



## Catching up

Trapped between by much to say but lacking a writer's natural ability to bring order to thought, I always have a hard time starting these notes. Finding a way in here was no exception. There are too many connections between ideas for me to follow Miss Mothershead's advice in 8th grade: Make an outline. Instead, I walked the dog several times while thinking about what shaped the best of Lean Construction research.

On the most recent walk, I was listening to random music on my phone. A song by Keb Mo, "[Victims of Comfort](#)", reminded me of one the Big Ideas: Optimize the Project Not the Piece. (Links to the song are pasted later in this note. The lyrics are enough to start Lyrics: Victims of Comfort.) From there it was a short hop to the ideas and distinctions raised in the difficult and important book by Professor Sam Bowles' [1] book *A Cooperative Species: Human Reciprocity and its Evolution*. (You can see a sample of the book here: [Sample from Human Reciprocity](#): He challenges the Darwinian model of survival and proposes to answer the question "...how could this oddly cooperative animal, *Homo Sapiens*, ever come to be?"

Here is the beginning of the first chapter, "A Cooperative Species....."

*"How selfish soever man may be supposed, there is evidently some principles in their nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, save the pleasure of seeing it."*

Adam Smith, *The Theory of Moral Sentiments* (2000[1759]) Chapter 1, p. 3

And in beginning at the beginning of the second paragraph:

*"In the pages that follow we advance two propositions.*

*First, people cooperate not only for self-interested reasons but also because they are genuinely concerned about the well-being of others, try to uphold social norms, and value behaving ethically for its own sake. People punish those who exploit the cooperative behavior of others for the same reasons. Contributing to the success of a joint project for the benefit of one's group, even at a personal cost, evokes feelings of satisfaction, pride, even elation. Failing to do so is often a source of shame or guilt.*

*Second, we came to have these "moral sentiments" because our ancestors lived in environments, both natural and socially constructed, in which groups of individuals who are predisposed to cooperate and uphold ethical norms tended to survive in expand relative to other groups, thereby allowing these prosocial motivations to proliferate. The first proposition concerns proximate motivations for prosocial*



*behavior, the second addresses the distant evolutionary origins and ongoing perpetuation of these cooperative dispositions.”*

Hmmm, by contrast, it appears to me that traditional project management rests on the idea that economic competition will produce the lowest cost project and “advantage taking” can be controlled by enforcing contracts and schedules.

Bowles offers a different model where parties are willing to cooperate and share gains fairly and without precise accounting. And people will take actions even at their own expense to punish “free riders,” those who try to take greater advantage than their contributions warrant.

The commercial terms that support typical Integrated Project Delivery attempt to strike a balance of effort and return fair to all parties. My guess is these terms “work” when the parties feel they have been fairly treated. In reality, the contributions of people working in cross functional and company teams are impossible to trace. Bowles goes further to explore how people respond to those who are seen to be taking undue advantage. His thoughts on fairness and the importance of sanctions for bad behavior provide a solid coherent conceptual foundation for the management of IPD projects.

## **A Bold Prediction**

Professor Bowles’s perspective will do for the cultural and organizational aspects of Integrated Project Delivery what the late Eliyahu M. Goldratt’s [2] book [The Goal](#) did for our ability to see project-based production from a different perspective, and what the late Professor [Ian Roderick Macneil](#)'s book *The Many Futures of Contract* published by the *Southern California Law Review* [3] did for the development of the Integrated Form of Agreement (IFOA) first drafted by Will Lichtig now of the Boldt Company. [4]

Professor Bowles larger contribution to our thinking is much like those of Goldratt and McNeil; Prof. Bowles brings new distinctions that help us see something new. *The Goal* made apparent the importance of the data Glenn Ballard had collected on planning system performance. His book explained the combined effect of variation and dependence on system performance. I can’t say I understood *The Goal* on first reading but by breakfast the next day, Emily and I had played a rough form of the Parade of Trades. The results reminded me of my experience on construction projects. My sense was that Goldratt’s insight - his view of how the predictability of work-flow shaped performance - was new and important. Likewise, McNeil opened the door to the world of relational contracts.

LCI has long used the simple and powerful simulation, Silent Squares to explore the moment when people decide to take a risk and give up some security for the chance of higher team performance. Solving the puzzle requires some to dismantle their easy solution for the team to succeed. It will be interesting to explore fairness was understood at the table when processing the simulation in



workshops.

Bowles uses simulations to build his case and explore how people understand fairness. These are carefully designed simulations to first demonstrate how people's sense of fairness outweighs their immediate desire for gain in quantified statistical terms. Richer simulations explore how people's willingness to put their own interest at risk varies with their ability to deal with those who may or may not take advantage without contributing. He demonstrates the circumstances where the performance of the larger group improves when it is possible to punish and reward "free riders" even at some expense to the larger group. A chorus of "Victims of Comfort" fits here: [KebMo Victims](#) "Everyone likes a party but no one wants to clean."

Integrated Project Delivery managed under an IFOA proves that people can, indeed are more than willing, to work for a common cause when they feel fairly treated. Absolutely perfect accounting of the shared pains and gains doesn't appear to be necessary but the ability to punish "free riders" is necessary in order to achieve the highest performance over a period of time. Two rough hypotheses: 1. Governing and success of IPD projects is shaped more by a shared sense of fairness than the precision allocation of pains and gains. 2. Project performance improves when issues of fairness and contribution can be discussed and behavior adjusted occasionally by punishing those taking undue advantage.

How does this happen? Bowles has done careful comparative exploration of this issue both in cultures where cooperation is more important and where it is less necessary for survival. Consider how societies that hunt whales for survival may be different culturally from a society independent farmers selling good in a markets. I believe Bowles will give us the insight and tools to better understand how project leaders glue teams together and maintain the critical sense of fairness. There is much to explore: How are free riders identified and brought in line? How do personalities and personal histories effect cooperation aimed at maximizing the project not the piece and then sharing the gains?

The research community in LCI has a lot to learn here. As in earlier breakthroughs, we learned from observing with new distinctions, people and practices on site. We can share what we learn and experiment to test various approaches to team selection, formation and leadership.

One more thought. How can these ideas help the world cope with warming? Bowles would surely say the ability to punish free riders will be necessary for success. Hmmm.....

## **A Boost from India**

A note Ms. Pooja Goud from India gave me a lift. I have been corresponding with her for several years beginning when she was a graduate student at the University of Salford in Manchester UK. And then I found an email from her while cleaning up my overlarge unanswered email backlog. Here is the short



version of her success applying principles and practices to the construction of transmission lines in India. She did it the old fashioned way – went to the workforce and looked straight how the work was done. Her recommendations to shift to preassembly have had a multi-million dollar impact. Senior managers are at once impressed and wondering how this opportunity was missed for so long. My guess is her education made it possible for her to see something new and her ability to persuade and courage to act brought it about.

Her story reminded me a question that came to me at the LCI Annual Meeting; “What is the construction industry’s return on investment in Lean Construction?” LCI itself has had made and spent about \$2,500,000 in about 15 years on everything; meetings, travel, salary etc. Companies and project organizations have surely spent more implementing it on projects and transforming their organizations. The cool breath of reality blowing down my neck says the question can’t be and need not be answered. I’d love to hear the opinions of others about their experience in terms of investment required and the scale of return achieved.

## LCI Annual Meeting and the Aftermath

Great presentations and administration, too many friends, too little time, left me wanting to discuss and explore more on a number of fronts. Dick Bayer, Donna Pemberton and Shannyn Heyer from LCI, Aimee Alix Fogarty from Suffolk Construction and Lakshmi Nalluri from Gilbane made it happen with solid support from the presentation selection committee and a lot of people who stepped up and took a hand. The meetings and presentations were super; lots of variety and surprises. I’ve looked at a few in the “Members” section of the LCI website and Henry Bayer is adding more as he completes editing.

And another round of applause for those who are leading Communities of Practice! The interest and intensity of the leadership and their willingness to build capability will transform the industry.

Romano Nickerson wins the “Cool New Technology” with his crowd sourced instant opinion polls. And these TED lectures open a new way to think about the issues of collaboration, coordination, cost and maintaining standards.

1. [clay shirky on institutions versus collaboration](#)
2. [charles leadbeater on innovation](#)
3. [clay shirky how the internet will one day transform government](#)

After the LCI Annual Meeting, Dana and I flew to Puerto Rico where we spent a week recovering, touring and poking about before the annual meeting of the National Academy of Construction (NAC). Dr. Richard Tucker, the driving force in the organization, was the lead consultant on the Chocolate Bayou Project where I met and first worked with Glenn Ballard. Dr. Tucker created the Construction Industry



Institute soon after that project in part because of happened when the owner, designer and contractor worked in deep collaboration.

The NAC meeting began with a reflection on the life and times of [Ted Kennedy](#). I was fortunate to know and work for Ted along with Mike Casten as consultants last century. A quick search and I found an [ENR cover story](#) from some years back. He was a great influence on the industry and me because of his simultaneous focus on improving project performance and taking care of people. Not long ago, I heard his voice as I was sitting on an airport bench. He was sitting two seats down discussing the effort to raise funds for the Seabee Museum in Pt. Hueneme, an effort he led. He served in the Seabees for 2 years after completing his engineering degree. The museum is open but not yet filled with exhibits. The National Academy established The Ted C. Kennedy last year “for exemplary service to the construction industry” and he was its first recipient.

NAC leadership speaks about transforming the industry and its members are in positions to make that happen. More on that as it unfolds. My favorite session was Gen. Hans Van Winkle’s report on the California High Speed Rail project. He explained the background of the project and the history of its development. The aim is to move people from downtown San Francisco to Los Angeles in 2 hours 40 minutes. The airlines support the initiative because it will free gates for more profitable longer flights. The Central Valley route was chosen for a variety of reasons including improving the economy. A YouTube video from last year tells much of the story: [Highspeed Rail Video](#). And it was great to see friends inducted – Professor Simaan AbouRizk from the University of Alberta for his work in simulation and productivity improvement, Jimmy Hinze from the University of Florida for his work on safety, Michael Loulakis for his work with DBIA, writing and seminars (His reports on construction lawsuits in the ASCE magazine are one of the reasons I maintain my membership.), and Cliff Schexnayder now from Arizona State after a career in the Army Corps of Engineers.

## Links

Videos from the Industry Day that preceded the 20th Meeting of the International Group For Lean Construction (IGLC) are now available: [IGLC 20 Industry Day](#). Glenn Ballard opens with a great history of Last Planner® and Howard Ashcraft wraps the day speaking about the development, application and results achieved on IPD projects. Listen to the end where he reports the number and size of IPD projects delivered without claims.

## A Partly Baked Idea: Social Media Meets Lean Construction along the WAZE

I have been using the mapping software from WAZE™ to find my way in unfamiliar cities; great maps with recent information about the route ahead from other drivers – traffic speed, obstacles, speed



cameras, etc. The new update, Version 3.5 suggests how a similar system might be used to coordinate project logistics and the delivery of subassemblies. The cell phone app software allows you to locate and/or send a message to someone you are planning to meet. The software locates the other person and provides a map to their location with turn-by-turn directions and it sends a message with your estimated time of arrival. Surely a barcode system could be attached and the ability for the customer to signal the supplier their expected time of readiness.

## **Tools for IPD Managers: Workforce Institute Training**

LCI has a contract with the Workforce Institute in San Jose, to train managers working on Integrated Project Delivery: [Workforce Training](#). The FREE sessions are held at their facility at 600 S. Bascom, San Jose, CA. There will be a series in November focused on tools. Sessions run from 3PM – 7PM.

Nov. 14, Wednesday, 4 hrs: Lean Design including Set based and Target Value Design. The session will be led by George Zettel from Turner Construction and Jessica Kelley from Southland

Nov. 15, Thursday: 4hrs: Lean Supply – Using A3, CBA and BIM. The session will be led by George Zettel from Turner Construction and Jessica Kelley from Southland

Nov 16, Friday: 4 hrs: Lean Assembly – Value stream mapping, supply chains and more. The session will be led by Dennis Sowards.

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[1] Research Professor at the Santa Fe Institute. [Sam Bowles SFI](#) (Note his book “Machiavelli’s Mistake: Why Good Laws Are No Substitute For Good Citizens” is available on line at <http://tuvalu.santafe.edu/~bowles/Machiavelli.pdf>

[2] A brief video presentation by Goldratt, [Seeing the Obvious](#)

[3] I have a PDF of this book. It is apparently no longer available through any source I can find. Let me know if you would like a copy.

[4] I am ignoring a potentially even larger distraction for how I came to read MacNeil and his relationship to project organizations while doing work for the Construction Industry Institute Project Organization Task Force led by James Carroll then from MK along with Professor Alex Laufer. (Jim attended the LCI Annual Meeting in DC) Alex has organized a meeting on [Project Leadership](#) in Chicago on November 14th. I am speaking on Project Leadership. I believe the event is sold out but it doesn’t hurt to try – let me know if you want to attend and are rejected.