

# How to Characterize a Research Line for User-System Interaction

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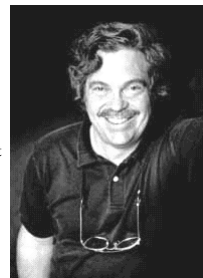
## Thinker versus Tinker



Ludwig Boltzmann (1884-1906)

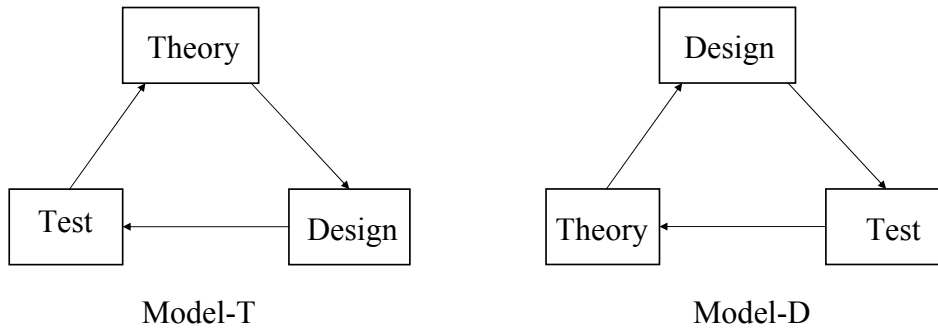
"There is nothing so practical as a good theory."  
--- Ludwig Boltzmann

"Don't worry about what anybody else is going to do... The best way to predict the future is to invent it. Really smart people with reasonable funding can do just about anything that doesn't violate too many of Newton's Laws!"  
— Alan Kay in 1971,

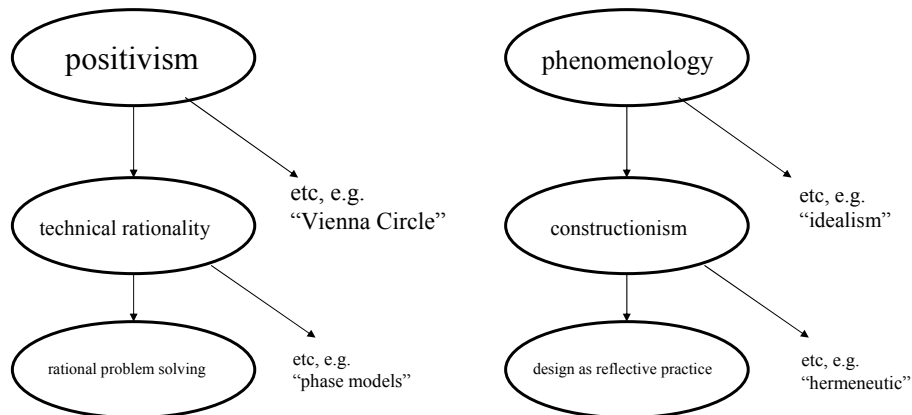


Alan C. Kay (1940-)

# Knowledge: but which one?

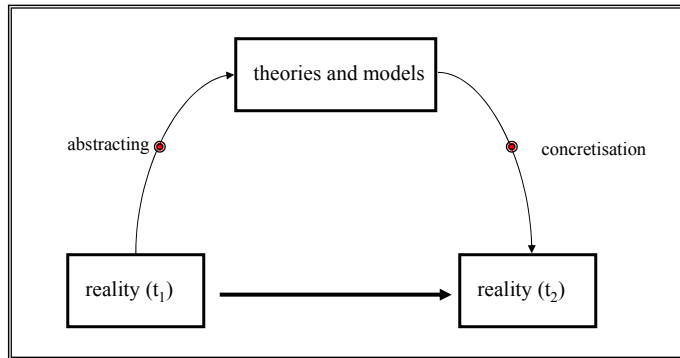


# Research versus Design Paradigms



[Reference: Rauterberg M. (submitted). [Interdisciplinary nature, challenges and boundaries for HCI research](#). *African Journal of Information and Communication Technology*]

## Comparison of both Paradigms



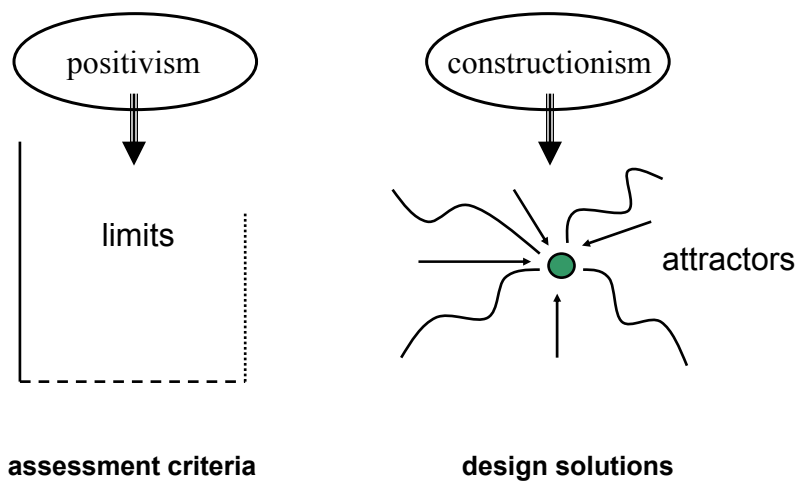
### positivism :

{theory, model}  $\notin$  reality  
 reality (t<sub>1</sub>) = reality (t<sub>2</sub>)

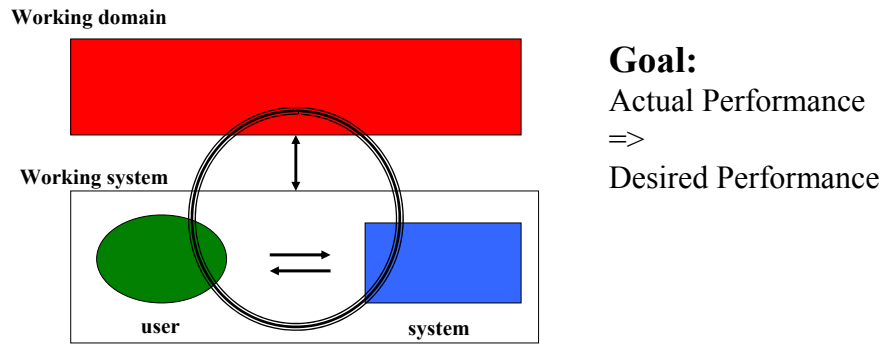
### constructionism :

{theory, model}  $\in$  reality  
 reality (t<sub>1</sub>)  $\neq$  reality (t<sub>2</sub>)

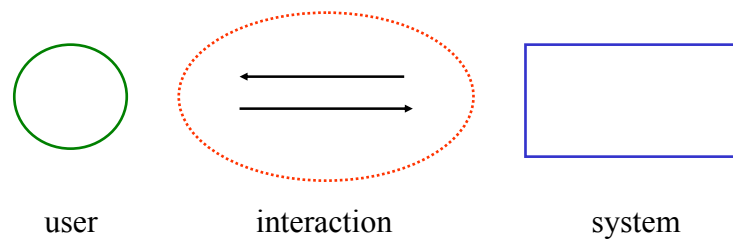
## Results from both Paradigms



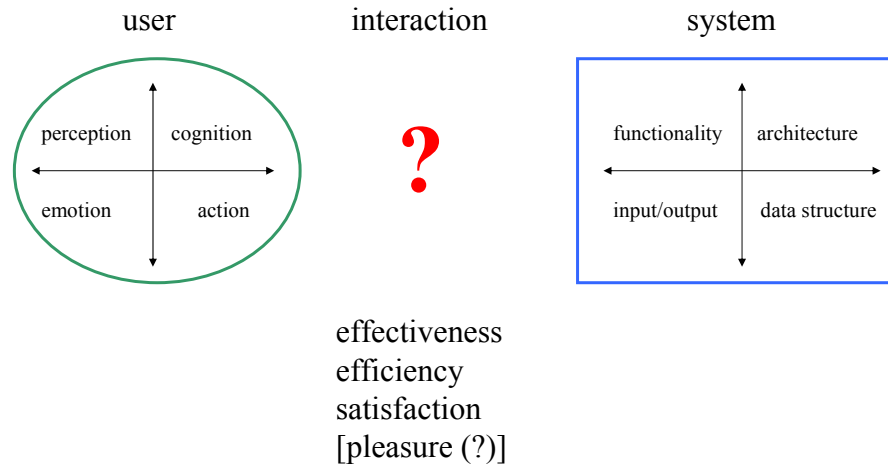
# What is User-System Interaction about?



# Interface Design or Interaction Design?



# Challenges of USI research

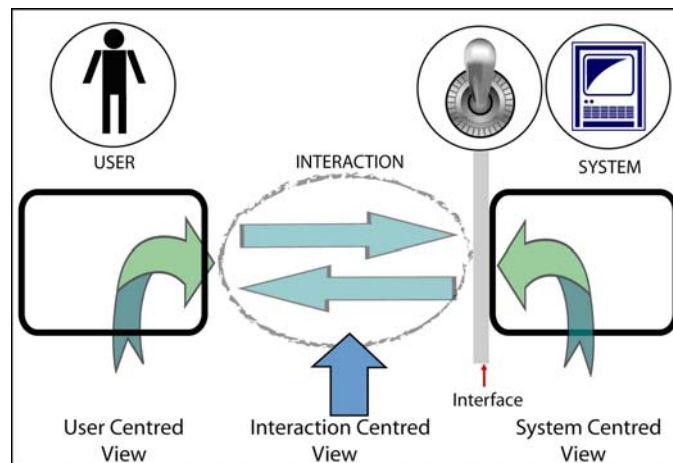


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9/15

## The Three Different Views



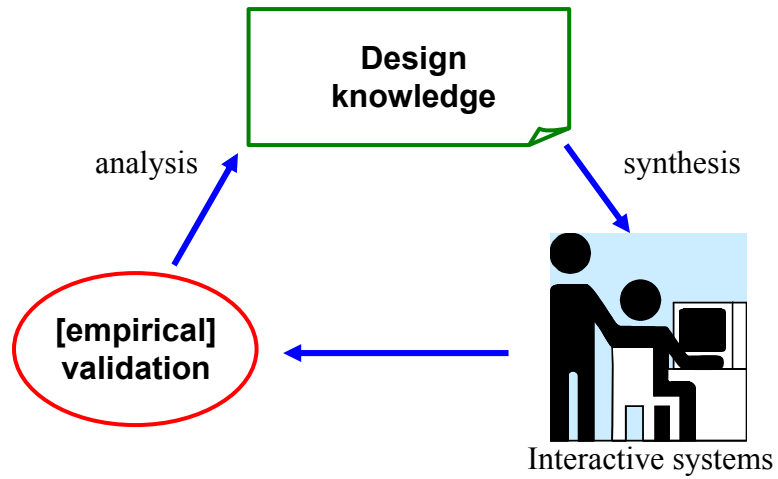
[Reference: Salem, B., Rauterberg, M. (2005). *Aesthetics as a key dimension for designing ubiquitous entertainment systems*.]

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10/15

## USI Research Line - basic cycle -

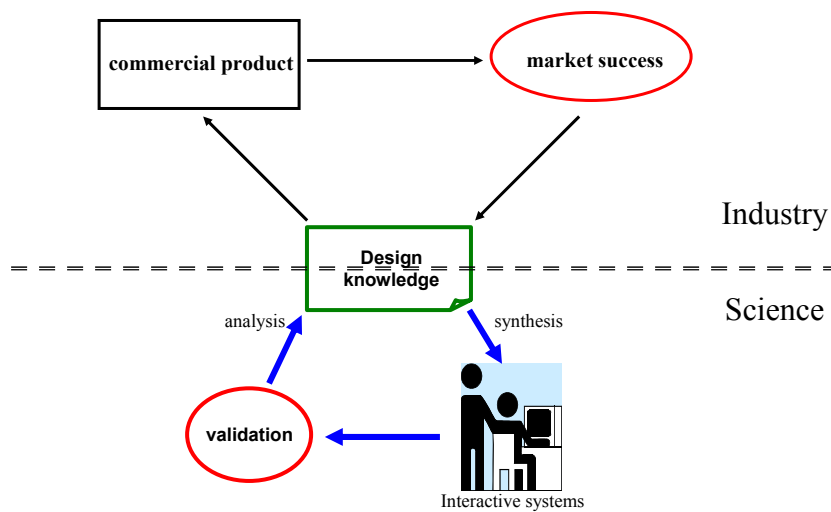


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11/15

## USI link to Industry - marketing cycle -

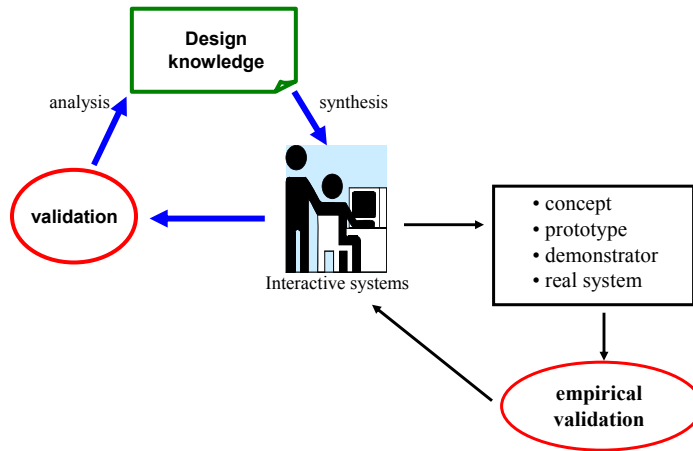


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12/15

## USI Research Line - development cycle -

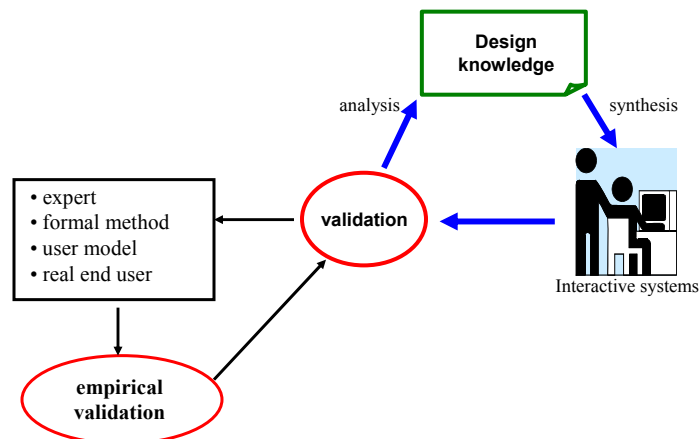


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## USI Research Line - validation cycle -



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# Conclusions

- a coherent and powerful corpus of descriptors and technical terminology [see [HCI Glossary](#)]
- a theoretical framework to investigate the interaction space
- a rigorous validation method to prove the design relevant knowledge