

Design for America Symposium  
Northwestern University

Evanston, Illinois  
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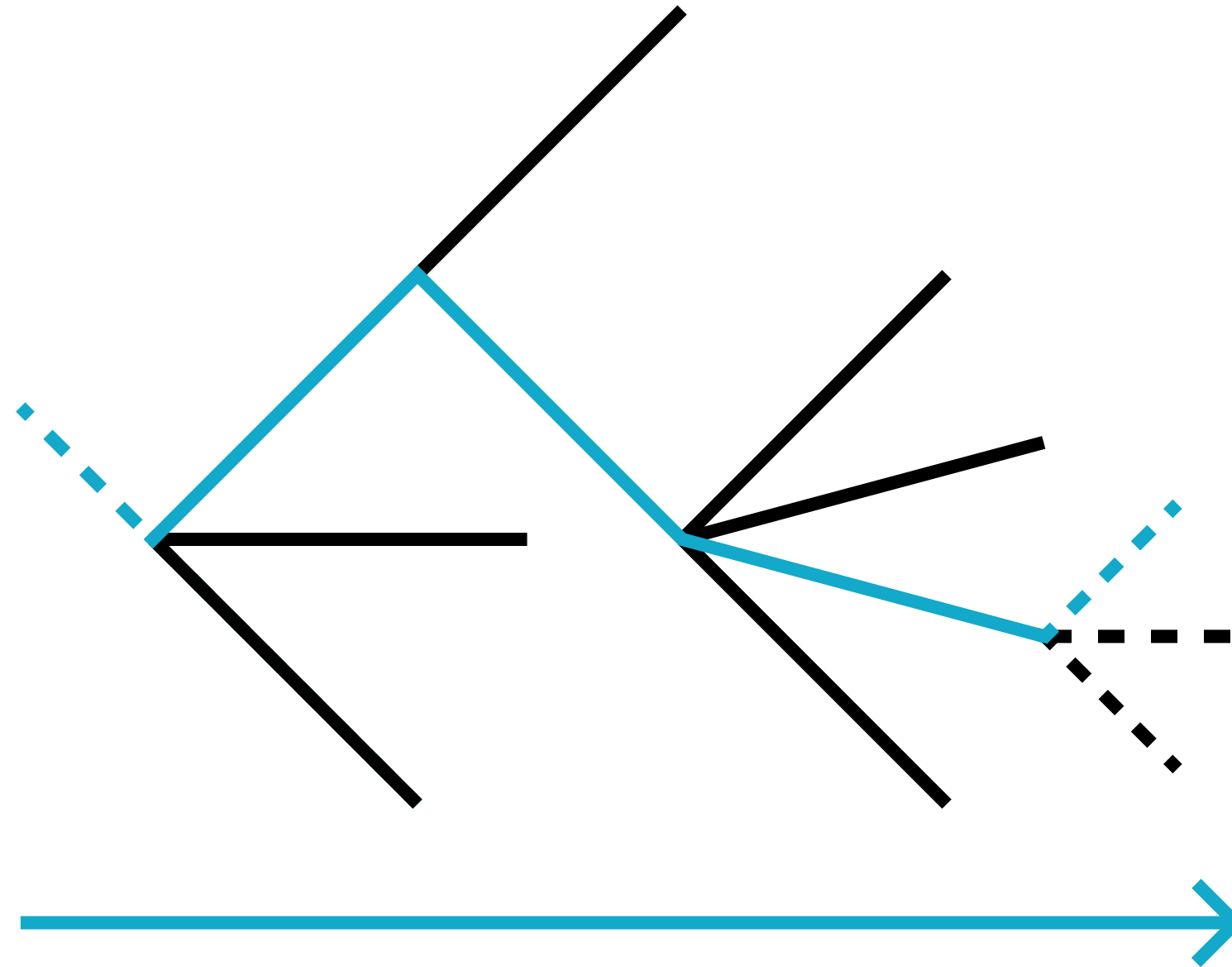
# Five Theories of Change

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Presentation posted at  
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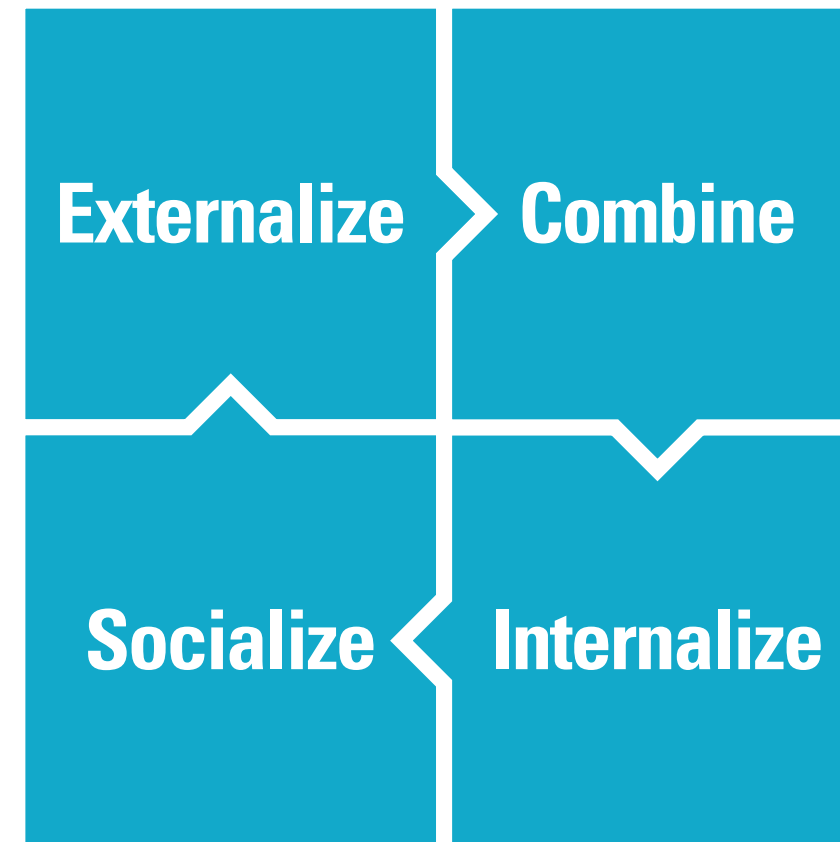
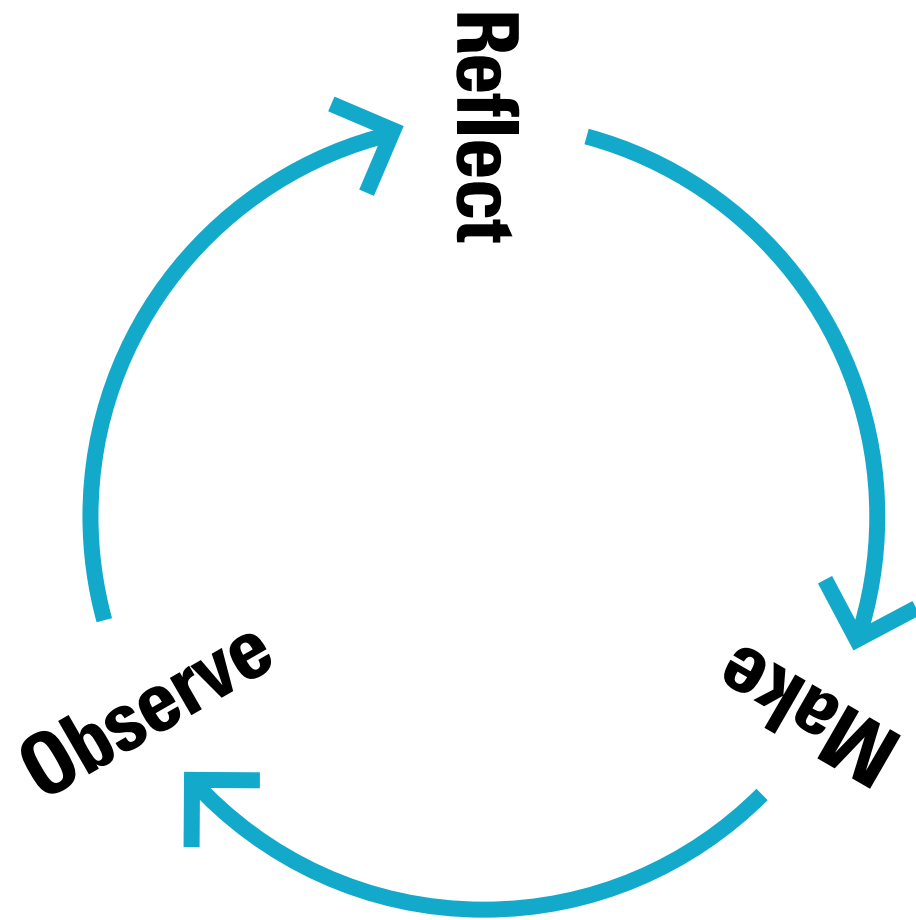
# Evolution (i.e., co-evolution)

Variation and selection — via competition, cooperation, drift



# Learning

Setting goals, acting to achieve them, measuring results —  
iterating to correct error



Nonaka's SECI Model of Organizational Learning

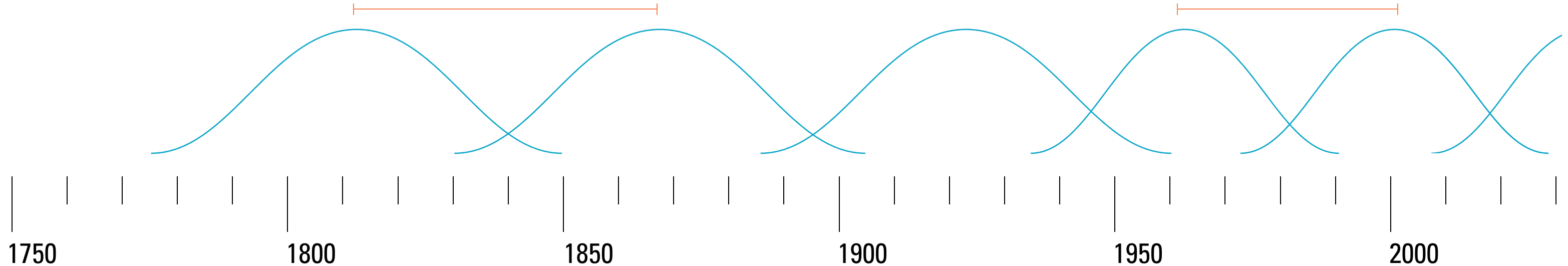
# Innovation

Convention > pain > insight > prototype > value > new convention

- |  |                               |  |  |                                    |
|--|-------------------------------|--|--|------------------------------------|
| 1  | 2                             | 3  | 4  | 5                                  |
| 1780 – 1840  | 1840 – 1900                   | 1900 – 1950                                | 1940 – 1980  | 1980 – 2020                        |
| First industrial revolution  | Second                        | Third                                      | Fourth   | Fifth                              |
| - iron making<br>- cotton spinning<br>- water power<br>- steam power | - steel making<br>- railroads | - electrification<br>- internal combustion | - petrochemicals<br>- plastics<br>- electronics<br>- computing | - personal computers<br>- internet |

Time between peaks almost 60 years

shrinks to about 40 years



# **Invention**

Organizations need to support all these activities simultaneously

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**Inventing new language**

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**Discovering practical applications**

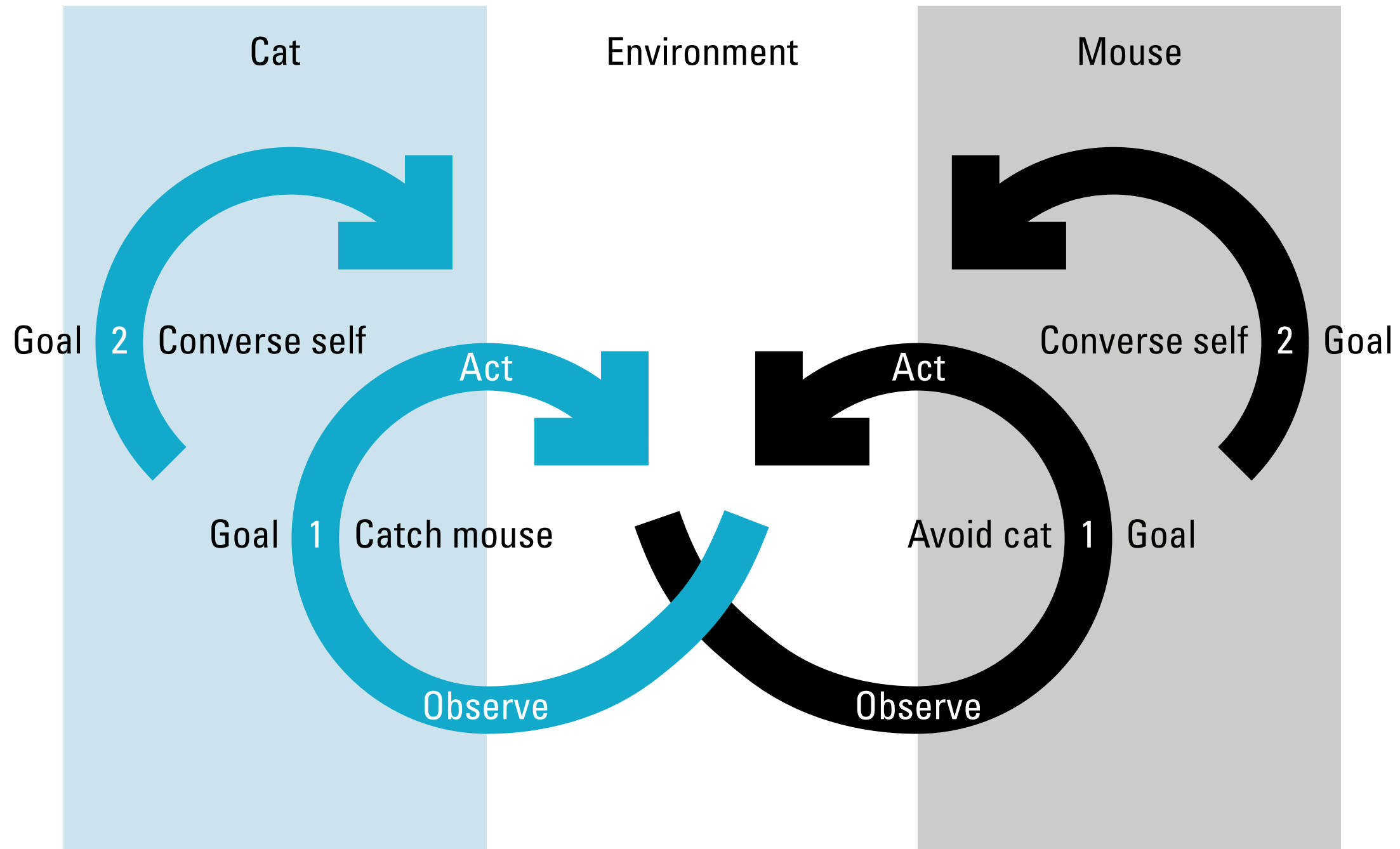
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**Realizing operational efficiencies**

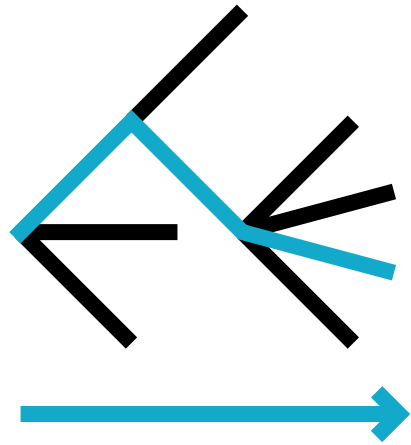
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# Re-invention

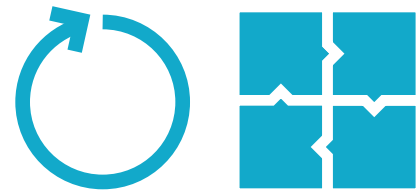
As the mouse teaches the cat, the cat also teaches the mouse



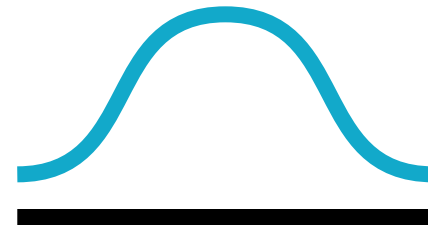
# All these processes are linked



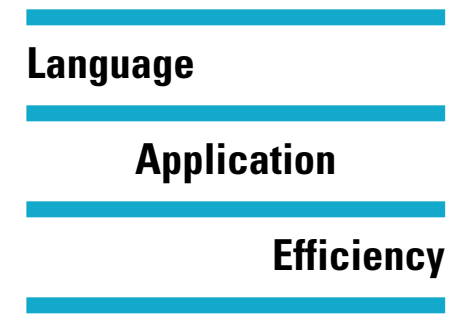
**Evolution**



**Learning**



**Innovation**



**Invention**



**Re-invention**

**Special thanks to**  
**John Cain**  
**Elizabeth Gerber**  
**Rebecca Breuer**  
**Akira Motomura**

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