

## Greg Alvin Howell: In Memoriam

Glenn Ballard<sup>1</sup>, Ph.D.



Gregory Alvin Howell (Greg Howell) passed away peacefully on June 15, 2020 at home in Ketchum, Idaho.

He was born February 3, 1943 in Springfield, Missouri to Alvin Hinshaw Howell and Joyce Howell, née Gregory. He lived in Independence, Missouri before moving to Scottsdale, Arizona when he was in high school. Greg studied construction engineering at Stanford, was a member of the ATO fraternity, and played on the university rugby team. After he graduated in 1965, Greg joined the Navy as a Lieutenant Commander in the Civil Engineering Corps and commanded Mobile Construction Battalion 11, better known as the Seabees. He served in Vietnam in Dong Ha and then led a group of 12 Navy men in a kind of Peace Corp role in northern Thailand for one year. After returning to the U.S. he served as Aide to Admiral Robert Wooding. Among his duties was recruiting on university campuses in full dress uniform amidst the rising protests against the war in Viet Nam.

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In 1972, after leaving the Navy, Greg worked with Paolo Soleri at Arcosanti for a while, then returned to Stanford for a Master's in Construction Engineering. Two of his instructors, Henry Parker and Clark Oglesby, had just authored a book on construction productivity improvement. Their teaching inspired Greg to explore more fully how to improve construction work methods, and in 1989, Greg joined his mentors as author of *Construction Productivity Improvement*. After graduating in 1973, he started working at Timelapse, Inc. in Mountain View, CA. Greg eventually took over the company and hired his future wife, Dana Langhorne, as office manager.



Timelapse produced cameras and projectors used to analyze work methods on construction projects. Greg went all over the United States and out of the country, selling his products, showing buyers how to use them, and also using them himself when hired as a consultant. One such consulting job was on a project in Venezuela where five buildings were underway simultaneously. Greg was hired to film the worst performing of the buildings. In a confusion of Spanish demonstrative pronouns (this one, that one), he managed to film the best building. That only became evident when he showed his film to the client, who was shocked at the obvious potential for improvement in work they thought could not be further improved. In later years, Greg said that seeing work on film revealed an entirely different world from what's written in most textbooks. It is much messier, more complicated, and offers huge potential for improvement. That insight led him to start Howell & Associates, a consulting company, to analyze and improve work methods on construction projects. In the early 1980s, Howell & Associates initiated an All Parties Workshop in the San Francisco Bay area to bring together representatives of construction owners, unions, and contractors to find better ways of working together. Meeting together over several years helped forge bonds between individuals who may previously have considered each other enemies. One way of changing attitudes was through 'games', another of Greg's many talents. He used games to simulate problematic situations and promote reflection on better ways to behave. He learned a lot from Jerry

Talley, a sociology lecturer at Stanford, and went on to invent or adapt many such simulations for use in teaching university students and industry practitioners. To name but a few: Parade of Trades (to experience the impact of variation and uncertainty on construction workflows and project performance), the Airplane Game (to teach basic Lean concepts and methods through assembling airplanes from lego blocks), and Silent Squares (teaches us to look for win-win solutions).

Greg and I first met on a project in Texas in 1979 and began a lifelong intellectual partnership, each learning with and from the other. In this first meeting, Greg was the teacher. The project was substantially late and over budget only 9 months from scheduled completion. Along with Mike Casten of Construction Concepts and University of Texas Civil Engineering Professors John Borcharding and Richard Tucker, they helped the project complete on time and budget, and made the cover of Engineering News Record. At that time, as one of the Brown & Root area engineers on that petrochemical project, I coordinated the activities of the consultant team. Naturally, Greg led efforts to improve work methods. In his teaching, he said that it was quite easy to improve how various operations, such as erecting fabricated piping, were performed, but much more difficult to see those savings in project financial reports. That insight was the springboard for Greg (and myself) to expand his focus beyond work methods to include the management systems and cultures in which the work is done. In a delay survey on that same project, craftworkers reported that half the time they asked for something at a tool room, what they wanted was not available. The project manager was, to say the least, skeptical, that shortages could be so high. Greg sat in tool rooms and counted. He found a turndown rate of 47% and became convinced that those closest to doing the work know best what is actually happening at the work face.

Another of Greg's important contributions beyond work methods improvement may well have been bringing Fernando Flores' language action into the Lean Construction movement. Along with Hal Macomber, a student of Flores, Greg claimed that projects were networks of commitments, and provided a process for learning how to make the reliable promises on which successful projects are grounded.

Greg and I began a long career of working together, both in consulting and in construction management research. These tended to intertwine, with practice spurring development of explanatory theory, and application of theory spurring further improvement in practice. In 1993, they were among the founders of the International Group for Lean Construction, primarily focused on learning how to apply Lean principles and methods to the management of construction projects and companies through research. They developed the Last Planner System of project production control, which was tested and improved on consulting projects, including a major refinery revamp in Venezuela in 1994-5, where they were joined by Mike Casten in again saving a project struggling to complete on time and budget. We came to understand that while we knew how to save such projects, we did not know how to prevent them from happening in the first place. Thinking that prevention was the right place to focus their efforts, Greg and I founded the Lean Construction Institute in 1997, in order to work with construction industry companies to develop and deploy Lean thinking and practice.

In 1986, Greg moved from California to Albuquerque, where he held the position of Visiting Professor, funded by the New Mexico AGC, in the construction program at the University of New Mexico. Intent on achieving tenure, with the help of Alex Laufer, Greg published the mandatory research papers. "Interaction Between Subcycles" examined the use of buffers to decouple construction operations, highlighting the importance of a production/operations management perspective. "Uncertainty and Project Objectives"

reported that uncertainty regarding both what is to be built and how to build it were typically very high even after the start of construction. This theme of reducing avoidable uncertainty and managing within uncertainty not yet reducible persisted throughout Greg's professional life.

In 1997 he left the University and moved to Ketchum, Idaho, and in 2001, founded Lean Project Consulting with Hal Macomber.

Greg traveled all over the world and was involved in associations, academic institutions, businesses and all kinds of endeavor associated with the Lean movement.

Greg was a connector. He knew and maintained contact with an enormous number of people all over the world. Ask him who knows about <you name it> and he was very likely to know that person. He helped innumerable students of construction with career choices and topics for papers. He gave advice freely to all construction industry practitioners who asked him, and there were many. In his consulting, wanting to avoid the embarrassment of having repeat customers for the wrong reason, Greg tried to develop his clients' ability to do what he had been hired to do. This 'facilitative consulting', to use Peter Block's term, assured that the next consulting engagement with a client would be to solve a different problem or develop a different capability.

Greg was first and foremost a great speaker. His presentations to various organizations all over the world are too numerous to count. Greg was also a prolific and powerful writer. Google Scholar lists over one hundred publications. The four most often cited are:

- Oglesby, C.H., Parker, H.W. and Howell, G.A., 1989. *Productivity improvement in construction*. McGraw-Hill College.
- Ballard, G. and Howell, G., 1998. Shielding production: essential step in production control. *Journal of Construction Engineering and management*, 124(1), pp.11-17.
- Koskela, L.J. and Howell, G., 2002. The underlying theory of project management is obsolete. In *Proceedings of the PMI research conference* (pp. 293-302). PMI.
- Howell, G.A., 1999, July. What is lean construction-1999. In *Proceedings IGLC* (Vol. 7, p. 1).

With the exception of the book, the remaining three publications above are available at Google Scholar. Other publications that show Greg's impact in various areas of construction management are:

- Howell, G.A. and Ballard, G., 1996. *Managing uncertainty in the piping function*. Bureau of Engineering Research, University of Texas at Austin.
- Howell, G., Ballard, G. and Hall, J., 2001. Capacity utilization and wait time: A primer for construction. *Proceedings of IGLC-9, Singapore, Korea*, pp.6-8.
- Macomber, H. & Howell, G. A. 2003, 'Linguistic Action: Contributing to the Theory of Lean Construction' In:., *11th Annual Conference of the International Group for Lean Construction*. Virginia, USA.
- Howell, G.A., Ballard, G., Abdelhamid, T.S. and Mitropoulos, P., 2002, August. Working near the edge: a new approach to construction safety. In *Annual conference on lean construction* (Vol. 10, pp. 49-60).
- Matthews, O. and Howell, G.A., 2005. Integrated project delivery: an example of relational contracting. *Lean construction journal*, 2(1), pp.46-61.
- Howell, G.A., Ballard, G. and Tommelein, I., 2011. Construction engineering—Reinvigorating the discipline. *Journal of construction engineering and management*, 137(10), pp.740-744.

- Howell, G., Ballard, G. and Demirkesen, S., 2017, July. Why Lean projects are safer. In *Proceedings of the 25th Annual Conference of the International Group for Lean Construction, Heraklion, Greece* (pp. 4-12).

During his life Greg touched so many people and changed so many lives for the better. It is hard to overestimate the number of companies, organizations and individuals who were affected by him. He was a true renaissance man who had unbounded curiosity and took an interest in everything and everyone. He loved poetry, he raised bees, made his own beer, was a continual problem solver, loved to work and he was always open for any kind of adventure.

He will be remembered for his incredible sense of humor and storytelling, for his caring and big-hearted nature and his willingness to help all animals and people, his ingenuity and creativity in dreaming up and physically creating all sorts of new ways to solve a problem - not just engineering and structural problems but also in business organizations and relationships and so much more.

Greg would like us to note that he currently holds no world records. However, in 2011, he was elected to the National Academy of Construction, and in that same year, we both received the inaugural Pioneer Award from the Lean Construction Institute, in recognition of what LCI considered our exceptional contributions. In 2017, the International Group for Lean Construction initiated the Greg Howell Best Paper Award, and in 2019 commemorated his contributions to the international Lean community with a dinner, speeches and photographs.

He is survived by his wife of 40 plus years, Dana Langhorne Howell, his daughter Emily Thomsen, son-in-law Ian Thomsen, 3 grandchildren, his brother Kenneth Howell (Kris Slentz) and his two favorite dogs, Chispa and Furgus.

### **From a member of Greg's Seabees unit:**

We and all of the old Security Company have lost our leader. It's difficult to explain, but Greg led us through hardship and tragedy, and we're better men for it. Vietnam was the defining point in our lives, and so much of it revolved around Greg's leadership.

### **From National Academy of Construction member Victor Sanvido:**

Greg's passing last week caused me to realize how fortunate I was to have been exposed to him and the people who shared his life.

Greg spoke to my class in my first semester at Stanford. I had always wondered how to better support my crews to achieve better productivity. Right then I connected with him. It led to my thesis topics, two summer work experiences with Howell Associates and significantly influenced my professional life. Greg provided connections to a group of people dedicated to improving productivity, case studies for my thesis and brought me into his home and his family. I can still clearly remember his and Dana's wedding on the lawn of their house in Palo Alto and subsequent dinner with my parents when they visited the US for a graduation.

His model of the resources needed for a construction crew to work was a basis for research and every graduate student I taught at PSU learned about it. He exposed me to SIPS planning through Al Burkhardt; making commitments through Howard Peek; refinery work, planning and plastic scale models through Glenn Ballard; relational contracts through Will Lichtig; and many other things.

I appreciate his formation and leadership of LCI and felt an obligation to assist him in a small way in collaborating in making it a significant institute leading the industry. It was

a distinct honor to institute the pioneer award to honor him and Glenn for all they had and continued to do in the Institute.

He always had time for students and for those less fortunate. This was endearing and admirable.

At his heart he was one of the rugby players that plays for the love of the sport. He was a team player and had the toughness and perseverance in the face of insurmountable odds to do the right thing. Greg - you are always in my heart - thanks for touching our lives. Thanks for everything my friend!