

Project Delivery in Perspective

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- **Unity of Intent**



Unity of Intent

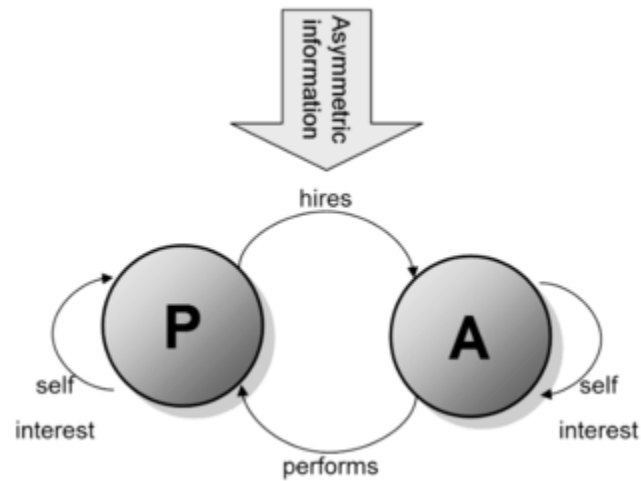
Master-Builders

- Filippo Brunelleschi
 - 1377-1446
 - Father of Architectural Functionalism
- Sir Christopher Wren
 - 1632-1723
 - Architect-Builder
- James Eads
 - 1820-1887
 - Engineer-Builder



Unity of Intent

Principal-Agent Problem



Segregation of Intent

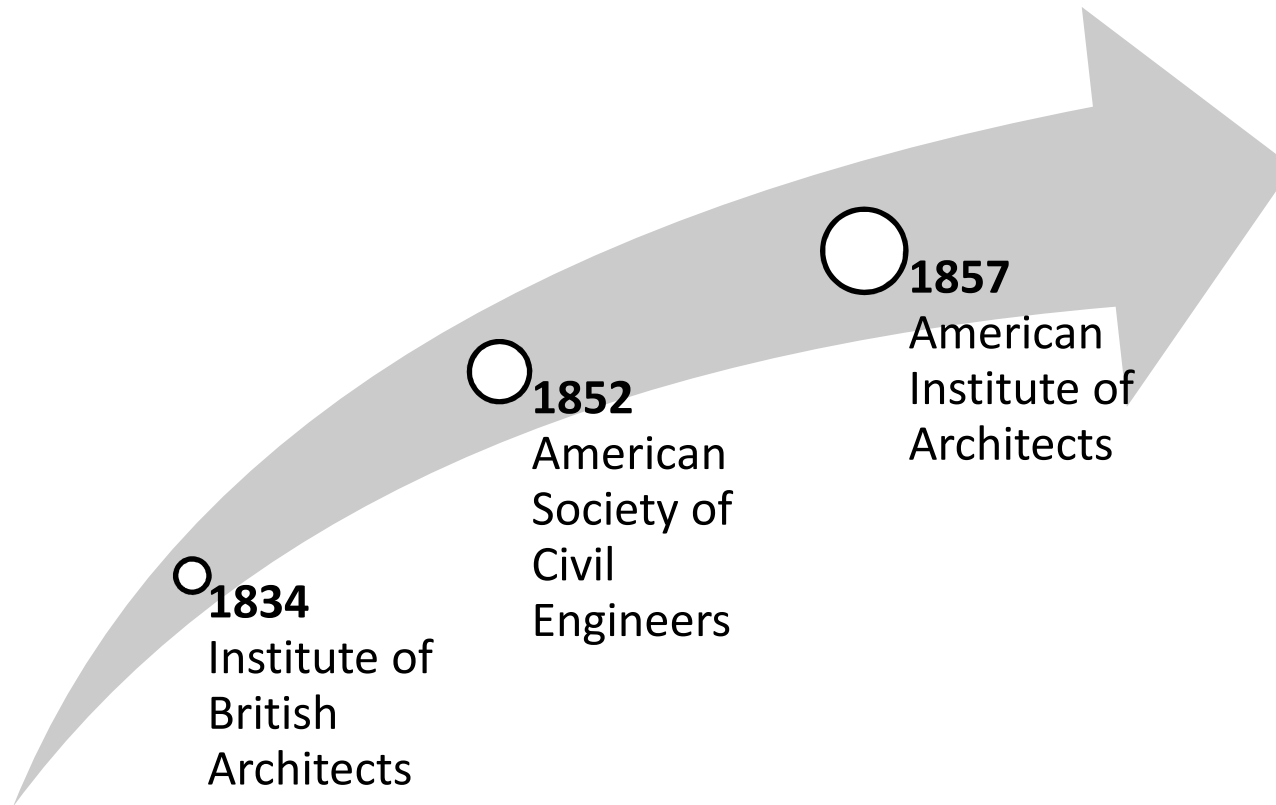
Byproduct of Industrial Revolution

- Changes
 - Mechanization
 - Equipment utilization
 - Heightened productivity
 - Increased specialization
- Led to:
 - Standards more prevalent
 - Clear distinction between designers and builders
 - Professional organizations



Segregation of Intent

Byproduct of Industrial Revolution



- Unity of Intent
- Procurement/Contracting Flexibility



Procurement Constraints

United States

1893

Act for Separate Procurement of Architectural Services

Allowed the Secretary of Treasury, which at the time controlled funding for construction of federal buildings, to *separately procure the services of architects to prepare plans and specifications*

1916

Act for Federal Aid to State Highway Departments for Rural Post Roads

Offered 50% reimbursement by federal government of construction costs upon completion of rural post road projects as long as the projects followed federal guidelines. A key stipulation was the *advance federal approval of a complete set of plans and specifications.*

1926

Public Buildings Act

Required prior preparation of plans and specifications by federal employees of the Treasury Department before federal building construction could begin.

Procurement Constraints

United States

1935

Miller Act

Required a contractor on a federal project exceeding \$100,000 to post a *performance bond and a labor & material payment bond.*

1947

Armed Services Procurement Act

Allowed substantial flexibility for the procurement of design services but required prior advertising for all supplies and services – including construction of public works and buildings – *through specifications and invitations for bids to encourage competition.*

1949

Federal Property & Administrative Services Act

Created the *General Services Administration (GSA)* and transferred to GSA all of the functions of the Bureau of Federal Supply, the Commissioner of Public Buildings, and the Public Road Administration. Procurement requirements were identical to the Armed Services Procurement Act.

Procurement Constraints

United States

1972

Brooks Act

Created a comprehensive selection process for architects and engineers based upon their experience, qualifications, and abilities to perform the design tasks being advertised. *Statutorily made design-bid-build the only delivery system possible for federal projects.*



- Unity of Intent
- Procurement/Contracting Flexibility
- Long Time Horizon



Long Time Horizon

Cooperation

- Axelrod, R. (1984)
 - For cooperation
 - *Durability of relationship*
more important than trust
 - Increases need to expand
the *shadow of the future*



Long Time Horizon

Transaction Cost Economics

- Williamson, O. (1975 & 1979)
 - Lengthy principal-agent relationships
 - Incomplete contracts
 - Opportunistic behavior



***Renegotiation
and/or Hold-up***



Long Time Horizon

Cathedral Thinkers

Cathedrals are incredible testaments to human endeavor. It is not only their grandeur or splendor, but the thought that they often took more than fifty years to build. Those who designed them, those who first worked on them, knew for certain that they would never see them finished. They knew only that they were creating something glorious which would stand for centuries, long after their own names had been forgotten.....

We may not need any more cathedrals but we do need cathedral thinkers, people who can think beyond their own lifetimes.

- Charles Handy

- Unity of Intent
- Procurement/Contracting Flexibility
- Long Time Horizon
- Stakeholder Relationships



Stakeholder Relationships

A Seat at the Table

- Freeman, R. E. (1984)
 - Strategy & Stakeholders
 - “Principle of Who or What Really Counts”



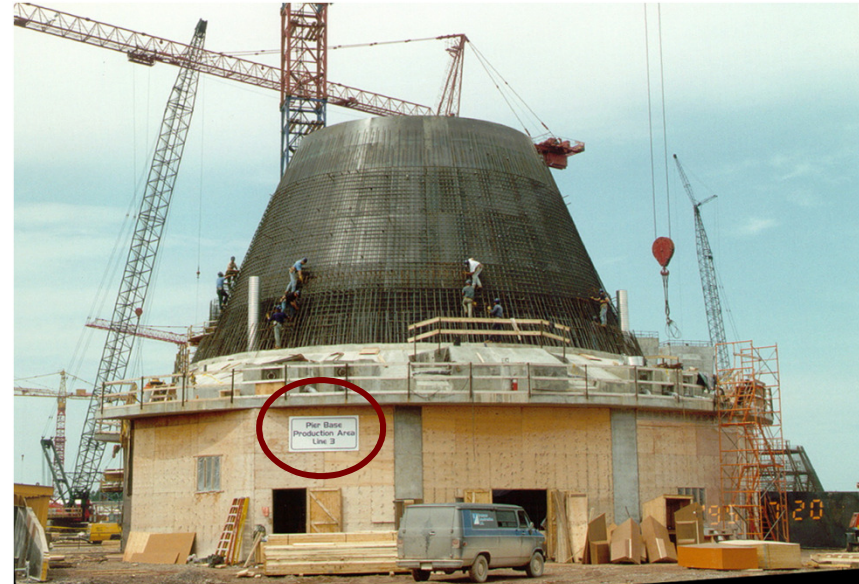
- Unity of Intent
- Procurement/Contracting Flexibility
- Long Time Horizon
- Stakeholder Relationships
- Task/Production Efficiency



Task/Production Efficiency

Lean Production Management

- Lean Construction
 - “Physics” of construction
 - Best-suited for complex, uncertain, and/or time-constrained projects
 - Maximize value and minimize waste



Project Delivery Today



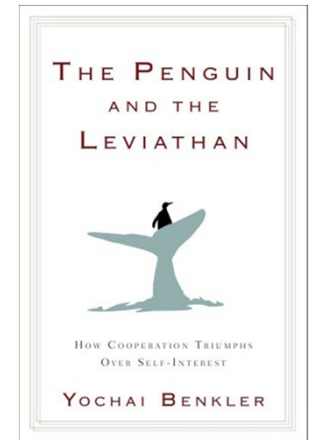
Project Delivery In Perspective

Case, Historical, Theoretical Findings

- Unity of Intent
 - Alignment and integration
- Procurement/Contracting Flexibility
 - Open system
- Long Time Horizon
 - Cooperation w/ challenges
- Stakeholder Relationships
 - Bring right people together
- Task/Production Efficiency
 - Create value

IDDS or IPD Tenets

- Integrated Leadership
- Contractual & Legal Framework
- Project-Focused
- Engagement of Right Participants at Right Time
- Integrated Work Processes and Systems
- *Collaboration Technology*





The inspiring vision of IPD is that of a seamless project team, not portioned by economic self interest of contractual silos of responsibility, but a collection of companies with a mutual responsibility to help one another meet an owner's goals.

-Chuck Thomsen