

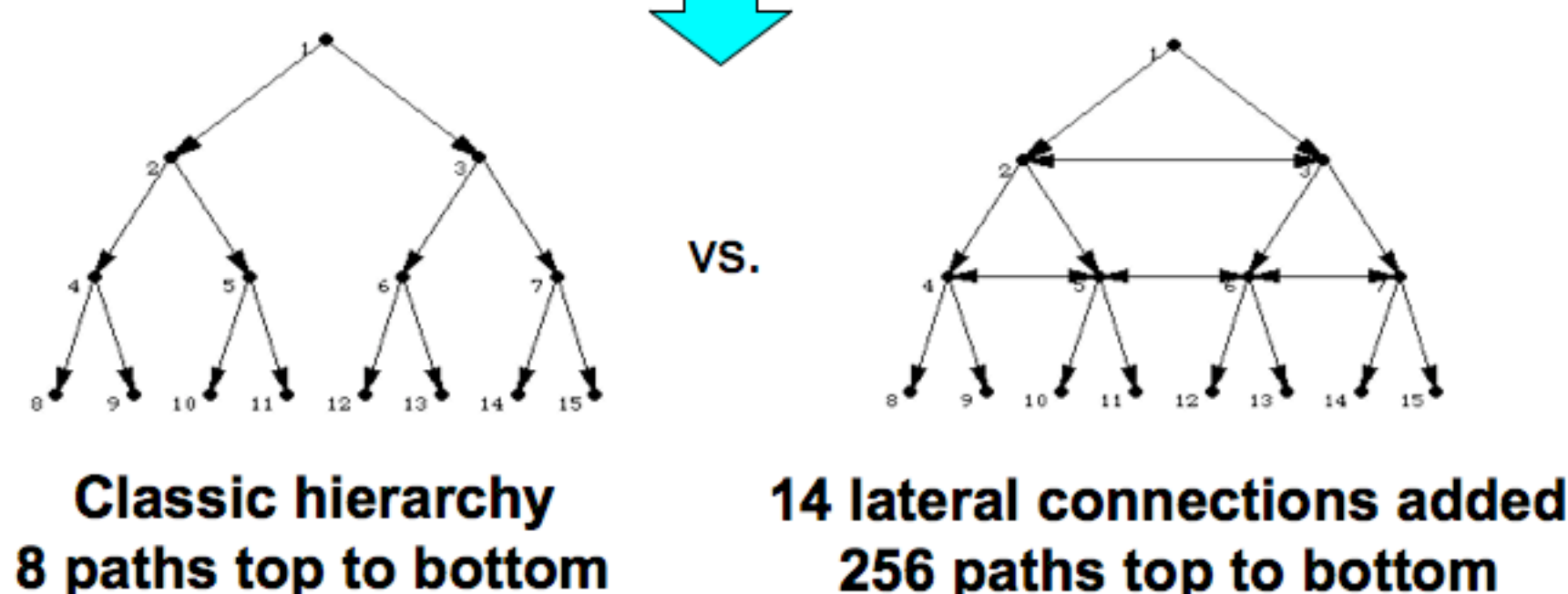
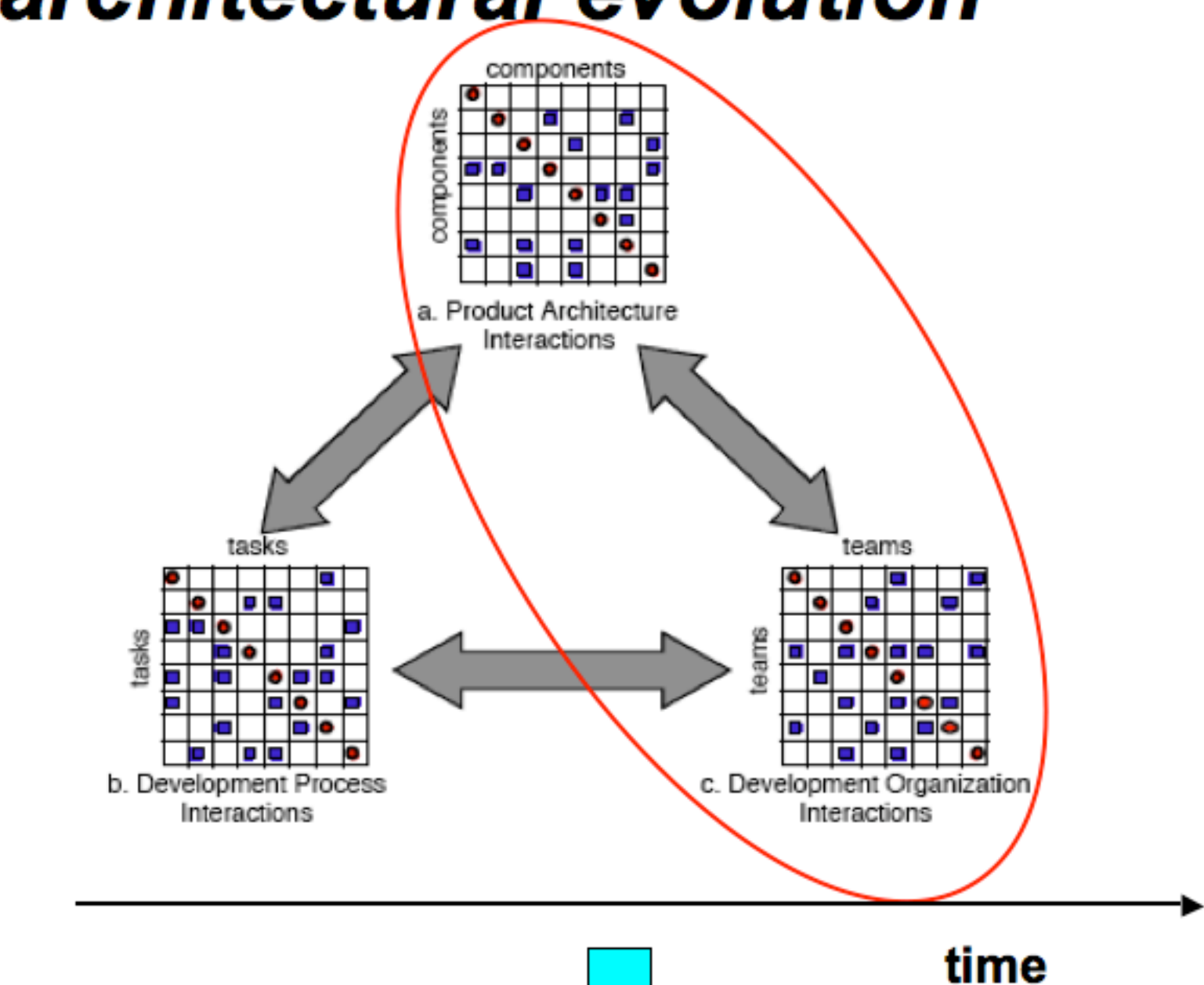
Designing and Transforming Enterprise-Technical System Architectures for Flexibility and Adaptability

Research Challenge

- Understanding how to design and manage **stable yet flexible and adaptable** enterprise-technical systems

Hypotheses:

1. Layered hierarchies **enable** increased flexibility and adaptability
2. Technical system architectures and enterprise architectures exhibit **bi-directional causality** in architectural evolution



References: Eppinger(2003), Watts(2003), Moses(2005), Vukadinovic, et.al(2001)

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Practitioner Needs

- **Practical tools and concepts** for design and management of **dynamically fit** enterprises and technical systems
- Enterprise architecting **knowledge** to **enhance** probability of **success**

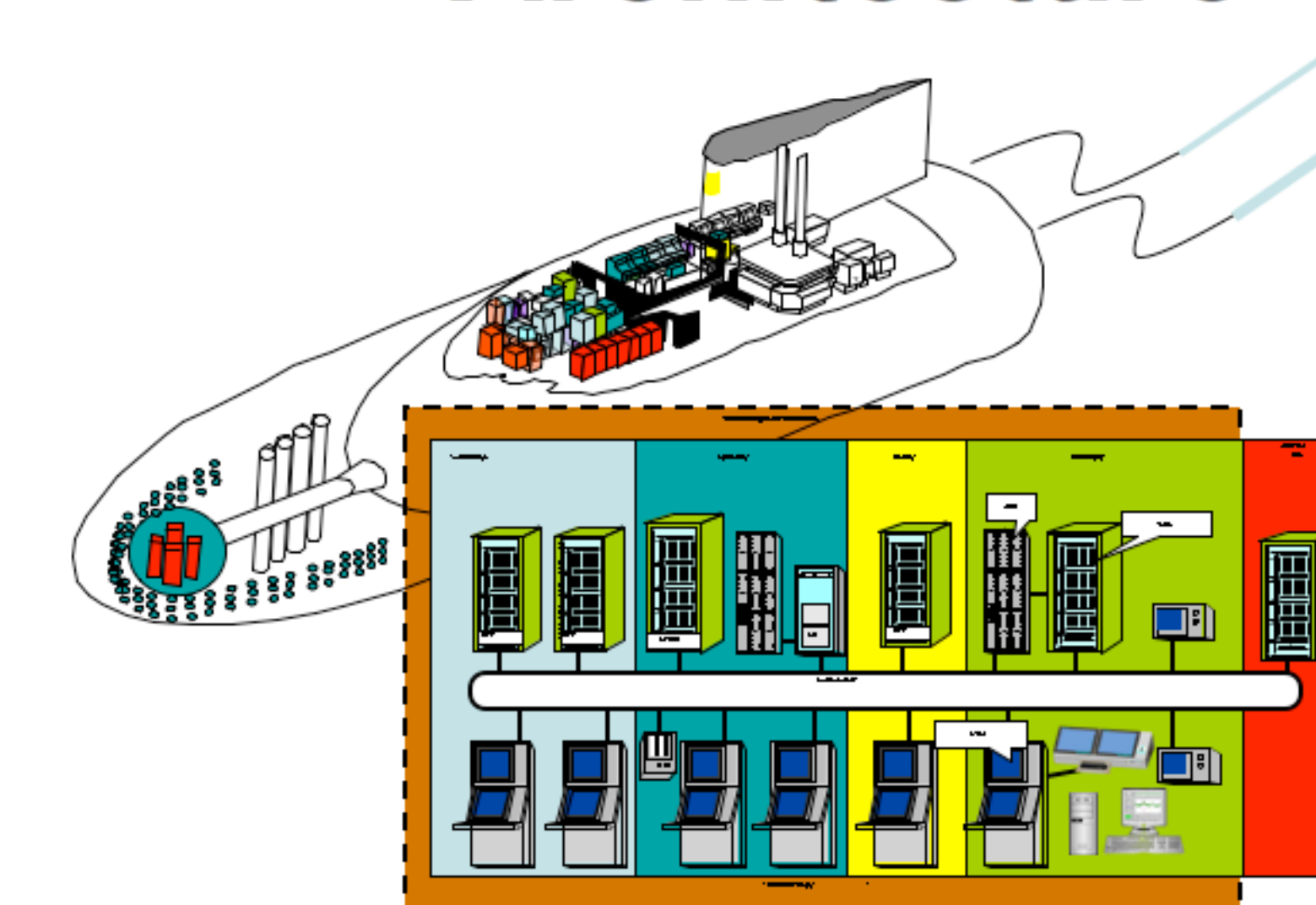
Cases:

1. Do we see increased flexibility in architectures as laterality increases?
2. What were the social and technical driving forces for architectural changes?

Combat Air Operations Architecture



Sonar System and Program Architecture



Research Goals and Products

- **Practical insights** for enterprise design and transformation efforts
- **Method and metrics** for managerial assessment of enterprise and technical system architectures
- **Model** for understanding performance potential of enterprise architectures
- Ph.D. Thesis, appropriate journal articles, working papers.

Thesis committee: Prof. Joel Moses, Dr. Dan Whitney, Dr. Kirk Bozdogan, Prof. Steve Eppinger