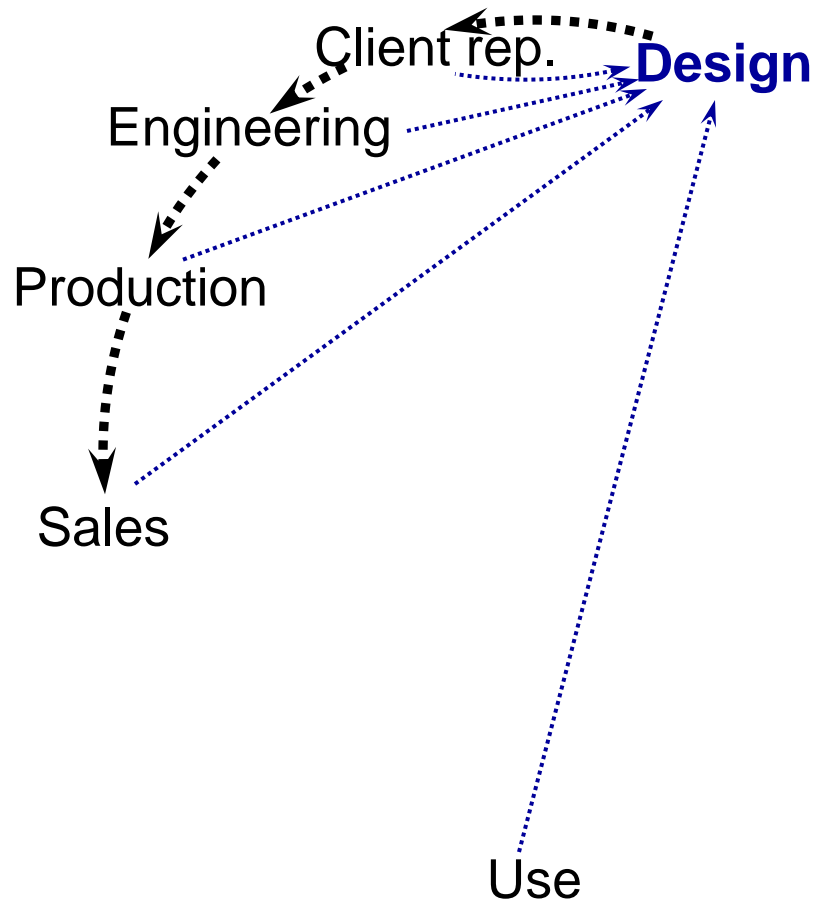
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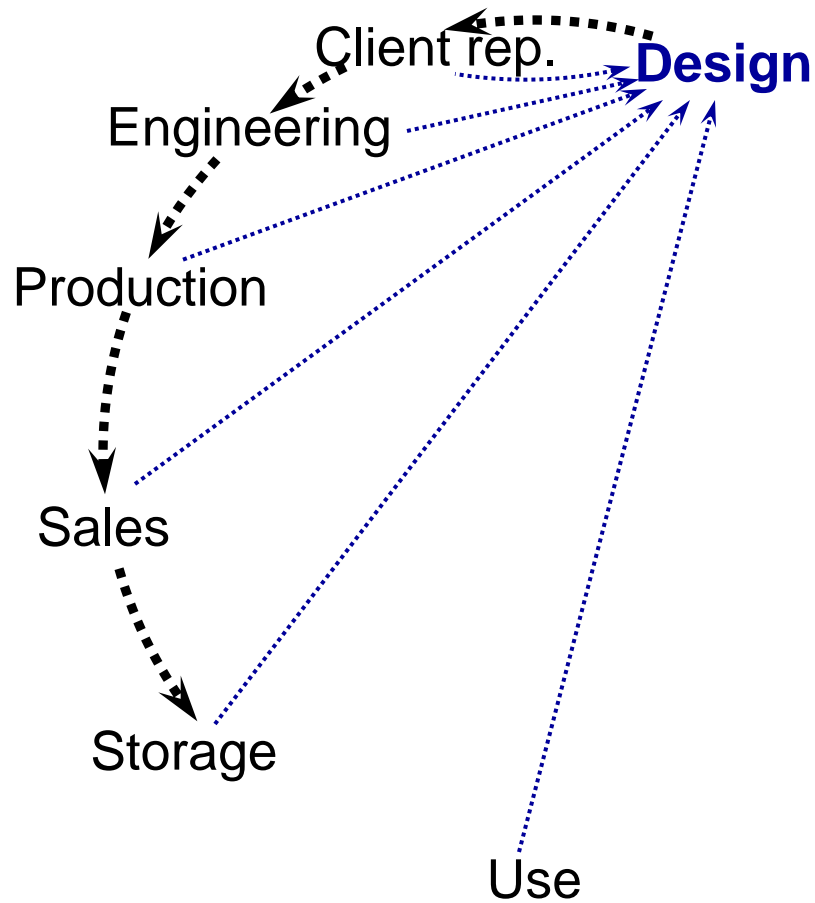
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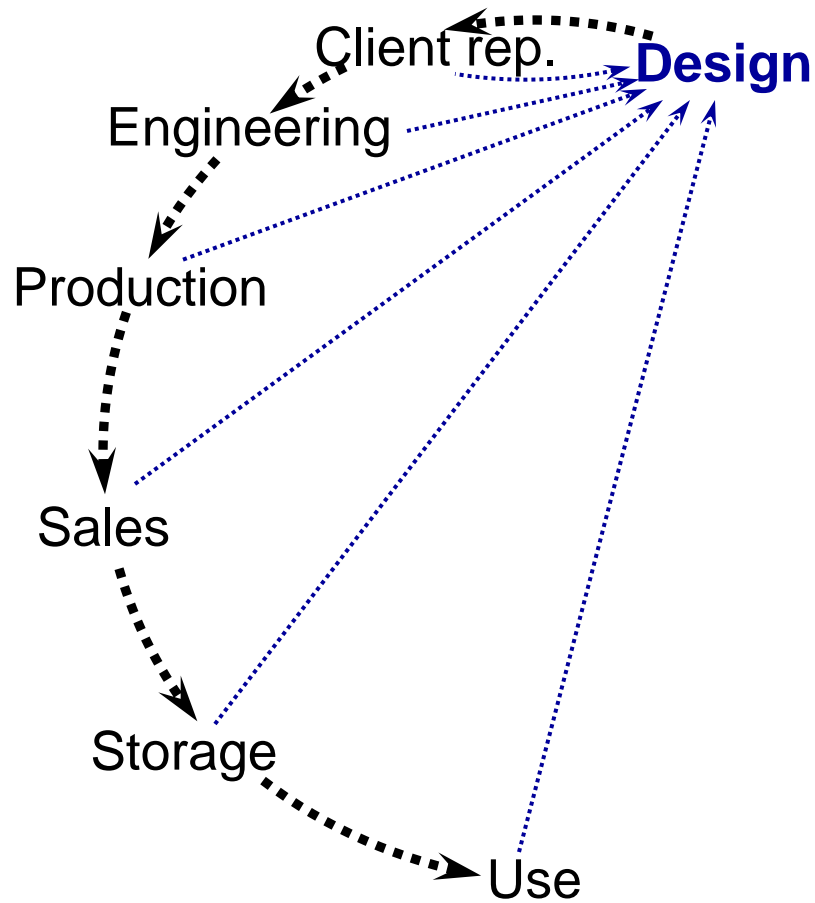
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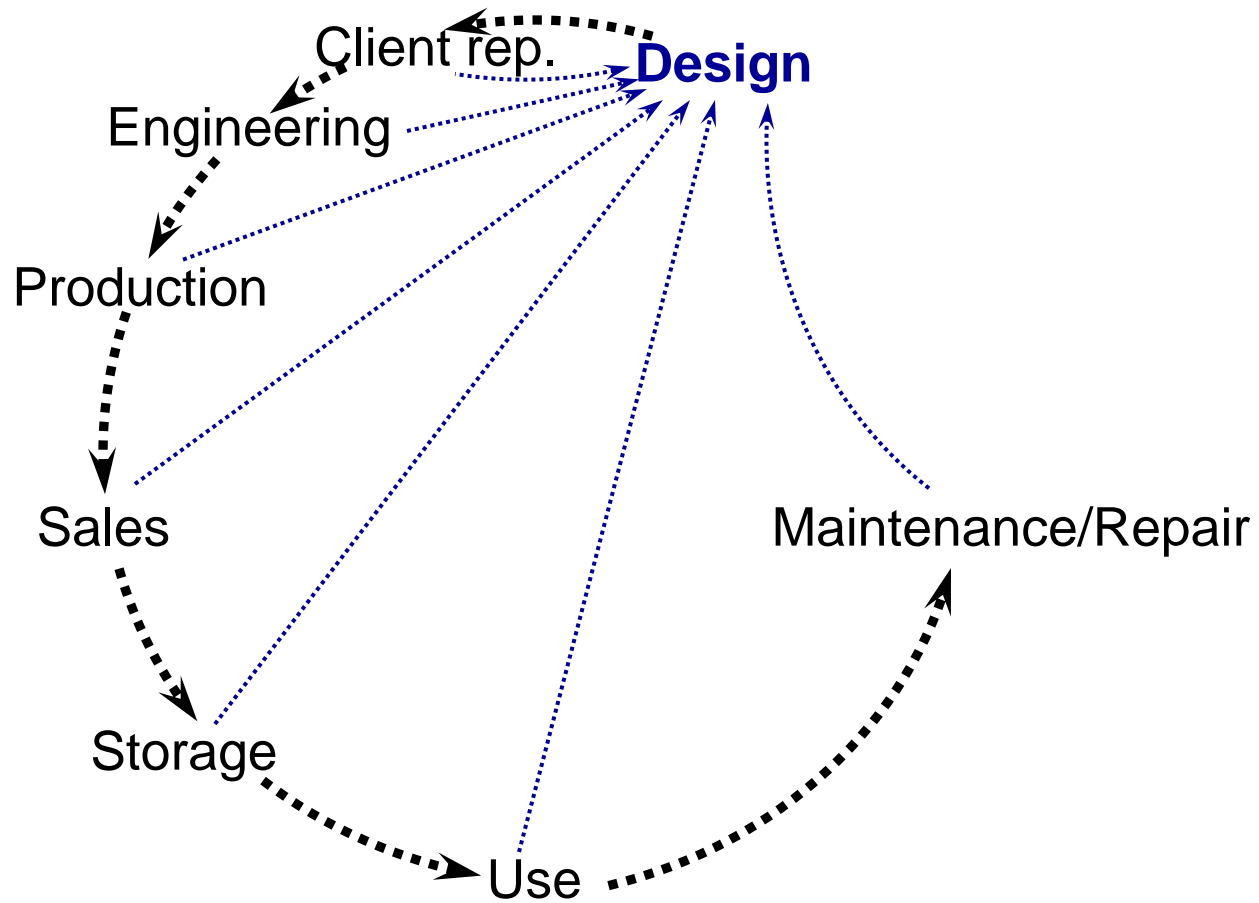
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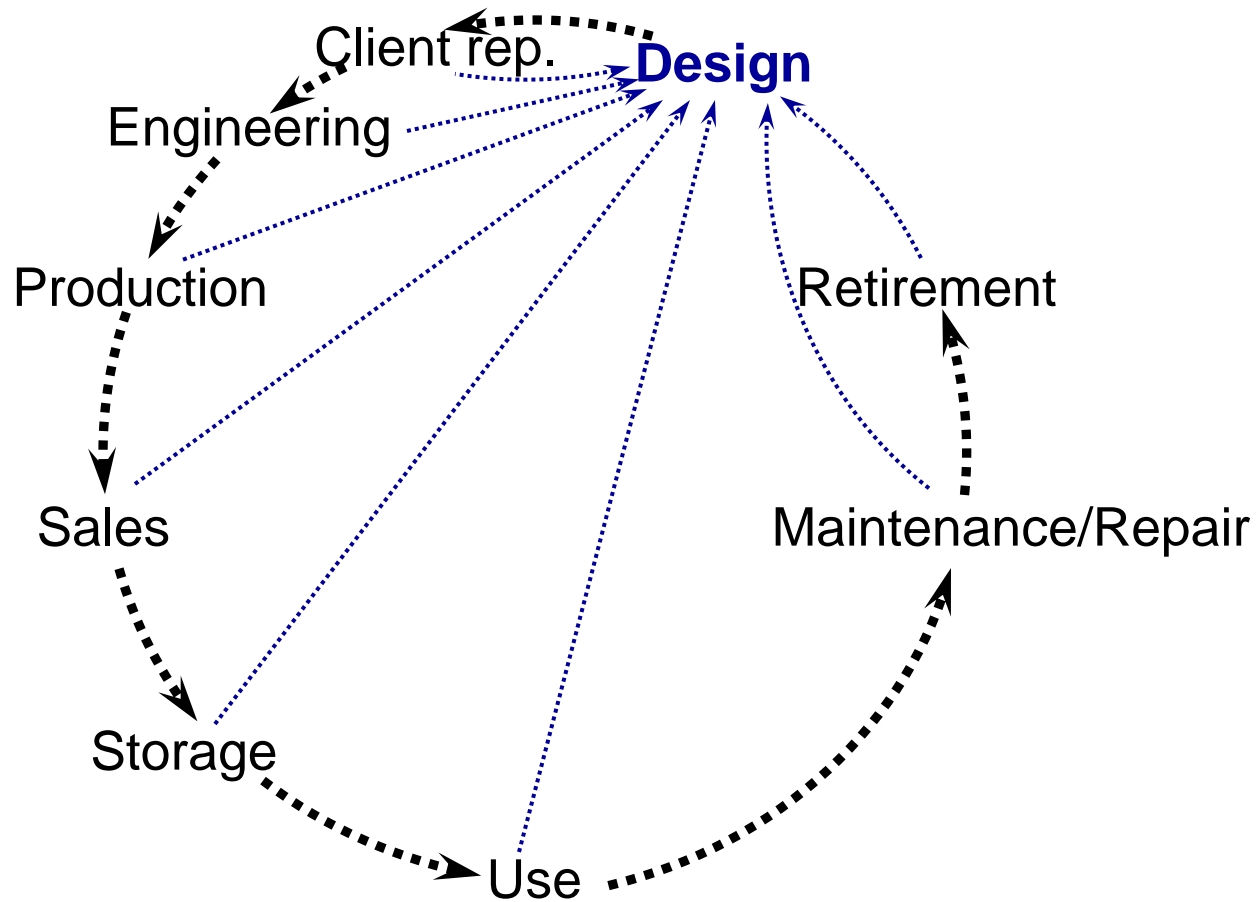
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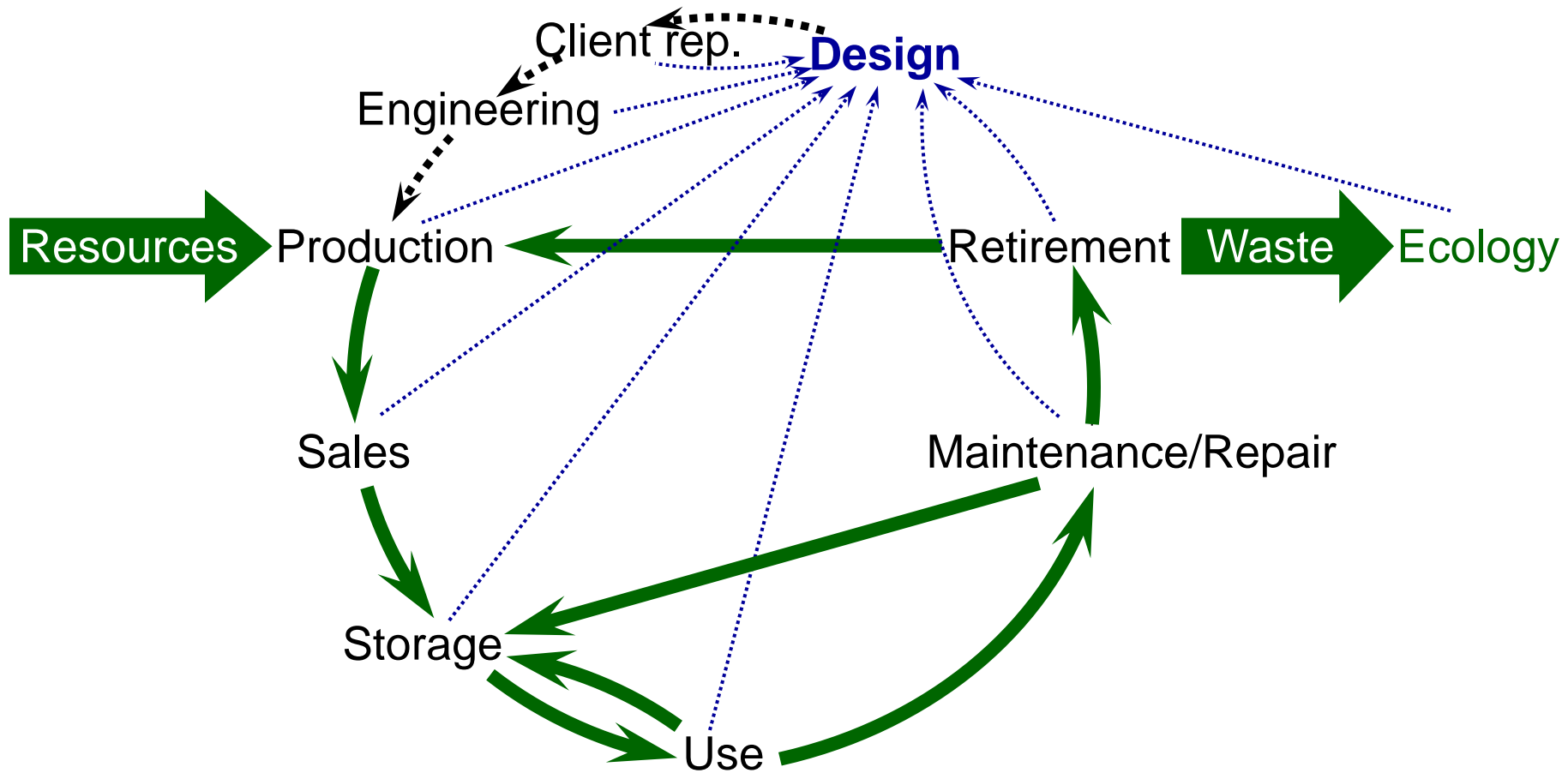
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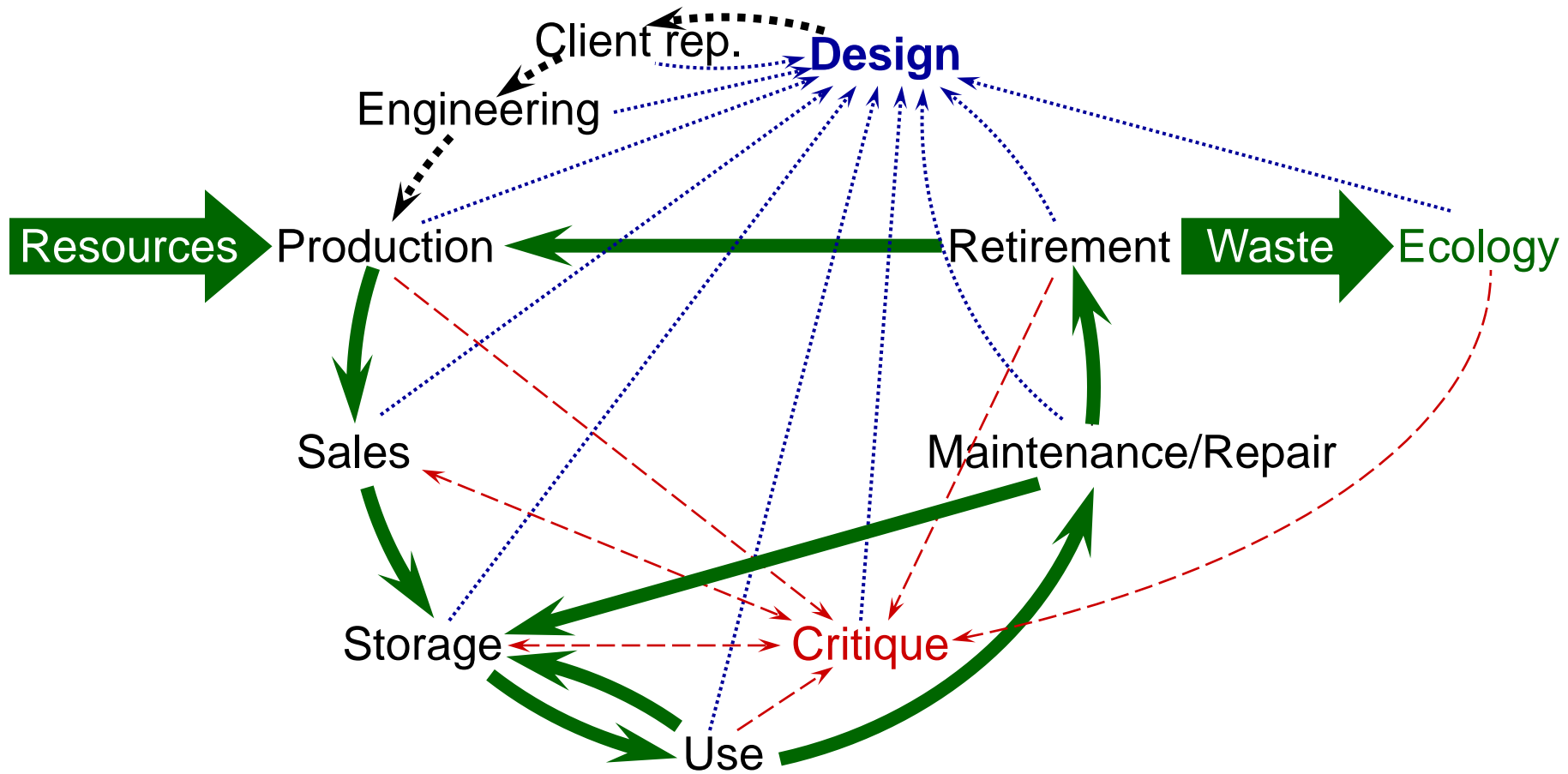
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- Designers are part of a network of other stakeholders in their design
- Stakeholders are knowledgeable actors with material, cultural, and political resources and interest in supporting or opposing a design
- A design must bring forth, inform, nourish, and cooperate with its network of stakeholders
- The faith of any design is decided in the language of its stakeholders
- Users are but one kind of stakeholder – knowledgeable, interested, involved, and as decisive as the other stakeholders

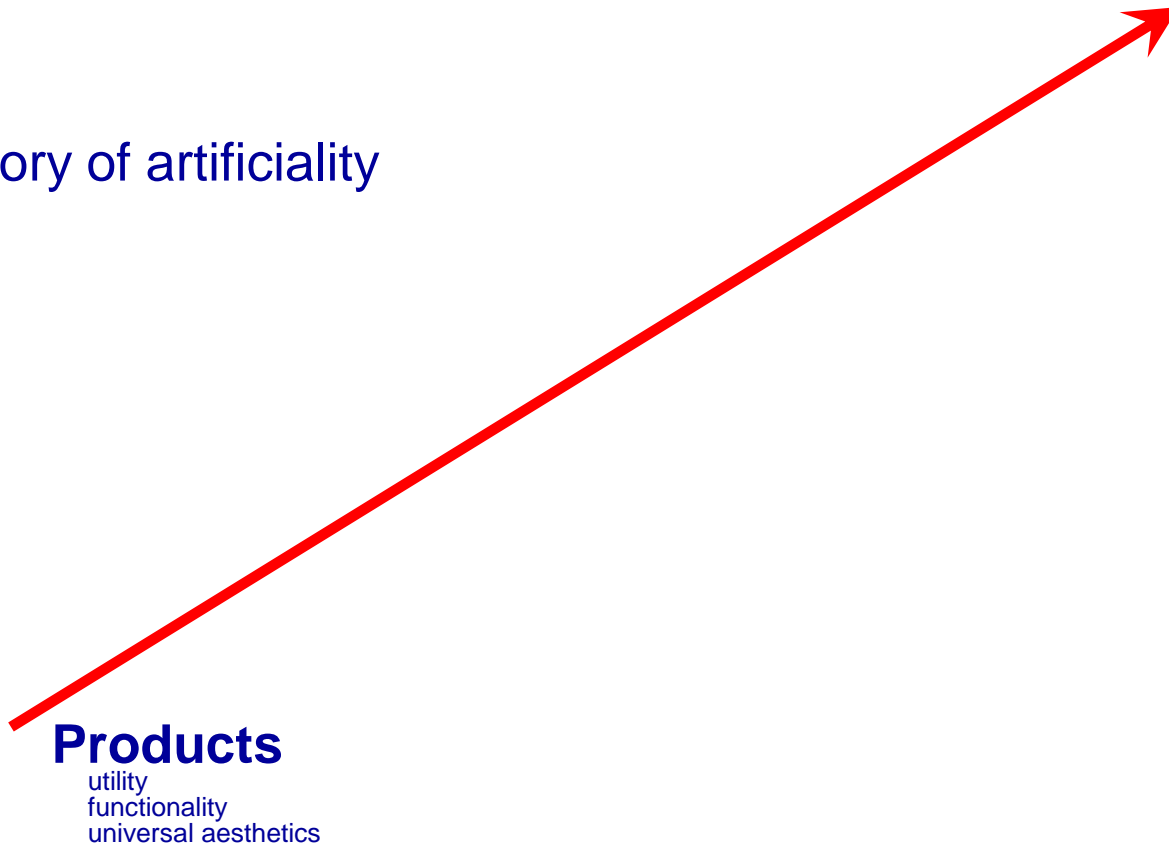
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- Acknowledge the multiple worlds of its stakeholders
- **Address the increasingly virtual nature of its consequences**

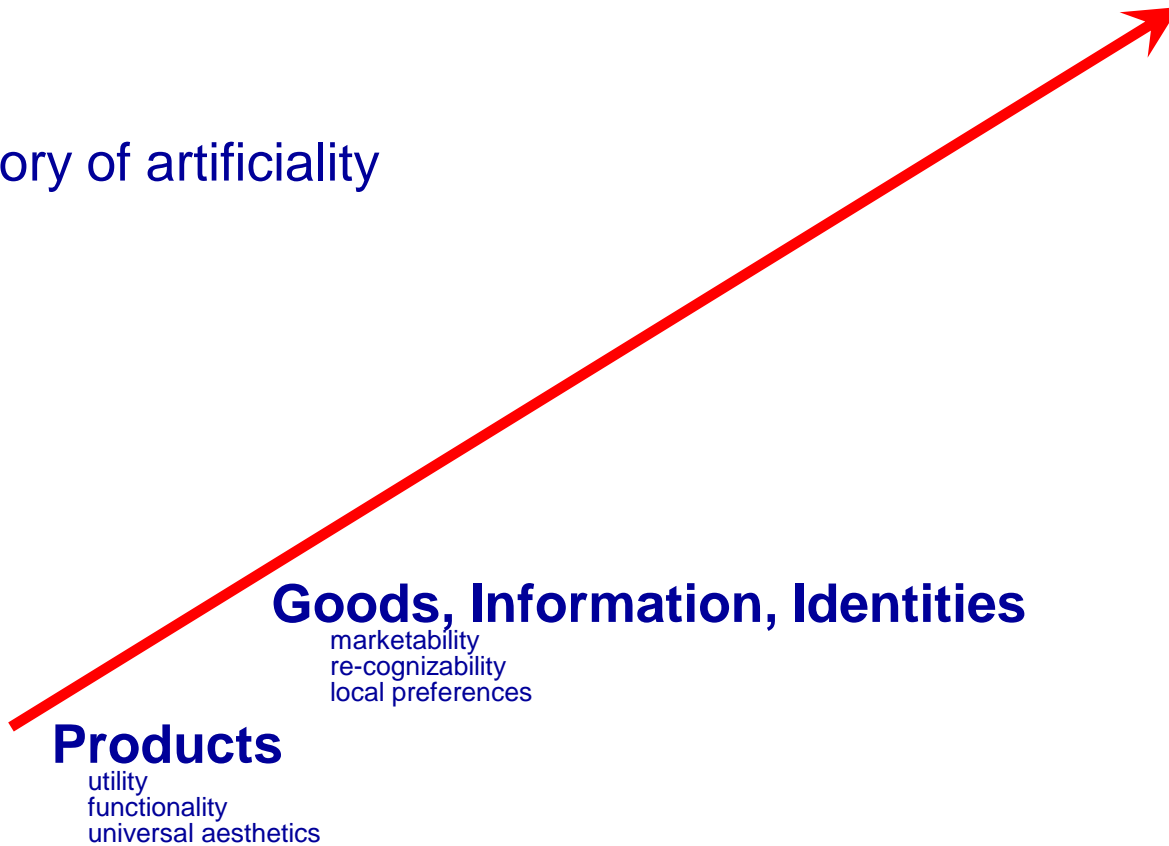
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A trajectory of artificiality



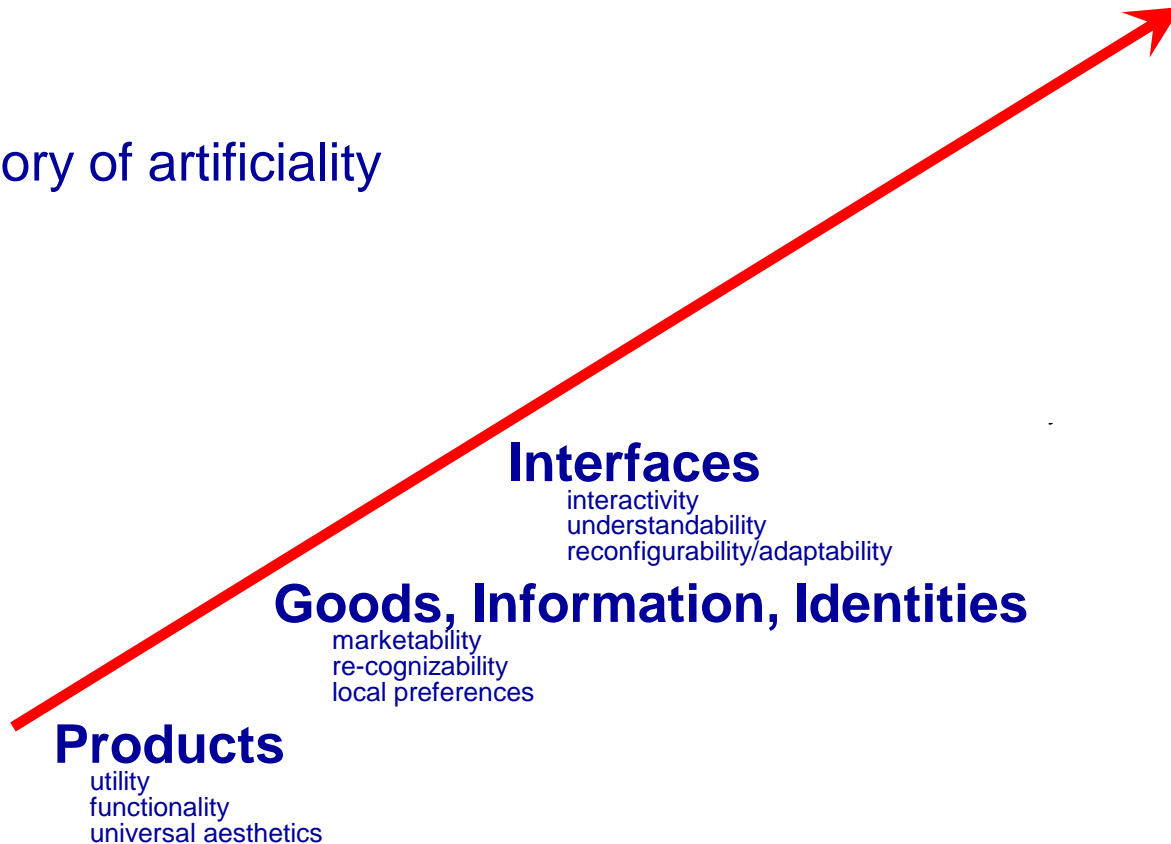
Address the increasingly virtual nature of its targets

A trajectory of artificiality



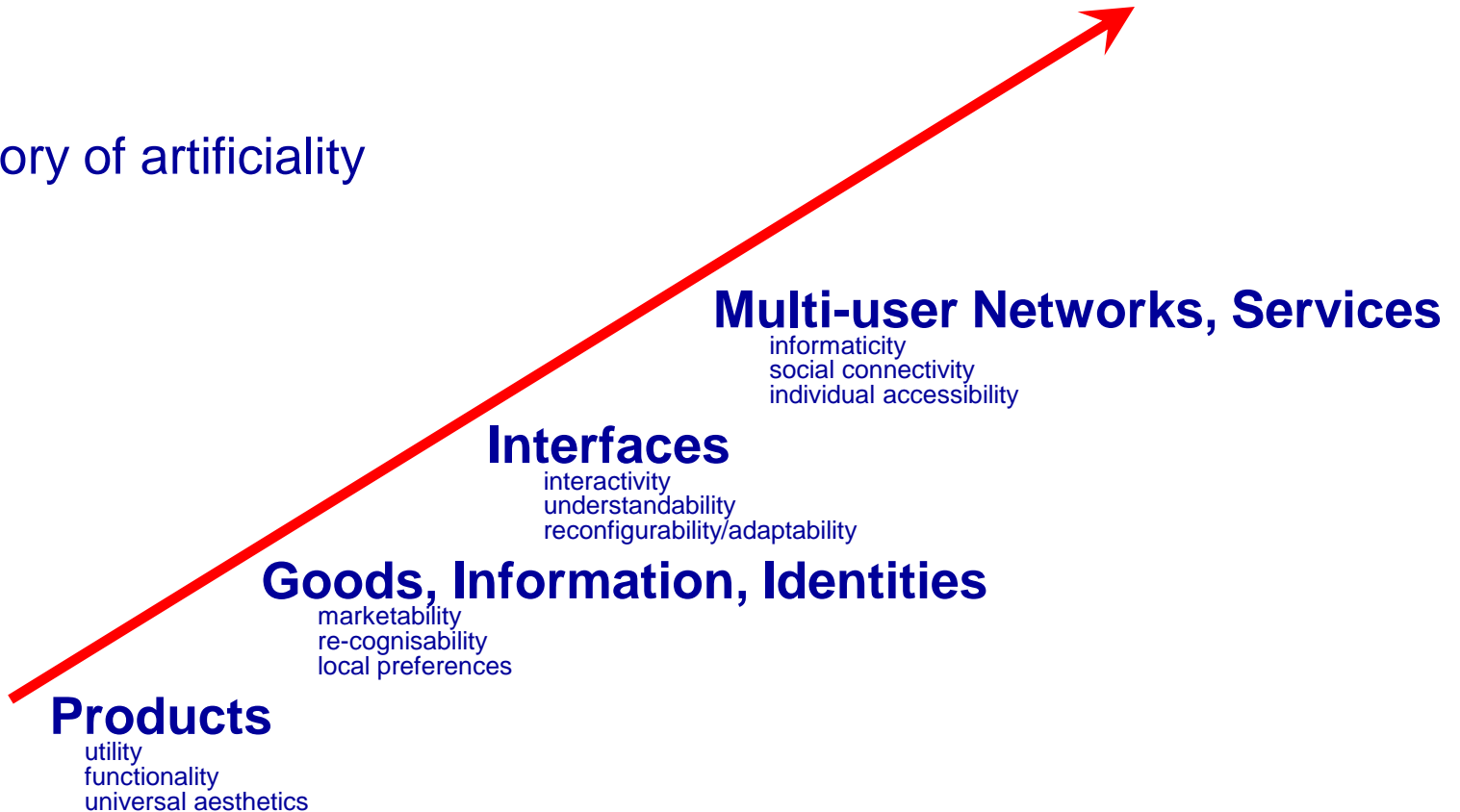
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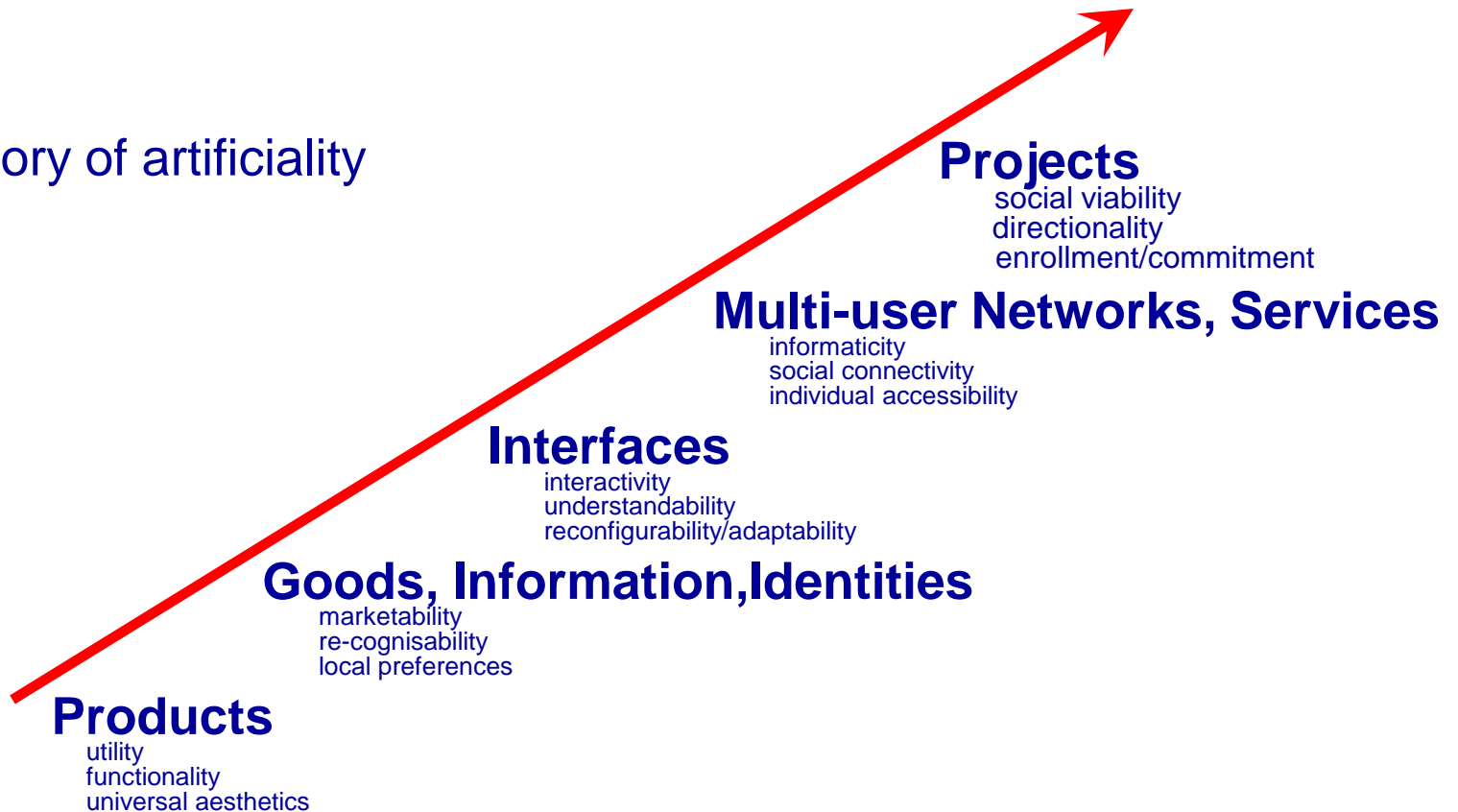
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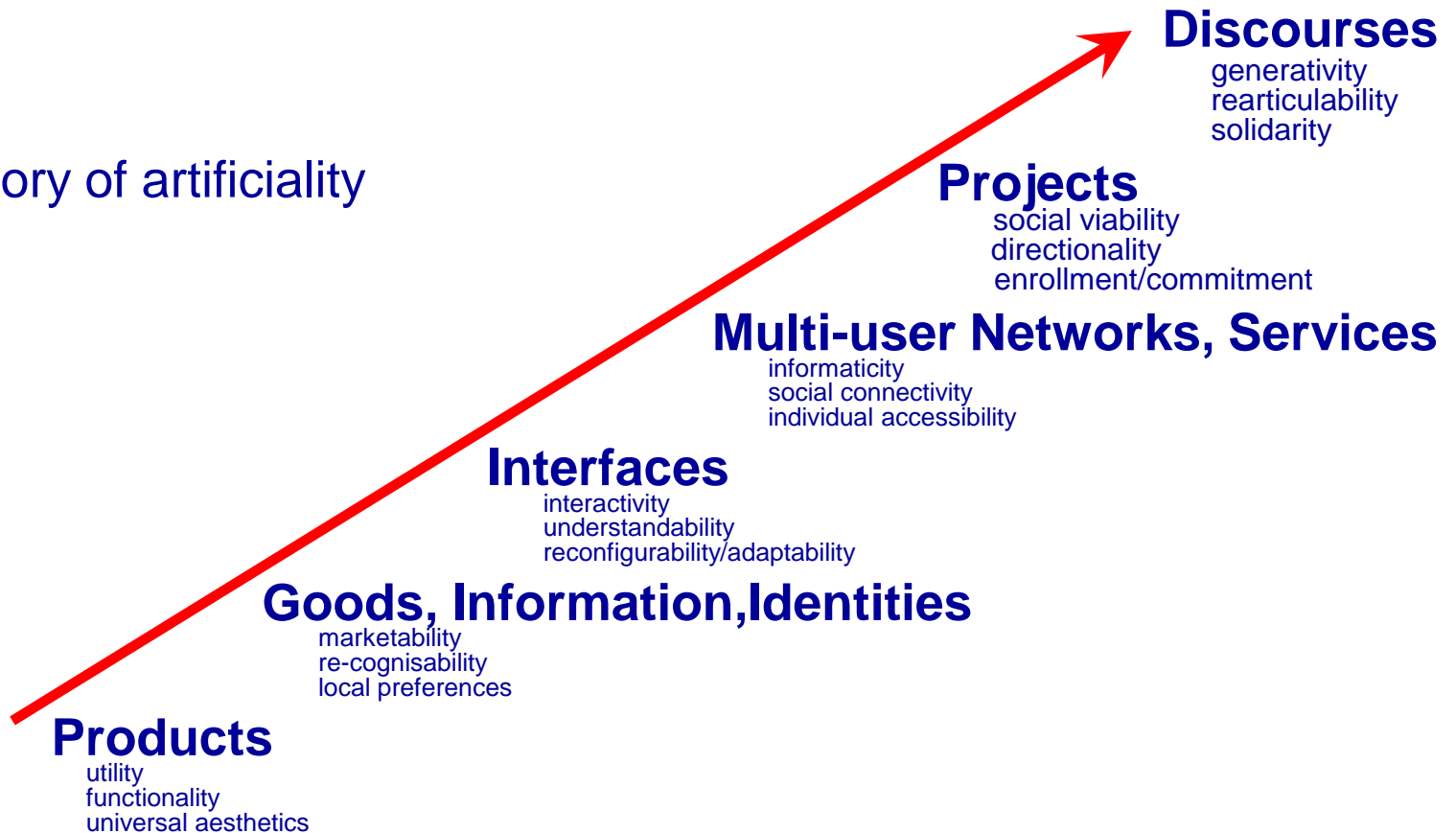
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A trajectory of artificiality

low diversity **Industrial Culture**
Natural science discourse dominant

Diversity of participation has increased
Artifacts become more language-like,
communicative
Con-sensual and cultural criteria dominate
technical-functional ones
Market economy increased choices, information,
interactivity, and design in everyday life

high diversity human-centered
Design Culture
Design discourse
dominant

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Design must

- Acknowledge the multiple worlds of its stakeholders
- Address the increasingly virtual nature of its targets
- **Be human-centered and employ interactive conceptions of meanings artifacts may acquire in use**

Human-centered design and interactive concepts of meaning and artifacts

Some propositions to consider

1. Human-centered conceptions are conceptions that individuals **can hold, enact, and live with** in their own world

They must not contradict their possible human embodiments, i.e., the human abilities to perceive, understand, articulate, or act in their world

They reside in conversations among stakeholders, not outside or about them

By contrast: technology-centered conceptions are the conceptions of disembodied (detached) scientists or experts who approach their world with objective measurements and abstract theories

Functions, for example, prescribe the relations among parts of a system without reference to stakeholders' understanding

Ergonomics imposes objective efficiency criteria that may have nothing to do with how people think.

Be human-centered and concerned with interactive meanings and artifacts

Some propositions to consider

1. Human-centered conceptions are conceptions that individuals **can hold, enact, and live with** in their own world
2. Humans respond to what things **mean** to them – not to their physical qualities

Basically, **meaning** restores the perceived difference between what is sensed and what seems to be happening, expectations, or possible actions

Meanings **are invented in use**, and enacted when interfacing with artifacts and conversing with other stakeholders

Meanings **cannot be attached** to things

The meaning of something (an artifact, word, someone else) is **the set of possible actions** (coordinations, uses, associations, relationships) it suggests in a particular context. The “something” is the meaning for an outsider

Meanings are accessible mainly from interviews, exercises, narratives, and justifications. Only the consequences of their enactment are observable

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Some propositions to consider

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2. Humans respond to what things **mean** to them – not to their physical qualities
3. To be usable, artifacts must **afford** the meanings and capabilities their stakeholders can bring to them

Providing affordances for the stakeholders of a design reverses the authoritarianism and cultural insensitivity of functionalism of the industrial era

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4. Designers are naturally **unlike other** stakeholders

Meanings, capabilities, and interest of stakeholders may be addressed in three ways – fundamentally unlike in technology-centered design:

- **Gaining second-order understanding**
- **Participatory or co-design**
- **Delegation of design to stakeholders – aiding possibilities of redesign**

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5. Design is **not mere problem solving** – as is engineering

It needs to:

- **Invent futures** and make them attractive to stakeholders to live in them
- **Search the present for variables** (create a design space)
- **Propose realistic and attractive paths** for stakeholders to realize a design
- Find **adequate backing** to enroll stakeholders to pursue these paths
- Develop **an irrefutable design discourse**

These are the topics of design research

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4. Designers are naturally **unlike other** stakeholders
5. Design is **not mere problem solving** – as is engineering
6. Design **cannot be disciplined** as are traditional disciplines, but its ability to stand up to them requires a design discourse by which the objects of design can be backed up, absent evidence about the future they propose

I believe concepts of meaning – in **use**, in **language**, in **genesis**, and in the **ecology of artifacts** – can provide the basis for a new science for design

The semantic Turn outlines that science and some of its methods

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**I invite you to consider the opportunities
a science for human-centered design offers**

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Design must realize itself in communication

- Designs are proposals
- Proposals akin to “speech acts” that enroll stakeholders to form a network that realizes what a design suggests

Searle’s speech acts:

- assertives** = speech acts that commit a speaker to the truth of the expressed proposition
- directives** = speech acts that are to cause the hearer to take a particular action, e.g. requests, commands and advice
- commissives** = speech acts that commit a speaker to some future action, e.g. promises and oaths
- expressives** = speech acts that express the speaker's attitudes and emotions towards the proposition, e.g. congratulations, excuses and thanks
- declarations** = speech acts that change the reality in accord with the proposition of the declaration, e.g. baptisms, pronouncing someone guilty or pronouncing someone husband and wife

Design must realize itself in communication

- Designs are proposals
- Proposals akin to “speech acts” that enroll stakeholders to form a network that realizes what a design suggests
- As **proposals**, designs need to
 - Open novel and meaningful possibilities for addressees to realize themselves (Human/motivational condition)
 - State what is proposed and what each participant can do (Essential condition)
 - Be commensurate with the intellectual and material resources addressees have available (Preparatory condition)
 - Provide adequate backing (plausible evidence) for their potential reality (Sincerity condition)
 - Preserve these conditions in communication through the emerging network of stakeholders, assure cooperation and recursive extensions of the design (Political condition)

Designs that fail these conditions are not likely to succeed – unless other stakeholders transform that design into their own proposals

Thank you for listening

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