

Greg Alvin Howell: Lean Construction Pioneer and Unshakeable Ally

Tariq Sami Abdelhamid¹, PhD, CM-Lean

The passing of Greg Howell on 6/15/2020 is a monumental event on many levels - to family, friends, practitioners, and academics. We have lost an icon of Lean Construction; a trailblazer, an eminent scholar, and a wonderful, kind and beautiful person. I am eternally indebted and grateful to Greg Howell and Glenn Ballard; for adopting and embracing me in 2000; I enjoy where I am now because of them.

Greg's loss is a loss of the love, care, kindness, and support of an unshakeable ally. My heart is broken. Greg was so much to me, as he has been to everyone who has known him or crossed his path. He taught me so much. He was a mentor and a surrogate father. He often told me what I didn't want to hear; or really he said it like it was because he cared and took the surrogate father to heart.

GAH: The Person and Scholar

Where should one begin with an account of Greg's contributions? His intellect, intelligence, vision, wisdom, wit and humor are all worthy of special treatment. Some examples: (1) Some of the 'Gregisms' that are golden nuggets to heed and ponder: "Construction projects are not houses of cards, if one card falls then the whole thing collapses, but they are commitment-free zones and we need to start making reliable commitments," "How can you deliver or do things just in time if you don't know what time it is," "You get the highest return on things you give others for free," "Your job as a consultant is to work yourself out of a job, otherwise why are you there," "Indecision is the key to flexibility," "There is life after tenure," "Nothing in moderation." (2) At an IGLC mid-year meeting, I was getting rather stuck in my own ways of presenting a topic. Greg told me that 'in many situations, being right will only get you second place.' (3) I called Greg up for advice about a seminar that AGC of America asked for on Lean Construction. He told me a couple of things to watch out for and include. Then he said, and I could see his smile through the phone: "Tariq, don't screw it up." (4) During the second LCI Academic Forum (2001) in Tempe, AZ, we went to a famous restaurant called Rustler's Rooste. I needed to use the restrooms. I found my way to two respectively signed doors with 'steers' and 'heifers.' English is not my mother tongue - Arabic is. Smartphones and Google were not ubiquitous then either. So, I went back and asked Greg

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about which I should go into. He told me with no equivocation: ‘the heifers of course!’ The lesson I learned that day was that if Glenn was present, I should ask him for directions.

So many things to recount about Greg as I said. Glenn and Greg had different styles, and they were very trusting of those they chose to work with and include in the journey. Glenn gave strategic intent and checked months later on how the dish was turning out. Greg would call up or email and want to bounce off ideas. His curiosity and questioning of everything was contagious. He loved to cross-pollinate with and from other fields. When presenting something newly discovered, he taught me to begin with something everyone would know or share in through experience. I learned from him that demonstrating one’s experiences/expertise is appreciated, welcomed, and invited when those present, and absent, are asked for their viewpoints and perspectives.

I remember vividly a call in October 2007. He was eager to try out a new way of presenting what Lean Construction is to projects, which is different than the conventional paradigm. He said: “Anyone and their cousin can claim they want to remove waste and add more value. This is not unique enough to those who are not already convinced with the lean ideals. We need something better to invite over those on the fence.”

The challenge, and he said he was thinking about this for a long time, is to state what Lean Construction brings to projects that conventional (traditional or historical) construction management does not. He then asked me what I thought the distinctions were. I stated some things. He acknowledged what I said - as Greg always did. He then said, how about this: “A project needs an operating system, organizational structure, and commercial terms to come together in a way to deliver what the owner is seeking from the engagement with the project team.” He went on to explain the three domains with a Lean Construction lens. I was impressed. I interjected that the project also needs collaboration-enabling technology. Greg agreed. Then he told me laughing: “Tariq, the project also needs water, air, and a whole host of other things. I want this to be easy to remember and capture the basic needed elements. Outcomes such as on time, at cost, desired quality and sustainability, safe execution, and no litigation will result when the three basic elements are aligned and designed in harmony with the lean ideals.” He said he was going to call Will Lichtig back!

GAH: Dealing with Loss

In consoling me over the years in circumstances of departure of close family members and friends, Greg used to share one of his favorite poems - “The Weighing” by Jane Hirshfield:

The heart's reasons,
seen clearly,
even the hardest
will carry its whip-marks and sadness
and must be forgiven.



As the drought-starved
eland forgives the drought-starved lion
who finally takes her,
enters willingly then
the life she cannot refuse,
and is lion, is fed,
and does not remember the other.

So few grains of happiness
measured against all the dark
and still the scales balance.

The world asks of us
only the strength we have and we give it.
Then it asks more, and we give it.

Greg would also tell me that a loss is not like a cold or flu that we get over. Rather a loss leaves us with a hole in our hearts, and we just get used to it being there after a while. I know it will take a long time to get used to the hole Greg is leaving but I hope the process comes with good memories and not just overwhelming sadness.

Hannah Arendt penned in the Human Condition (1958) the following: "All sorrows can be borne if you put them into a story or tell a story about them."

GAH: Celebrating Him!

The Lean Construction Journal (LCJ) collected and published contributions for this special In Memoriam to our dear beloved Greg Howell. A detailed accounting of Greg's life was provided by Dr. Glenn Ballard. This serves as a foundation for the rest of the contributions. We asked the contributors to describe how they came to know Greg, how he impacted their Lean Construction journey, and anything else they wished to share for posterity on his behalf.

Professor Iris Tommelein and Dr. Cynthia Tsao organized a special memorial event for Greg at the 28th annual, and 1st virtual, IGLC meeting held this year out of UC Berkeley. Many colleagues who could speak did (Tommelein, Tsao, Macomber, Koskela, Lichtig, Mossman, Zettel, Sacks, Alves, and Rybkowski) and were respectively bookended by Ms. Emily Howell and Ms. Dana Howell. It was a cathartic moment.

LCI has of course recognized Professor Greg Howell on the main website. The 22nd Annual LCI Congress is coming up and I am sure the organizers will recognize Greg. The recognitions and commemorations of Greg will not cease – and will live on from the simple



tradition he established such as the Duck Call during meetings and the profound ones such as encouraging extending inquiry into all areas and domains that allow us to see, think and act on the construction industry in different ways.

Anything we do will be infinitesimally small in comparison to what Greg has done for us, and for the Construction Industry. We will carry on as best as we can in the hopes Greg looks on and smiles in approval!! Thank you, and farewell until we meet again, Greg!!

Greg Alvin Howell: In Memoriam

Glenn Ballard¹, 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!

Greg Alvin Howell: “A Special Person and Exceptional Leader”

Victor Ortiz¹

Greg attended the first-ever Post-It Note, collaborative, construction process-mapping session in 1984, where I assisted Michael Doyle in facilitation. Greg immediately saw the importance of well-facilitated collaboration and never missed a chance to learn. He and Glenn Ballard completed the Advanced Facilitator training at Interaction Associates, where I was a trainer and Glenn joined us in a consulting project at Ford to completely re-engineer their product development process, in the face of competition from Japan.

Cross-functional design teams and collaborative production management were keys to success in the Automotive Industry that became foundational to Lean Construction. It was clear that collaborative teams could transform an industry. We were learning as we went, and we never stopped.

It takes a certain kind of courage to stand up in public and tell the largest industry in the world that they have got it mostly all wrong, but Glenn and Greg have done just that. It takes a particular kind of person and an exceptional kind of leadership to pull that off.

Greg was one of the most likeable, funny, interesting, engaging, curious, kind, and lovable people I ever met. My life has been immeasurably enriched by more than 35 years of friendship. We co-facilitated partnering sessions in the 90's and puzzled over how to move “Partnering” from words to effective actions. Those actions took form in the evolution of Lean Construction and LCI and in many, many consulting jobs.

Dana Howell, Greg's wife, explains why so many of us loved Greg from practically the first moment we met him, on the fact that he treated everyone with respect and openness, even when he disagreed with you. He was modest, honest, frequently brilliant, and never feared to share what he did not know, in hopes of figuring things out together. And whatever he did figure out was communicated in deeply human, usually funny stories, as only Greg could tell them. His “absent-minded professor” persona, often with a shirttail askew and rumpled hair, and his exceptional story-telling skills endeared him to us and made learning fun.

Greg respected and practiced leadership that was all about bringing out the best in both individuals and teams, and never about self-promotion or use of positional authority to control others. It's the sort of leadership we need today more than ever, and the kind of leadership that makes design and construction teams perform at ever-higher levels.

¹ Ortiz Consulting Services, Walnut Creek, CA 94598, 925-708-5505



Greg and I shared a love of good food and wine. There were so many dinners together, whether generously sponsored by an LCI Corporate Partner at LCI Congress or shared on a canoeing picnic along an Idaho stream with Greg and Dana. I cherish all these memories and miss Greg deeply.

*Excerpt from: Ballard, G (2020). Greg Alvin Howell: In Memoriam (1).
Lean Construction Journal 2020 pp 154-159
www.leanconstructionjournal.org*

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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.

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Greg Alvin Howell: Aristotle and the Barbarian

Fritz Gehbauer¹, Ph.D.

“Fritz, I have to tell you something”

... were the first words Greg spoke directly to me and they opened a five minute introduction to Lean for me during a conference in Fortaleza, Brazil. We were the international speakers.

But it was as if one of them resembled Aristotle and the other a Barbarian from one of those mountainous areas north of Macedonia. He knew little of the new philosophy. Nevertheless, Aristotle saw that the Barbarian had vast experience and had managed big projects. Therefore, he continued: “... your methods are good but not good enough.” The Barbarian had already followed Aristotle’s key note with those aspects of language communication and cooperation and collaboration that had struck him and, therefore, he listened with interest.

The result was that the Barbarian invited Aristotle to come to his country. Together they founded there a subsidiary of Aristoteles’ philosophical school. It took a while before the seed took root in that country but the way of thinking changed gradually. Meanwhile the second generation of disciples is in practical action and the school is expanding.

Aristotle could not see this success in person because he passed away. The Barbarian is mourning. But he can still hear the voice of his teacher; his words will never pass away.

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Greg Alvin Howell: Teaching Through Simulation

Min Liu¹, Ph.D.

I heard about Greg Howell when I started to study Lean Construction at Berkeley as a graduate student. In 2010, I finally had an opportunity to meet him at a conference at Virginia Tech. When he saw that I was waiting for him before the conference started, he quoted one of Oscar Wilde's witticisms: "Punctuality is the thief of time." Initially, I was confused when I heard this line. Greg then explained to me that it means that people spend extra time to be on time and that this extra time is often wasted.

Greg's unique presentation of punctuality piqued my curiosity about the value of time buffers, and it was heartwarming to me that after I returned to NC State, Greg called me and encouraged us to further consider how time buffers play a role in planning. Greg inspired me to consider the human perspective of engineering, and I realized that engineers are prone to waste time as much as anyone else is, despite how much we strive for precision and accuracy. To ensure projects end on time, project managers allot time buffers to tasks, and this extra time buffer is usually wasted because people tend to delay work and extend time on tasks just because there is extra time to spend. We started our investigation by finding out why people want to add time buffers. After all, those are the things planners worry about. Do those things actually and eventually cause more trouble than benefit in execution? Are time buffers really utilized to minimize delay? To what extent are time buffers useful as a cushion for crisis and not the cause of waste? One question led to another, and a few years later, we published three journal papers on this topic.

Greg was always full of thought-provoking questions. One day, during our phone conference, he asked my graduate students and me: What is planning? Why do people plan? How much planning is enough planning? The questions seemed so simple, and yet, if we could find a way to measure the costs and benefits of planning, perhaps project managers could use the data to more effectively delegate work. Greg introduced us to the OOPS simulation game, which precisely shows the answers to those questions, but we didn't stop there. Greg said that it was always very important to talk with site managers in person and to learn their way of doing things and why. So I interviewed five foremen and used their experiences to better inform our research. Based on the interviews, we built a computer simulation for the OOPS game, discussed its real world implementation, and

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wrote the journal paper, “‘Oops’ Simulation: Cost-Benefits Trade-Off Analysis of Reliable Planning for Construction Activities.”

Greg is among the pioneers of Lean Construction, and his passing is a huge loss to us all. I for one will miss my mentor, role model, and dear friend, but Greg’s passion, wisdom, and generosity can always be found in the world of research and in our hearts.

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Greg Alvin Howell: Authenticity and Approachability Redefined

Dan Fauchier ¹, CMF, CVF

I started my 11 year friendship with Greg Howell on a \$7 Billion California Prison Healthcare Receivership program in Sacramento in 2008. Dick Bayer and I were lead facilitators and Greg was the leader of the lean coaching/training team. My first memory of Greg was with 20 people in a small conference room with Greg informally explaining various lean concepts and approaches. Will Lichtig was backing him up. At one point Greg sat down, looked down, and announced, “I’m declaring a breakdown. I’m not sure where to go from here.” I had never seen someone call himself out like that - usually teachers just bluff their way through. Besides his incomparable knowledge of Lean Construction, Greg’s complete honesty and humility were the first things I saw in him.

Will made a couple of suggestions and Greg got right back on track. It was pure Greg. That’s how my lean journey started. A few weeks later Greg took a bunch of us to the NorCal CoP meeting. I had thought Greg was just another really smart guy until we walked into the room full of other professionals and applause broke out and people started shouting, “It’s Greg Howell!” I found out he was a bit of a celebrity.

Another time, same program, he came into Dick’s and my shared office, plopped down on a chair, ran his fingers through his tousled hair, sighed and said, “I’ve got this little non-profit I’m not paying enough attention to, and I need to do something.” He was talking about the Lean Construction Institute. Dick and I were invited to pitch in, became board members and Dick went on to be Interim Executive Director. The rest is history, as they say. But Greg and Glenn were not only the founders of LCI and Last Planner® and so much more, but literally the brains, heart and soul of the organization and the methodology.

LCI has always been soulful, and a bit Quixotic. Greg has an incomparable talent for making each of us feel like we have a special relationship to him; that we are as special to him as he is to us. (Note the present tense.) Another memory illustrates that. My partner and I were living in Sacramento for the same program, it’s now 2009, and Greg’s daughter, Emily, is working for us on the program. Greg and Emily came over to our house on a rainy night to drop off her dog for a couple of days of dog sitting. Emily and my partner went into the main house with the dog, but Greg plopped down on the floor of the foyer, pulled off his wet shoes, leaned back against the wall and just sat there for an hour, shoeless. I joined him on the floor and we talked about everything and nothing. He was completely

¹ The ReAlignment Group of California, dan@leancalifornia.com.



comfortable in every situation and venue. And he made the rest of us feel comfortable with him. I don't miss that...because I will always have that.

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Greg Alvin Howell: Teaching Through Caring and Connection

Luis F. Alarcón¹, PhD

Dear Gregory,

I am writing to you to express some reflections about our friendship in these sad moments when we feel your absence. We will miss you for many things that were unique when you were present in our gatherings but also for those that will remain with us in your absence. Your presence always brought joy and fun to all the people around you, your unique sense of humor and your talent as comedian is something we will always miss.

You were a man who always cared about other people and you made us feel special every time we shared time together. Our own milestones in our relationship were unforgettable. Our first meeting in a CII event, with Ronald Reagan as speaker, was something we never forgot. The time Emily spent with us and your trip to Santiago to pick her up was a very special time for my family and me. Your trips to Santiago to help me spread the word on Lean Construction were always filled with anecdotes and stories to remember. We will always remember you and Dana dancing in Isabel's wedding party!

Nevertheless, maybe more important than many good memories... you set an example for many of us to follow and which will remain forever. You were a unique caring individual who worked hard your entire life to develop an ideal for our industry, but you did it with generosity and humility, always caring and constantly helping others to develop their own way in the academia and the industry. Thank you very much for this great legacy!

¹ Professor, School of Engineering of the Catholic University of Chile, Vicuña Mackenna # 4860, Casilla 306, Correo 22, Santiago, Chile lalarcon@ing.puc.cl



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Greg Alvin Howell: Storyteller

Klaus Lemke¹

Anyone who ever met him, knew that Greg Howell was a storyteller! Greg's stories were much more though; they were a part of who he was and what he brought to the world. Greg's stories were not self-serving or boastful, although Greg had plenty to brag about. They were more like a gift. To hear a story from Greg was like receiving a special present and watching him unwrap it right in front of you.

I first met Greg in 2005, when he was still the president of the Lean Construction Institute and of Lean Project Consulting, the company that I am now fortunate enough to lead. I had learned about lean as part of my MBA, and contacted Greg and Glenn Ballard to see if this magic management approach could actually be applied to construction. To them, the answer was obvious, even then. For me, it took some time to realize the true power of lean thinking in design and construction, or in any other endeavor for that matter.

Working with Greg, I learned a lot about lean principles and philosophy, and even more about people, relationships, and how to take care of others. I learned how to challenge people without making them feel threatened, and I learned how a network of commitments unlocks a team's potential and creates new possibilities that would be otherwise impossible.

Although Greg had already lived a lifetime of adventures when we met, I was not robbed of the opportunity to share his experiences through his stories. I watched him as a teenager delivering pianos for his father's company in Arizona. I watched him play rugby in college, and again as a guest of the team many years later. I was with him when he found his first love, and lost her on the day he proposed marriage. I watched as he led a navy construction battalion building mountain roads in the jungle. I was there when he learned about leadership from a selfless commanding officer. I watched him build his time-lapse photography business - and get swindled out of it all by his business partner. I was there when he met Dana and knew he'd found the one. I was there when he and Glenn decided, "we really ought to do what we really ought to do," and started LCI and LeanProject. I even rode beside him in his Busaru, an over-powered off-road modified VW Microbus with a Subaru engine. I expect that most people reading this were there for these adventures as well - and probably many others. Greg's stories were his way of sharing his adventures, struggles, and victories. They were his gift to anyone who was ready to listen.

As Greg's memory weakened, he taught me something else. He knew what was happening to him, and often apologized for repeating himself, or retelling stories. For me, hearing Greg tell a story was almost more special once you realized he was giving you the

¹ Managing Principal, leanproject.com, klemke@leanproject.com



same gift again. Watching him unwrap it before your eyes was such a treat, even when the contents were no longer a surprise.

Yet, he never tried to hide his difficulties, or pretend everything was OK. Sharing the story of his condition was just another way for him to include you in his journey, without polish or adornment, just to be there with him like you were for every other leg of the trip. While others may want to remember Greg in his younger days, his grace and beauty during this time of his life may be the part that left the most lasting impression on me. I could only hope to be so giving, open and honest during my lifetime.

So, I'll end with just a simple thanks to Greg. Thank you, Greg, for everything you've done for so many of us, and for leaving us with a story we will never forget.

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Greg Alvin Howell: Scholar, Collaborator and Friend

Lauri Koskela¹, PhD

Greg Howell was one of the most intellectually curious persons I have ever met. He was attracted to collaboration, to creativity through interaction, conversation, even debate. He wanted to push boundaries. He was fearless in challenging the received wisdom. He wanted to share the new he had learned. And he wanted scholarship to be in the service of good.

I came to know Greg in 1992, first through a telephone call. Over the years, our relationship evolved to scholarly collaboration and friendship. In 2000 - 2014, we wrote together - and often others participated - over two dozen papers on lean construction and project management, many of which are now highly cited.

Greg was a man of many capabilities, many dimensions. Many of my recollections are related to the dimension that operated somewhat quietly in the background, namely academic scholarship. Greg was a scholar, even more intensely than many career academics of today. He did not publish out of academic necessity, but out of passion. Surely, for 11 years, he was professor at the University of New Mexico, a much-liked teacher. However, he started to publish much earlier, and this continued to the recent years. Google Scholar lists more than 100 publications where Greg has been involved. He has now more than 8000 citations in Google Scholar - his influence has been huge.

Thank you, Greg, for everything you have taught to us, through your work, your example and your companionship.

¹ Professor of Construction/Project Management, Department of Architecture and 3D Design, School of Art, Design and Architecture, University of Huddersfield, Huddersfield, UK, L.Koskela@hud.ac.uk



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Greg Alvin Howell: Unforgettable Summer

Rebecca Snelling¹

I remember my first day in the fall of 2008 on the job with Lean Project Consulting, a firm owned at the time by Greg Howell and Hal Macomber. I flew into Sacramento and showed up on a \$7 billion program with one of the industry's most progressive delivery models that has ever been performed; three self-selected design and construction teams collocated, competing and collaborating to deliver the most innovative prototype of healthcare facilities to be built by a team of innovative lean thinkers! Greg Howell, along with many other founding members of the Lean Construction movement were deeply involved in this program. I had not met Greg before that day, but he welcomed me warmly. He asked for my thoughts and respected what I had to say about the project, as if I had even a fraction of the wisdom and experience that he had! A few days later I was going to help him with a full day training class, and I remember his valuable words of inspiration right before we started, "Don't f*** it up," he said with a smile, a chuckle and a twinkle in his eye.

For the next 4 years I was fortunate to be able to work with Greg, learning about Lean, Integrated Project Delivery, Last Planner System®, and the lens that enables Lean's effectiveness. Beyond that, Greg also taught me how to use my brain and my mind beyond just "thinking." He taught me how to access some of the secrets the brain holds inside, and that when we "forget" things, they are not really forgotten. They are just lost in the vastness of our minds, waiting to be found.

More importantly, Greg was one of the most genuine, compassionate, and kind-hearted people I have known. Investing in people came naturally to Greg because he truly cared about them. One of my favorite times with Greg was staying at the Howell house for a few days one summer. The short week is packed with great memories. Greg and Dana took me on a float trip down a quiet river, stopping for a picnic dinner along a remote bank without a sight or sound of the civilized world. Each evening we went on beautiful sunset hikes in Adams Gulch. And one afternoon Greg loaded us up in his old Volkswagen microbus, though he didn't bother telling me I was getting in for the scariest ride of my life! As he drove along the narrow, dirt road that hugged the edges of the mountains of Sun Valley, he pointed out all kinds of things about the geology, the landscape and the wildlife. Every evening was full of stories and great thought-provoking conversation. Throughout the time I've known Greg, he always had an ear to listen and some of the best wisdom to share. Here's to hoping all of us who knew Greg intentionally carry his spirit and his nature in our lives and our interactions with others.

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