WHAT <u>SHOULD PROJECT MANAGEMENT</u> BE <u>BASED</u> ON?

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ABSTRACT

Projects historically have been defined as temporary undertakings carried out by a single purpose organization. Projects and their management can be described and portrayed from a variety of perspectives, each founded on some conceptual basis, hiding or revealing various aspects, and opening or closing some possibilities for action. This paper joins the continuing exploration about the nature of projects and their management. The power of lean approaches in the materiel/information domain is well established and rests on solid conceptual foundations. In this paper we explore projects as human endeavors and how our humanity with all its capacities and limits opens possibilities for improvement.

KEY WORDS

Project management, Theory, Language Action Perspective

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INTRODUCTION

This paper joins the continuing exploration about the nature of projects and their management. The power of lean approaches in the materiel[3] /information domain is well established and rests on solid conceptual foundations. In this paper we explore projects as human endeavors and how our humanity with all its capacities and limits opens possibilities for improvement. We will not, indeed cannot prove anything new about people rather we will reflect on what it means to be human from the perspective of Language Action (Winograd 1987) (Wiegand et al 2003). We have previously proposed that Language Action[4] (LA) contributes to the theory of project management and that it is time to move from an outdated approach to project management (Macomber & Howell 2003) (Howell et al 2004).

In this paper, we reinterpret the nature of projects and propose that LA provides a general and powerful theoretical basis for understanding projects and their management. We then connect and discuss these claims in relationship to "Assessing and Moving on from the Dominant Project Management Discourse in the Light of Project Overruns." (Williams 2005) and *Managing Construction Projects: An information processing approach* (Winch 2006), and more recently the BRI Forum discussion papers "Should project management be based on theories of economics or production?" (Koskela & Ballard 2006) and "Towards a theory of construction as production by projects" (Winch 2006). These thoughtful and careful papers represent the leading edge of thinking. Readers are encouraged to study them carefully for their wisdom and insight.

Winch in his answer to Koskela and Ballard's question "Should project management be based on theories of economics or production?" clarifies areas of agreement and sharpens differences. He submits in summary "that the proposed dichotomy is not meaningful. Engineering science and operations research can provide much insight into how to organize the construction process, but that process deploys capital and human resources that have to be allocated from somewhere. That resource allocation process is what economics helps us to understand" (Winch 2006).

The authors of this paper believe the proposed dichotomy, while perhaps not meaningful in some larger sense, has established a basis for discussion about projects, their nature and management.

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Even if rhetorical, this question calls for an answer based on some authority. But there is no such recognized sovereign authority in the lean construction community or within the larger project management community. "Should" arises within the lean construction community in an historical way based on the stance or perspective of those making the claim; it flows from the distinctions we bring. We can expect it to change as we learn to see more.

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[3]   We use the word to include all physical wherewithal: material, space, tools, and equipment.
[4]   Language action perspective holds that the world is brought forth in language, particularly through the use of speech acts, that is verbs that are action when spoken rather than those that are descriptive of action. The basic speech acts are: request, promise, assess (opine), assert (claim truth), and declare. See Routledge Encyclopedia of Philosophy, http://online.sfsu.edu/~kbach/spchacts.html.

From this stance, we then construct logical arguments and support our cases. We believe that the most powerful theories, descriptions and predictors of how things work, will rise to the top in the course of testing in action, critical discussion and reflection. In the lean construction community, that authority has been generally granted to those theories that lead to delivering the most value for the least waste in practice. The community of more traditional project management[5] also strives for value and minimum waste but lacks a coherent conceptual base to make the distinctions central to lean construction.

The traditional approach rests on a conceptual foundation that mostly blinds its members to forms of waste and the creation and delivery of value that are obvious from a lean perspective. Likewise, many in the traditional manufacturing world are still unable to see inventory as waste. Creating this new form of waste was perhaps Engineer Ohno's greatest contribution.[6] At first his new understanding seemed illogical, then counterintuitive and finally common sense. His innovation is now a central tenet of lean manufacturing. The way manufacturing should be managed now is different than it was before Engineer Ohno distinguished something new.

In this paper, we try to move past arguing from an historical stance to propose a different way of looking at projects and their management: an approach firmly grounded in our humanity, the very human world of people working in relationship, and how that humanity relates to those aspects of projects and their management amenable to engineering principles and practices. We first propose a common sense source for should and then explore the nature of projects and their management. Finally, we connect the ideas in this paper to the discussion about projects and their nature and management.

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We propose common sense sources for the authority to declare "should". Project management should be based on the humanity of those who deliver it. To say that projects are about people is not enough. We must acknowledge the way people are, how people work in relationship, what they do to create shared understanding and value, how they coordinate action and develop trust[7]. Then we can design project delivery systems where real people establish the relationships needed to move and manage materiel and information, how they take purposeful action together and bring about projects.

People are autonomous, that is self-governing with the power of choice and freedom to commit, or not, to future action (promise). Of course people and projects are often managed in ways that deny autonomy of those involved. Denying autonomy does not change reality. People are autonomous; they are responsible for their own understanding, experience and learning.

People frequently, indeed almost always, misunderstand just as they are misunderstood. We don't understand one another when we don't share common backgrounds, histories or explanations for how things work. We put our success at risk when we assume we do understand a customer's request and fail to explore – in conversations of questions and answers – the concerns behind it. What is obvious to one might be invisible to another; lacking shared

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[5] The Project Management Institute would be the capital of this community.
[6] We heard this first when Chauncey Bell pointed it out in a presentation to DPR Construction in March of 2005.
[7] Our description must of course be limited. We will attempt to describe people in ways that readers can personally relate with rather than on references to the opinions of others.

distinctions, each of us is blind in different ways. And we are all blind in one big way: none of us can see into the future. Misunderstanding and blindness are permanent human conditions.[8] The future is unknown and unknowable and we can still shape it by our actions.

Autonomous people make choices in the moment and these choices are not determined (Koestenbaum & Block 2001). Decisions (we prefer to divide this broad category of action into "choice" and "promise") taken by autonomous people arise in the moment and are not determined by "inputs" or logic. People do not "process" information in any way similar to the way processing material can produce a standard product no matter who is operating the machine. Two people even in the same mood may make very different choices with the same information when, as they must, have different backgrounds, experience, ambitions and available distinctions. Those same people will learn different lessons from the results of those choices. Different groups of people starting from the same point following the same processes will design and deliver very different projects.

That projects are always relational is equally obvious; easily observed but less obvious is that relationships, whether developed purposefully or not, arise in speech, in the actions we take in language. We form and offer assessments as opinions; we give our explanations for what happens. These opinions are neither right nor wrong as they arise from our individual experience and perspective. Arguing about them is pointless, however asking the other to explain the foundations of their assessments reduces blindness and misunderstanding. Waste and value are assessments[9], reducing or increasing either begins with an exploration of the opinion of others, "Why do you say that is valuable?" "What is it about this that does not add value?"

We do more than make assessments. We declare how things should be, we make claims for the truth, and we coordinate action by making offers, requests and promises. To call this communication is not wrong but it can be misleading when it implies that one person gives information to another to be processed as one computer might send another a stream of data to change the image on a screen. Neither our declarations, opinions, claims of truth nor promises determine what the other person listens. People hear what they hear and they listen – pay attention – or they don't. Either way, people navigate in their world together effectively or not. The actions we take in speaking can change the opinions of others. I build trust when I make a promise and keep it; I destroy trust when I don't. People are moved when we form and share an opinion; they appear unaligned when they don't. New action is possible – new value or waste revealed – when our opinions open new possibilities. Autonomous people come together in conversation to create and deliver reciprocal value on projects. Depending on their relationship, they may focus on their immediate and local interests or work together to create more value for all while eliminating waste at the project level.

Projects should be managed from this understanding: Projects are conceived and completed by autonomous people, as blind and misunderstood as they are, acting and learning together through language as they organize the systems and practices to manage work, information and materiel to serve their needs.

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[8] Even though individual blindnesses can be revealed, there are still countless blindnesses that will always remain so.

[9] Value and waste are not inherent characteristics of something. We say, "That is of value to me," when having (more of) it increases our ability to take care of our concerns. The assessment "waste" is just the opposite.

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Another definition of a project: A project is a one-time endeavour undertaken by a group of people to fulfil a promise one person makes to another. Projects, at least the ones that interest this community, require more than one person. Even so one person makes a promise for its completion. They take this bold action when they are confident they have or can build the relationships with the others.

A project always entails a promise established between a customer and a performer, and creates a relationship. Not all promises or relationships result in projects. Promises fulfilled by projects are delivered through a unique and temporary network of commitments (NOC); they require design to create the conditions of satisfaction (COS) and a production system to deliver them to a unique customer. COS describe how completion of the promise will deliver value to both the customer and performer. The assessment of value changes as new possibilities emerge for good or ill. Commercial agreements record some aspects of the promise and how it will be satisfied but are fantasy when they claim that the documents recognize the complete agreement between the parties.

Projects arise from the concerns of people. Perhaps they come to believe that their organization will be unable to accomplish its purpose or could better accomplish it with a new facility. Or an outsider sees an opportunity to offer a new solution to an old problem and thus create value for the customer and themselves. In any case, projects happen when people develop and act on shared assessments by speaking. Projects come into existence when a person in authority makes a declaration, "We have a project now." Success is hardly determined by this action but failure is more likely if the project is not initiated in a way that establishes its context and larger purpose while inviting the participation of others.

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All purposeful actions between people happen first in words; projects happen first in words. We have previously proposed that the historic approach to management be replaced by an approach grounded in language action (Howell et al 2003). Language action describes what people do on projects; they take action in words. Fernando Flores redefined management in language action terms:

> *Management is that process of openness, listening, and eliciting commitments, which includes concern for the articulation and activation of the network of commitments, primarily produced through promises and requests, allowing for the autonomy of the productive unit* (Flores, 1982*)*.

On first reading, this definition might appear to be aimed at coordinating action by requests and promising. We make choices as we come to grips with blindness, misunderstanding and autonomy though "openness, listening and eliciting commitments". Consideration of economics will shape choices made within the NOC and principles drawn from engineering and production system design can be mobilized to organize materiel and information needed to deliver on the promise with minimum waste.

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Can projects be managed without concern for information, materiel or relationship? Surely managing projects requires disciplines, practices and processes that include and connect action

in all three domains. A three-legged stool comes to mind but the metaphor fails because the legs rest on different foundations. Susanne Kelly and Chris Davis arrange these domains into two very different paradigms; The Information/Materiel Paradigm and the Commitment Paradigm (Kelly & Davis 1998). See their Table 1.2 reproduced in Table 1 below.

Table 1. Contrasts between materiel/information and commitment paradigms (Kelly & Davis 1998)

Aspects	Materiel/Information Paradigm	Commitment Paradigm
The 'World' is …	universal and objective	composed of many 'worlds' or sub-universes, each brought forth by historical practice
Perception is …	the passive receipt of data by the senses	the product of a social/historical/biological observer (which means 'blindness' is inevitable)
Listening is …	hearing information or gathering requirements	interpreting and tuning to the interpretations of others
Communication is …	the transmission of information	the successful coordination of action
Action is …	physical activity	based on commitments (for which there is a small generative set of speech acts: declare, offer, request, assess, assert)

Project management's foundations must span and connect worlds where people do different kinds of work and act from very different understandings. The disciplines, practices and process that work in these worlds while different can be connected – predictable material flow is produced when people make reliable promises – but effectiveness is limited when people act in one world with the disciplines, practices and processes appropriate for the other. Value remains what the customer says it is, and is not an objective or even stable characteristic of an object. Diamonds may be forever but there are times when a glass of water is more valuable.

We believe project management developed in the "objective" engineering-centered world as people with technical knowledge applied it to solve the problems at hand with the efforts of many. We can understand how people acting in the Materiel/Information Paradigm, would find working with people so difficult. Shaping material and organizing information requires acting on them; processes can produce predictable results. But people are autonomous, blind and misunderstood and we must act with them.

Perhaps some unified theory of project management will arise that spans the distance between these paradigms. Until it does, we must base, that is find the foundations for, project management in theories in both worlds and connect them with disciplines and practices. Even so, management, particularly project management, is not information processing or uncertainty reduction. We cannot see into the future so it remains ineffably uncertain. We learn and create

shared understanding by being in action together and by having the courage to come to grips with breakdowns – interruptions in the delivery on a commitment. Breakdowns surface different understandings giving us the opportunity to learn more deeply and take new action.

SUMMARY: WHAT SHOULD PROJECT MANAGEMENT BE BASED ON?

Projects are human endeavors and should be managed that way. People are autonomous; misunderstanding and blindness is normal. People do not process information, their decisions are not determined. Projects are delivered by people in relationship acting and learning together in language: they form and express opinions, make claims for the truth, make declarations, and coordinate action by making requests and receiving promises. The Language Action Perspective provides the distinctions and foundations for the disciplines and practices needed to act successfully in the commitment paradigm. These include the creation of value and design itself.

Construction projects are physical and information undertakings. While we could perhaps understand these domains with relativist theories and the application of heuristics, "objective" Cartesian models work fine. Projects managed on a lean basis reduce waste when they use information in new ways to help people visualize in advance physical interactions in construction and facility use, and waste is reduced in its making.

CONNECTING TO THE ONGOING DISCUSSION

Koskela and Ballard summarize Winch's economic based approach (Winch 2002) described in *Managing Construction Projects: An Information Processing Approach* as starting from "four conceptual or theoretical positions: transaction cost economics, organization as information processing system, the project as uncertainty reduction, and the tectonic approach to management." (Koskela & Ballard 2006). We agree with them that transaction cost economics fails to provide a useful foundation for managing work in projects. We too find that organizations as information processing systems fails to provide a useful foundation but for different reasons. We have argued above that information is not processed by people and extend that position to include organizations. We see the issue of uncertainty reduction in a different perspective than either Winch or Koskela and Ballard. Information from the future is never available and decisions still must be made. We suspect the uncertainty they are concerned with has more to do with the reality that we misunderstand. Communication occurs in listening, in the way people understand what others are saying. Building relationships and collaborative problem solving will reduce the gaps in understanding but we doubt they can be eliminated[10]. Finally, we agree with Koskela and Ballard that Winch's tectonic approach to organizations, that management has little impact on the flows in organizations, provides an inadequate description of project management. Certainly production management concepts organize material flows in project settings. Managing a project as a network of commitments reduces the separation between those managing the project and the processes necessary to deliver it.

Koskela and Ballard then offer a summary in Table 2 (recreated below) of the relevant theories for a production-based approach to project management.

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[10]   Our wives agree.

and connecting the human/relational/commitment domains with the materiel and informational. Economic and Production Management are accomplished through actions taken in speech in order to design and activate the network of commitments: forming and making assessments, making requests, negotiating and making commitments to meet the requests. Acting in language, we apply practices from a variety of disciplines as we, human as we are, design and activate the networks of commitments that deliver projects.

Table 3: Comparison of the foundational issues of the economic- and production- based approaches to project management (Adapted from Koskela & Ballard 2006).

	Economic-based	**Production-based**	**Language Action-based (Added column)**
Fundamental assumption on the nature of projects	Organizations integrated through transactions	Production systems	Human endeavors that deliver on a Promise
Conceptualization of the project	Information processing system	Transformation, flow, value	Network of commitments
Intrinsic Goal	Uncertainty reduction (i.e. elimination of a lack of information)	Getting the facility produced eliminating waste, increasing value	Producing reciprocal value for those involved
Nature of management	Creating the (contractual and organizational structure	Designing, operating and improving the production system	Articulating and activating the network of commitments.

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