What is Human Computer Interaction?

https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/human-computer-interaction-brief-intro

What is Human Computer Interaction?

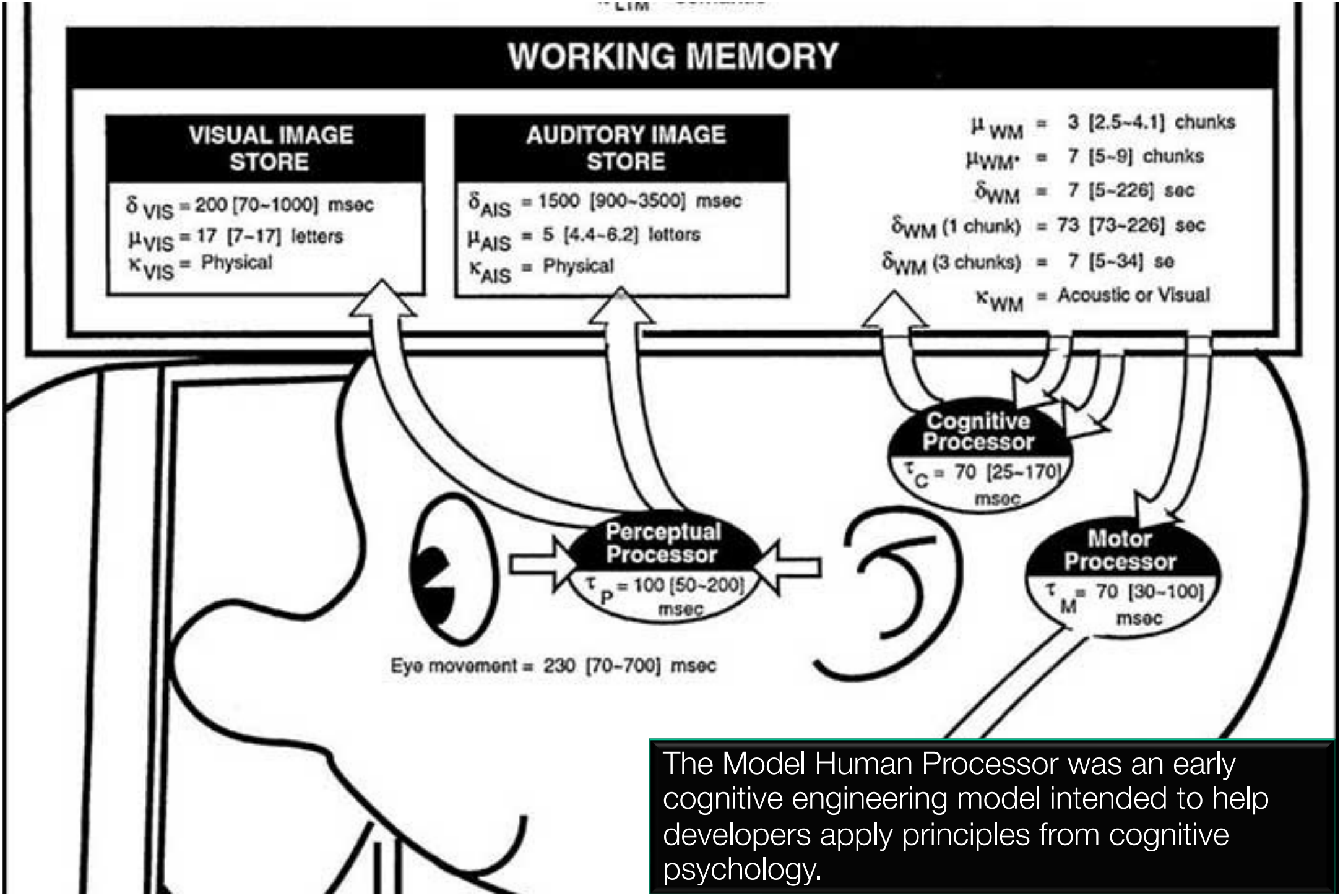
- HCI (human-computer interaction) is the study of **how people interact** with computers and to what extent computers **are or are not developed** for **successful** interaction with human beings.

What is Human Computer Interaction?

- The Interdisciplinary Design Science of Human-Computer Interaction (HCI) combines knowledge and methods associated with professionals including:
  - Psychologists (incl. Experimental, Educational, Social and Industrial Psychologists)
  - Computer Scientists
  - Instructional and Graphic Designers
  - Technical Writers
  - Human Factors and Ergonomics Experts
  - Anthropologists and Sociologists

What is Human Computer Interaction?

- Human-computer interaction (HCI) is an area of research and practice that emerged in the early 1980s, initially as a specialty area in computer science embracing cognitive science and human factors engineering
- The broad project of cognitive science, which incorporated cognitive psychology, artificial intelligence, linguistics, cognitive anthropology, and the philosophy of mind, had formed at the end of the 1970s.



The Model Human Processor was an early cognitive engineering model intended to help developers apply principles from cognitive psychology.

Where HCI came from?

- Until the late 1970s, the only humans who interacted with computers were information technology professionals and dedicated hobbyists.
- This changed disruptively with the emergence of personal computing in the later 1970s.
- Personal computing, including both personal software (productivity applications, such as text editors and spreadsheets, and interactive computer games) and personal computer platforms (operating systems, programming languages, and hardware),
- This made everyone in the world a potential computer user, and vividly highlighted the deficiencies of computers with respect to usability for those who wanted to use computers as tools.

Where HCI came from?

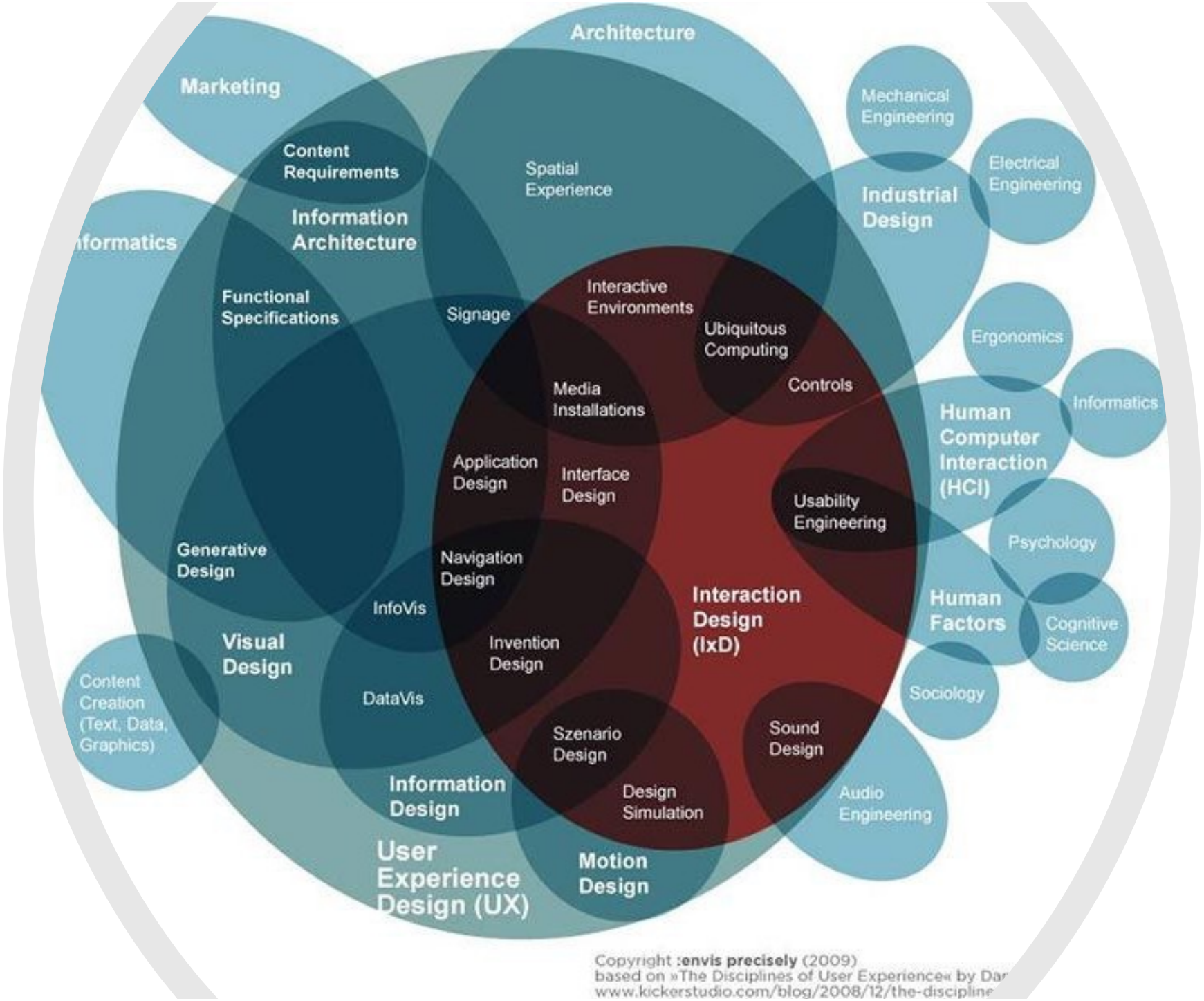
- Software engineering, mired in unmanageable software complexity in the 1970s (the “software crisis”), was starting to focus on nonfunctional requirements, including usability and maintainability, and on empirical software development processes that relied heavily on iterative prototyping and empirical testing.
- Computer graphics and information retrieval had emerged in the 1970s, and rapidly came to recognize that interactive systems were the key to progressing beyond early achievements.
- All these threads of development in computer science pointed to the same conclusion: The way forward for computing entailed understanding and better empowering users

From cabal to community

- The original and abiding technical focus of HCI was and is the concept of usability. This concept was originally articulated somewhat naively in the slogan "easy to learn, easy to use". The blunt simplicity of this conceptualization gave HCI an edgy and prominent identity in computing.
- Usability now often subsumes qualities like *fun, well being, collective efficacy, aesthetic tension, enhanced creativity, flow, support for human development, and others*.
- A more dynamic view of usability is one of a programmatic objective that should and will *continue to develop as our ability to reach further toward it improves.*

From cabal to community

- Indeed, it no longer makes sense to regard HCI as a specialty of computer science; HCI has grown to be broader, larger and much more diverse than computer science itself.
- HCI expanded from its initial focus on individual and generic user behavior to include social and organizational computing, accessibility for the elderly, the cognitively and physically impaired, and for all people, and for the widest possible spectrum of human experiences and activities.
- It expanded from desktop office applications to include games, learning and education, commerce, health and medical applications, et.
- It expanded from early graphical user interfaces to include myriad interaction techniques and devices, multi-modal interactions, tool support for model-based user interface specification, and a host of emerging ubiquitous, handheld and context-aware interactions.


Architecture
Marketing
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Electrical Engineering
Industrial Design
Information Architecture
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Functional Specifications
Signage
Interactive Environments
Ubiquitous Computing
Ergonomics
Controls
Media Installations
Informatics
Human Computer Interaction (HCI)
Application Design
Interface Design
Usability Engineering
Psychology
Generative Design
Navigation Design
InfoVis
Interaction Design (IxD)
Human Factors
Cognitive Science
Visual Design
Invention Design
Content Creation (Text, Data, Graphics)
DataVis
Sociology
Szenario Design
Sound Design
Information Design
Design Simulation
Audio Engineering
User Experience Design (UX)
Motion Design
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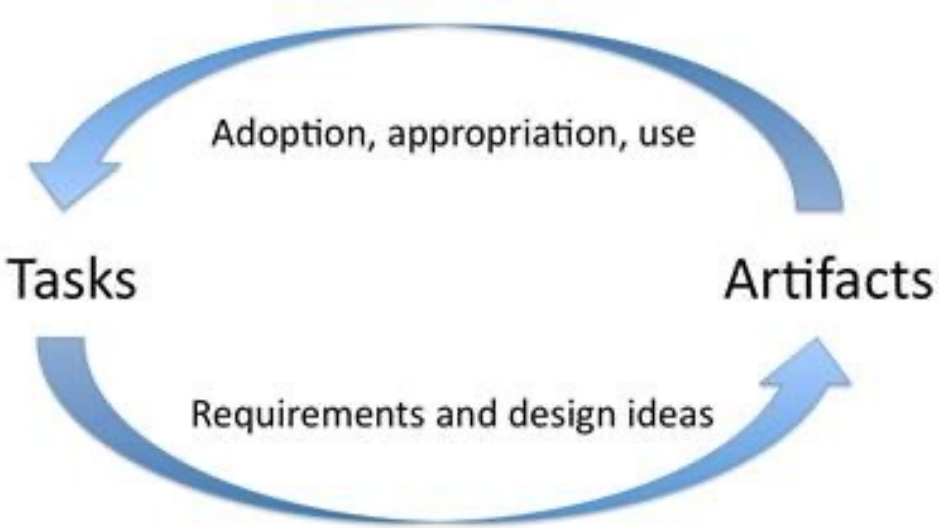
based on »The Disciplines of User Experience« by Dar
www.kickerstudio.com/blog/2008/12/the-discipline

The task-artifact cycle

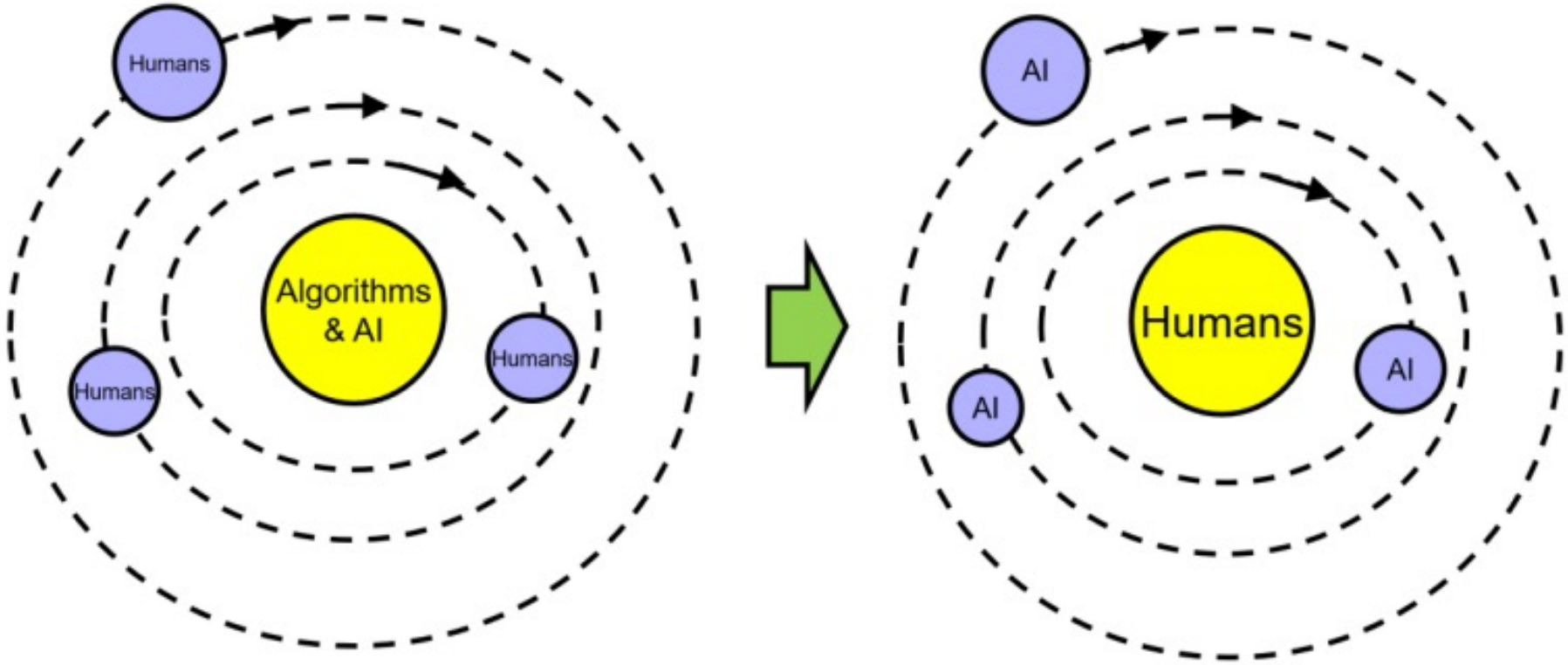
- HCI is about understanding and critically evaluating the interactive technologies people use and experience.
- But it is also about how those interactions evolve as people appropriate technologies, as their expectations, concepts and skills develop, and as they articulate new needs, new interests, and new visions and agendas for interactive technology



UX and IxD

- user experience design and interaction design were among the first exports from HCI to the design world

human-centered AI (HCAI)



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HCAI Attributes

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