

Isology Lecture

Isology - The study of references, standards and standardization. References and standards define the units of economic systems.

ECON 4697

Industrial Organization and Regulation

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Definitions

Reference: A reference is necessary to make a comparison or determine a value.

Standard: A codified and quantified set of references required by an independent jurisdiction (e.g., IETF RFC). When government enforced, a *regulation*.

Specification: A codified and quantified set of references required by a private jurisdiction. (e.g., Google APIs)

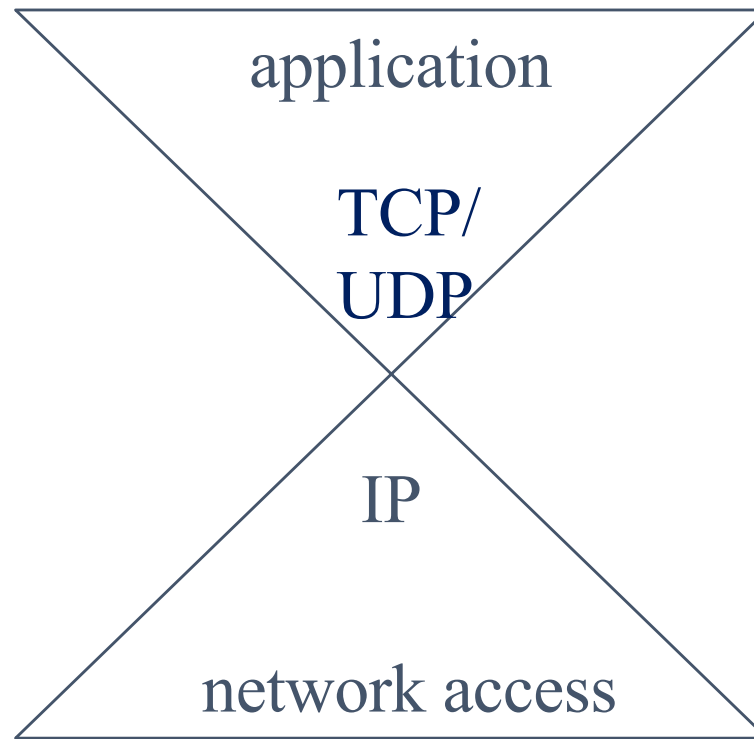
Standardization: Process of creating, implementing, or using a standard or specification.

Hierarchical Communication

Internet – 4 layers: network interface, internet (IP), transport (TCP, UDP), application

OSI model – 7 layers: physical, data link layer, network, transport, session, presentation, application

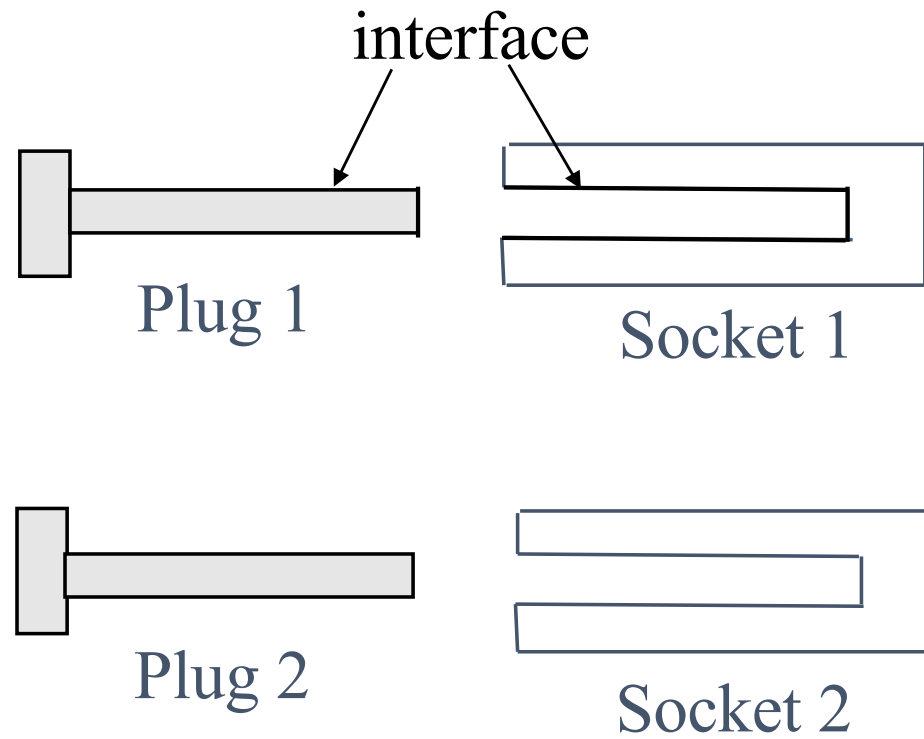
Internet layers



The hour glass

Compatible

Similar



Technology successions

Paradigm	Examples	Function	Effect
8. Generative AI	ChatGPT, Gemini, DALL-E	Inference	Towards thinking
7. Machine learning	Netflix, Spotify, Amazon	Learns	Based on training data
6. Software	Programs, algorithms	Process and adapt	Emerging openness with trademark control
5. Network	APIs, air interface, Gillette razor, local bus	Communications	Communications gives interface control
4. Manufacturing	Pharmaceuticals, Venetian galleys,	Replicate	Efficiency gives market control, patents
3. Design	7 wonders of the world, models, maps,	Specification/plan	Describes in advance
2. Measurement	Numbers, currency	Quantify	Agriculture, trade, accounting
1. Symbol	Animal, hand signs	Identify	Recognize, barter

Society reflects the evolving technical paradigms

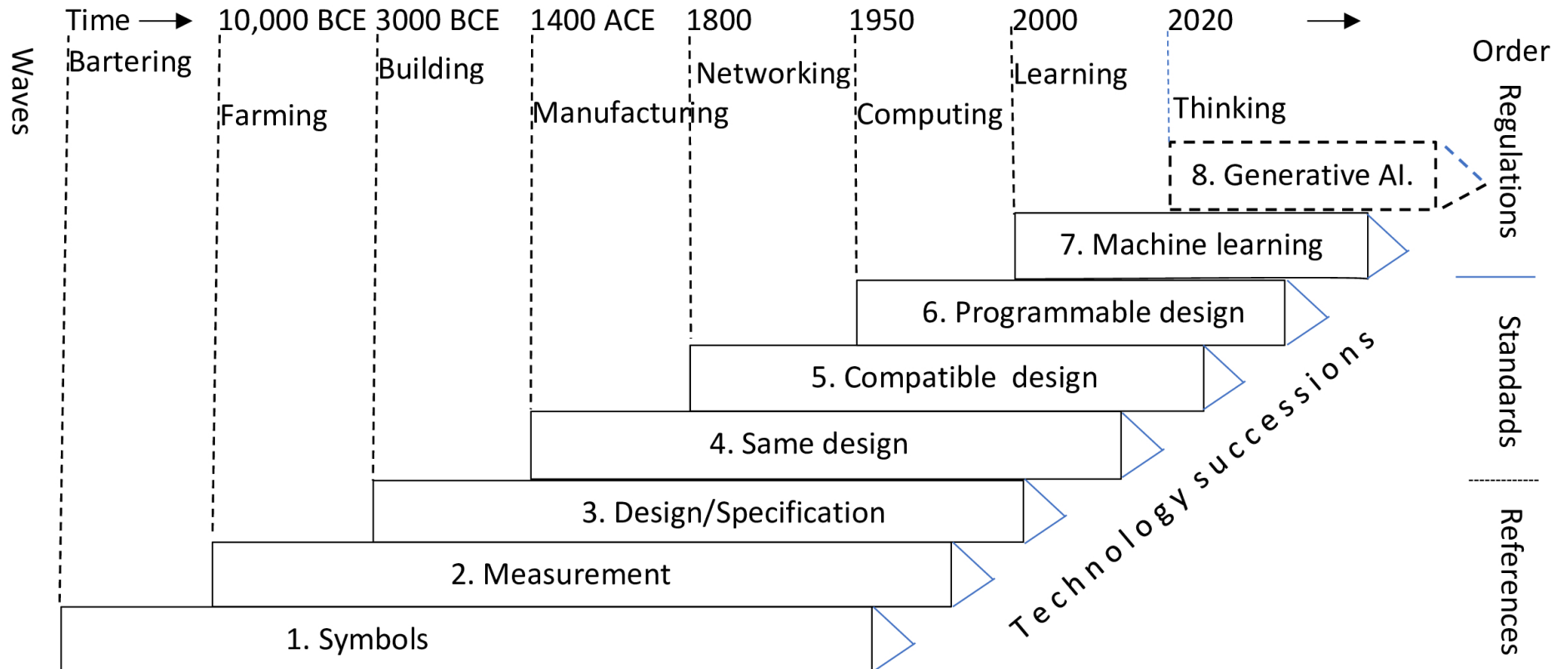
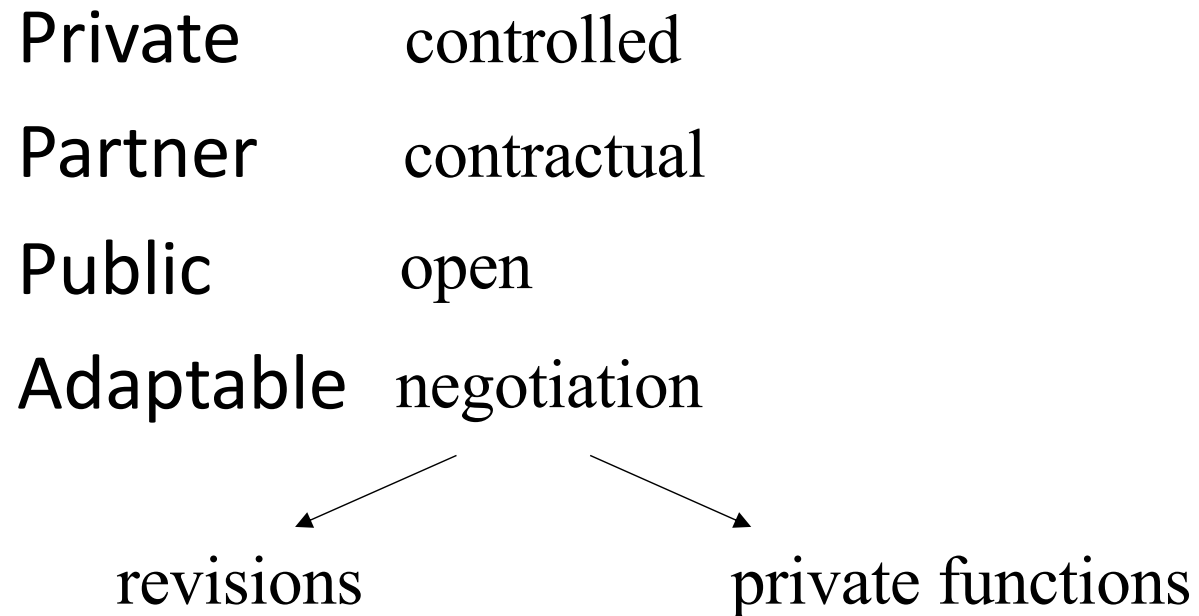


Fig. 1 Each Wave of Society is Based Upon a Technology Succession

Software Interfaces (APIs)



Thank you

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<http://www.isology.com>