

# COMMITMENT PLANNING AND REASONS ANALYSIS

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## ABSTRACT

The paper contrasts the Planning Model, identified by Suchman (1987), which posits that planning precedes action (evidence of the application of which is to be found in many aspects of organisational practice and research), with an Alternative Model which emphasises the situated, interactive nature of planning and action. It argues that the logic which underlies Commitment Planning and Reasons Analysis, as developed by the LCI, implicitly embraces this Alternative Model. Some practical and theoretical considerations concerning the use of these tools for process improvement and for the understanding of organisational change are discussed.

## KEYWORDS

Lean construction, planning, commitment planning, reasons analysis.

## INTRODUCTION

Lean Construction is centrally about improving the reliability of the planning process. The purpose of Commitment Planning is common-sensically clear: to set out what you intend to do and how you intend to do it. The purpose of a Reasons Analysis is equally clear: if the plan was not fully implemented, to find out why. In this paper we will consider some of the implications of undertaking these activities, particularly that of Reasons Analysis. The aims of the paper are:

- To consider the reasoning which underlies the conventional view of the relationship between planning and action, referred to as the Planning Model
- To consider Commitment Planning which we take to be a practical manifestation of an Alternative Model
- In light of this Alternative Model to consider some implications of the use of Reasons Analysis

## PLANNING AND ACTION; DESIGN AND IMPLEMENTATION

The cue for these considerations is the ethnomethodologically-informed (EM) research of writers such as Suchman whose work, in turn, is inspired by Garfinkel. They point out that in 'following' a plan, one interprets what it means in light of the inferred intention of the 'planner' and the particular, situated social and physical circumstances in which the plan is to be implemented. Though this is obvious, as Suchman (1987p178) stresses, this very obviousness has led to its importance being overlooked. An intellectual tradition, she suggests, has been established in which

"...an adequate account of any phenomenon is a formal theory that represents just those aspects of the phenomenon that are true regardless of particular circumstances. This relation of abstract structures to particular instances is exemplified in the relation of plans to situated action." (p178)

We find many manifestations of this intellectual tradition in the way the relationships, between, i) planning and action, and ii) design and implementation are conceived of in construction.

An example of the first is to be seen in the phenomenon of *schedule push* which LC thinkers have identified as a major reason for the failure to manage better the variability and uncertainty to which construction projects are intrinsically subject. They observe that, conventionally, the project is planned for its entire duration and that while this plan serves certain purposes (identifying long lead times, etc.) it is inevitably highly abstract and needs to be considerably supplemented by planning and control tools which address the multitude of contingencies which could not be known or predicted when the plan was drawn up. Further, in recognising the essentially abstract nature of any plan, their whole approach to planning is rooted in the concrete realities of the here and now. Thus, the essence of the Last Planner system and its associated tools is to go as far as possible in 'remedying indexicality'. That is, they aim to specify as tightly as possible abstract intentions and directives and to link them to the concrete evidence of their realisation. They advocate, therefore, the use of planning and control tools which systematically monitor the way contingencies are managed by those at the point of production. The principle of *demand pull* recognises that what is actually happening and directly known to be happening in particular circumstances provides the most reliable information for planning and controlling action.

An example of the same presumed relationship between abstract representation and actual phenomena, seen in planning based on the principle of schedule push, is to be seen in the method by which designers specify the required characteristics of concrete structures in the UK. Design practice for specifying the required cover is based on the assumption that there are consistent global patterns in the variability of cover achieved on site. Based on this assumption, the findings of cover surveys have been used to establish values and tolerances that need to be complied with. These have become the basis for various codes of practice which, in the main (see below), designers comply with. It has been shown that the assumption of consistent global patterns is not warranted (Seymour et al 1997) since the two criteria stated by Juran and Gryna (1993) as needing to be met if constant tolerances are to be used as an effective quality standard, are not met in the normal conditions of construction. These criteria are: i) product repetitiveness, that is, the production of identical products; ii) tolerances must be based on the variability of the process which requires the use of statistical analysis to quantify variation.

To the extent that construction uses *in situ* production methods, the first criterion is not satisfied because structural elements differ in type, shape, size, design complexity and location. This makes impractical the application of a constant tolerance value as a quality standard for all these structural elements on a project. With regard to the second criterion, there is likely to be substantial variation in the consistency of the process of constructing identical elements (this was confirmed in the study referred to above); thus, being able to determine a specified constant value would seem highly unlikely.

In practice, these facts are recognised and some effort is made to compensate for them. BS 5606 for example, provides a formula which is intended to enable site personnel to calculate the consequences of construction processes on achieving the aimed-for tolerances. Designers will also make adjustments in their specifications to code recommendations if they anticipate circumstances on site that will make strict

adherence to the code difficult or impossible. But, of course, designers are usually almost entirely ignorant of the production conditions in which their designs will be implemented. A response to this is to give engineers on site greater discretion in applying whatever specifications have been provided. However, this is subject to the multiple vagaries of inter-personal relations on site and, most importantly, runs the risk of creating contractual problems and penalties for departing from the design specifications however unrealistic or inappropriate they might be.

To summarise, we suggest that these two examples are practical manifestations of a particular way of thinking about the relationship between intention and action. They are separated. In this view, intention can be abstractly formulated and represented as a plan or a design. Action is seen as a matter of putting the plan or design into effect; as following a set of instructions, rules or procedures. The fact of contingencies is recognised. That is, plans are known to be modified, adjusted or changed as attempts are made to realise them. However, what occurs in this process is under-explored because of *a priori* assumptions about what a plan (or design) and its relationship with action are. Suchman (1987) puts it as follows:

"On the planning view, plans are prerequisite to and prescribe action, at every level of detail. Mutual intelligibility is a matter of the reciprocal recognisability of our plans, enabled by common conventions for the expression of intent, and shared knowledge about typical situations and appropriate actions. The alternative view [...] is that while a course of action can always be projected or reconstructed in terms of prior intentions and typical situations, the prescriptive significance of intentions for situations is inherently vague." (p27)

We have suggested that in LC, planning practice implicitly takes cognisance of this fact in its concern to make intention and evidence of its fulfilment explicit with reference to the specific situation. Thus, what SHOULD happen is subjected to a screening process where SHOULD becomes CAN. The commitment plan (WILL) is expressed in terms of a finite and intendedly mutually understood description of some end state. The adequacy of this description is evident in whether or not it is possible to say unequivocally whether this end state has been achieved (DID).

## **TWO MODELS FOR UNDERSTANDING THE RELATIONSHIP BETWEEN PLANNING AND ACTION**

In understanding the relationship between a plan (some abstract representation of how to realise some objective) and action, then, two models are available to us. Suchman describes the first, the Planning Model, as follows:

"Plans are taken to be either formal structures that control situated actions or abstractions over instances of situated action, the instances serving to fill in the abstract structure on particular occasions. The research strategy in cognitive science has been to represent mental constructs such as goals or plans then stipulate the procedures by which those constructs are realised as action or recognised as the actor's intent. The specification of procedures for action, in turn, has presupposed enumeration of the conditions under which a given action is appropriate. These stipulated conditions, ready made and coupled to their associated actions take the place of a lively, moment by moment assessment of the particular circumstances." (p26)

While Suchman is talking here about research in cognitive science and the intellectual tradition referred to above, it is hoped that her description of this first model will be recognised in the two examples given; that of conventional planning and the method of conveying design requirements to site in construction.

They take for granted the interpretive practices through which work gets done and despite the crucial reliance on these practices for the accomplishment of work, both research and efforts to improve its effectiveness, efficiency and so on, pervasively concentrates on developing abstract representations on the basis of 'global' knowledge and following practices and policies which accord with this model (as in the case of schedule push and the current method of specification).

The Alternative Model is one in which plans are seen as a resource used for practical reasoning. It is also a model for conducting research into this process as it occurs in organisational settings. By this we mean that the use of the Alternative Model reverses the normal organisational research procedure which infers general patterns from the observation of organisational conduct and presents them in the form of general constructs (eg a bureaucracy, a power culture). It then looks for evidence of these constructs in the regularities that are to be seen in organisational conduct. Here, in contrast, the aim is to find out how representations are *used* to organise conduct. For example, how are organisation charts, planning schedules, process maps and the like used as warrants for action? Formal representations as produced by 'academic' research, despite any claims as to their accuracy or validity; the rigour, representativeness, etc, by which they were arrived at are accorded no privileged status. As already noted, we think that taking this view parallels the LCI's emphasis on commitment planning as being logically prior to schedule planning which is not how it is normally conceived of.

The Alternative Model draws on developments in anthropology and ethnomethodology and does not 'produce formal models of knowledge and action, but [explores] the relation of knowledge and action to particular circumstances'. This alternative approach requires corresponding changes in the way in which research on purposeful action proceeds. The first is a fundamental change in perspective, such that the contingencies of action on a complex world of objects, artifacts and other actors, located in time and space are no longer treated as an extraneous problem with which the individual actor must contend but rather is seen as the essential resource that makes knowledge possible and gives action its sense.

“the organisation of situated action is an emergent property of moment-by-moment interactions between actors and between actors and the environments of their action.” (p178-9)

## **COMMITMENT PLANS**

While the logic of commitment planning is designed to counteract the abstractness and uncertainty-creating features of planning based on schedule push, we would benefit from a more detailed understanding of how it is done; how the various planning and control tools are used, how measurement is carried out, how data are collected, recorded, used and so on; what uncertainties and ambiguities remain in their use, how these are negotiated and remedied. For example, how do people reach

agreement on what is a sound assignment? As Ballard and Howell note "This may be accomplished by quantifying, referencing drawings to be completely installed, or some other *unambiguous* means such as saying 'all toilets on the second floor of Building A'" (italics added) (Ballard and Howell 1998). Whether or not a description is unambiguous is dependent on common knowledge of and information about the thing described. That the necessary level is present cannot always be reliably assumed. Therefore, steps can be and are taken to remedy ambiguity. How is this most effectively done?

The need for this further understanding, which can only be achieved through close observation of practice, is even greater where commitment planning is applied to design and when, as we carry out reasons analyses, we encounter organisational and institutional issues which are both outside the control of the site planning process and often only vaguely understood. We will consider each of these issues (i.e. the intrinsic nature of design and organisational issues)(the first briefly) with respect to Reasons Analysis, in turn.

## **DESIGN**

The increased difficulty of applying commitment planning to design exists for at least two reasons. As Ballard and Howell note: "While construction products can be assessed in terms of conformance to requirements design creates those requirements." In other words, the output of the design process is an abstraction needing to be interpreted. It is therefore subject to many more indeterminacies than when meaning and understanding can be checked against some physically realised object. In particular, what is at issue, is the conception people have of the relationship, not just between design and implementation but between plan and action. While generally relevant in the matter of clarifying meaning as between participants in the design process, it becomes especially important as computer support systems are developed and used for producing designs and managing the design process. Notably,

"[IT] tools will be very different depending on the tool maker's assumptions regarding the nature of the design process. If it is conceived of as a sequence of steps moving inexorably from concept to detailed instructions, then the management task is conceived of as one of enforcing commitments. If, however, design is conceived of as iterative and generative, the IT tools needed are ones that would facilitate transparency and collaboration."

(Ballard 2000, Personal Communication)

Central to increasing transparency in communication, in order to facilitate collaboration, is *what*, specifically, in the here and now, the speaker is referring to in any act of communication. The radical importance of the way people refer to, rely on and take for granted features of the circumstances in which communication takes place is referred to by Garfinkel as 'haecceity' the quality of 'this-ness'. The Planning Model underestimates the subtleties of the processes involved here, which are an unnoticed but everyday accomplishment of any normally socialised person. The common sense notions of 'planning' or 'having a plan' refer to the fact that people have intentions which have been thought about to varying extents. But such 'plans' in their nature make continual reference in highly complex ways (as Ballard puts it, 'in an iterative and generative way') to the circumstances in which the plan is to be realised. The Planning Model presumes to detach 'planning' from the circumstances to which

it refers and in which it intrinsically and inevitably occurs and to offer it as a construct, manifested in some kind of representation (drawing, specification) which precedes action and has an unproblematic descriptive and prescriptive relationship with the action which follows. In reality, plans or any other kind of ideational construct are part of the action to be understood and not a description which can be scientifically refined, as to accuracy and completeness, of that action. The implications for the way we try understand human organisation are immense. We refer to some of these in the sections which follow.

We have suggested that Ballard and Howell's approach to remedying the shortcomings of the Planning Model, as exemplified in 'schedule push' planning, do so in the light of the alternative conception of planning described above, which is to see planning as situated, practical deliberation about action. Given the relatively controlled and deliberately short term nature of commitment planning on site, the evidence is that seeing planning and action as interdependent activities has practical benefits.

However, first, as noted above, despite this fact, we think there would be benefit in finding out in a more detailed way how it is done. Second, we also noted the increased difficulties of applying this practice to design and managing the design process and therefore an even greater need to understand how the design process is realised. This owes in part to the fact that design is about intangibles, intentions yet to be realised. Remedying indexicality is therefore that much more difficult. Finally, we noted the central and general problematic of the way we remedy indexicality. This concerns how we exchange meaning; how we understand what is being referred to and how these mundane capabilities are used in communicative practice. That is, it concerns the way people infer what another is referring to on the strength of taken-for-granted features of the here and now.

### **STUDYING THE USE OF REASONS ANALYSIS**

If commitment planning is a matter of looking forward in the here and now, establishing mutual understanding of intention with the aid of all those communicative resources that the here and now provides, and, as it were, collaboratively constructing the future, Reasons Analysis is a matter of reconstructing the past in order to establish why the plan failed. This procedure has greater scope for uncertainty and doubt and simply getting it wrong.

Reasons Analysis applies the 5-why's to trace back reasons for failure to realise a plan and to see what can be done to prevent them happening again. It is an essential tool for improvement and organisational learning. But we think its logic has important implications for the more general issue of organisational research. We therefore, first, offer some observations on the use of the tool for its immediate purposes. Second, discuss what we see as some of its wider implications for exploring organisational and institutional features of the industry which currently inhibit improvements in productivity, efficiency, safety and so on.

The LCI provides a number of categories for identifying reasons, for example, 'materials (late or defective)', 'prerequisite work', 'change in priorities' and so on. We take it that the intention of the categories of reasons offered in the LCI model is to

structure perception. The categories available anticipate what can/should be done. This is a necessary feature of the aim to develop a consistent and coherent management system. Research to establish how effective it is and how it can be improved might benefit from considering the following points.

While the diagnostic categories, on the face of it, seem fairly unambiguous, applying them involves the use of information, knowledge and judgement. It is also the case that the categories available may facilitate or impede the use of these resources at the expense of organisational learning. Thus, we suspect, that in filling in 'Reason for non-completion' on the Weekly Work Plan sheet, the respondent sometimes feels that the categories provided don't quite fit the reason experienced and that s/he is deprived of the situational resources which are normally available in face to face communication to say more adequately what it is. Given the inevitably 'short hand' nature of these entries, the issues are: what is the logic of the categories provided, are they adequate to distinguish the reasons perceived, how accurate and verifiable are these perceptions, what remedial action do they imply, how are they glossed, supplemented and so on? These issues will be considered under three headings: *definition*; do the categories adequately distinguish between the various reasons perceived? *verifiability*; what evidence is used to allocate reasons to categories? *tractability*; what is the scope of remedial action?

### **Definition**

*Definition* concerns the adequacy of the categories themselves. Ballard (Ballard 2000) cites the following observation by a respondent from a LCI member firm:

“As I started to write our definition of engineering as a reason, I had a moment of clarity. Engineering cannot be a reason. Either you have the engineering for a task complete or you don't. If you don't have the engineering complete, the task should not be scheduled on a work plan. The only instances I can think of for engineering is miscalculation of quantities.” (p7-5)

There are a number of things of note here. First, users of the method are active participants in its development and refinement. The adequacy of a category is subject to critical evaluation by users. Second, a very specific meaning is given to *engineering* which distinguishes what might be called a 'task' definition from a 'contractual' definition. It may be recalled from the earlier reference to the concrete cover study that, in the UK, task and contractual responsibilities were sometimes blurred in practice as people tried to adapt to the particular circumstances of a given project. In some instances engineers were happy to comply with the sense understood in the quote above and allow some 'design' to be completed by contractors. However, in other instances they weren't, leaving little or no discretion to the contractors who were dependent on the engineers who elaborated the design to their own satisfaction. In which case, 'engineering' was a constraint. Thus, from a task point of view, who does what is sensibly negotiated at the point of production and that, in these terms, the above respondent's definition of engineering (as we take it) as what only engineers can do, is a sensible basis for such negotiation. However, contracts and organisational boundaries are frequently seen as reasons for not making it possible. Third, then, categories may have either a reflective or generative role. That is, it would seem to be necessary, if they are to meet the criterion of adequacy, to reflect the understandings that are current in a given situation, however inappropriate

they may be from a task point of view. On the other hand, there is very good reason to provide categories within the framework and discipline of a systematic Reasons Analysis that can be used to demonstrate the dysfunctionality of some contractual and organisational boundaries.

### **Verifiability**

In the concrete cover study, it was often not possible for anybody to say why something had happened. The various subcontractors - steelfixers, formworkers and concretors – came and went, it was difficult consistently to monitor work processes, not to mention action which deliberately obscured them. In interviews and discussions on this matter, respondents were much exercised by the difference between ‘reasons’ and ‘causes’. That is, since verification of what had happened - of tracing events to causes - was difficult and often impossible, people gave accounts of what had happened in the light of contractual responsibility. Thus, respondents talked of the ‘real reason’ (contractual reason) as the cause of something happening, as distinct from ‘excuses’, ‘justifications’, ‘rationalisations’, ‘shifting the blame’, etc.

We observe, therefore, first, that there is a practical problem in determining causes - understood as some action or event that demonstrably and materially affected an outcome. Second, in tracing back causes to a root cause, at some point the question of intention or motive on the part of somebody involved in the chain arises. For example, an example provided in the LCI training material is as follows:

‘I didn't have something I needed as an input to my process.’ ‘Why?’ ‘I didn't request needed prerequisite.’ ‘Why?’ ‘I didn't know it was needed.’ ‘Why?’ (or) ‘I knew it was needed but didn't make the request.’ The prompt question then is: ‘Why didn't you make the request?’

While the procedure assumes an organisational culture (following Deming's injunction ‘to drive out fear’) in which people will try honestly to identify the reason (cause?), nonetheless, there is great pressure on people to offer a reason which is both recognisably sensible *and* defensible and legitimate. For example, there are differences between: ‘I forgot’, ‘The line was engaged when I tried to make the request’ and ‘Something else came up that took precedence’. The last (we suggest) is more defensible – less likely to provoke the response that s/he was ‘not on top of the job’. The fact is that the other two reasons (or yet others) may be more accurate. They are not offered because of an anticipated negative response. (The respondent might well argue, ‘If you had been there you would probably have done the same thing. Unfortunately, you weren't so I will provide a reason that is less dependent on your having that particular knowledge’). There are two issues here. One concerns ambiguity and indexicality; the difficulty of conveying to someone else the full nature of the circumstances as they were experienced; second, the tendency therefore (we suggest) to invoke a readily recognised, rational, means/ends action sequence. In short, we submit that there is a tendency for a view of the relationship between plan and action to be promoted (i.e. that plan precedes action), albeit perhaps unintendedly, in the use of a management system like Reasons Analysis. This tendency undermines the possibility of explaining action in a way which reflects more accurately the actual relationship between plan and action, i.e. the possibility of finding the real reasons for an action, rather than ‘good’ reasons for it. In other words, the relationship between



plan and action is more complicated and varied than the Planning Model allows. The fact is, as we have been arguing with respect to the relationship between plan and action, we do not have intentions which exist separately from action. However, it is likely to be assumed that somebody's action was the result of a plan when, in reality, s/he was just doing what came next, responding to the situation in a more or less ad hoc way.

The value of Reasons Analysis is, first, that these 'taken-for-granted' are deliberately brought to light, given that whatever happened is so embedded in practice it is often difficult to do so. Second, the actor him/herself has the opportunity, given sufficient understanding of the process, to be able to say in an informed way 'here is the point at which I went wrong'. A 'fearless' atmosphere (pace Deming) is important in facilitating this, however, for the reasons suggested above (ie indexicality and imputation of the Planning Model) there is a difference between somebody becoming aware of the taken-for-granted and seeing where s/he went wrong *and* making them accountable. In developing what must be a consistent management system with short hand entries etc., it is important, therefore, that a balance be achieved between the requirements of the management system (e.g. standardised, shorthand entries in a proforma) and the capture of accurate information. We believe there is much to be learnt about how to achieve this balance; how did someone go about establishing reasons, what evidence was used, what causal connections were inferred, on what evidence and so on?

We think the need for this understanding is intensified when it comes to how people decide on the reasons for somebody else doing or not doing something. For example, a category supplied in the LCI training material is 'why did somebody's priority change?' The tendency, we believe, is to look for a finite, decontextualised intention as an adequate description of that intention when, in fact, the circumstances of (say) a priority change need to be more fully understood if the appropriate conclusions are to be drawn. As is commonly recognised, 'jumping to conclusions' is dangerous. Fisher and Ury (1986) offer sensible advice on this which, in simple terms, involves 'putting oneself in the other's shoes' and not projecting one's own worries and inhibitions, typifications, theories and constructs on to others.

While communicating what is taken to be a motive or intention, whether one's own or somebody else's, is subject to the indexicality problem (lack of situational resources with which to communicate it) and the pressure to provide a standardised means/ends account in the form of the Planning Model, we find an additional difficulty in inferring and reporting somebody else's motive. As noted above, it was found in the concrete cover study, that people pervasively found motives in contractual/commercial considerations when there was no necessary basis for making this judgement beyond the fact that 'everybody knows' that typically this is the motive..

In other words, motives are attributed on the basis of general understandings of the way the industry works and the typical motives that particular categories of people are assumed to have. While all cultures use such typifications, clearly, there is great scope for getting it wrong in particular instances. If x attributes a commercial motivation to an action which y characterises as an unavoidable accident, this involves x in attributing a level of planning to y's actions which y would deny. Thus, asking people

to attribute motives to others is a hazardous business, yet Reasons Analysis seems to require it. Fisher and Ury offer some ways out of the dilemma. Amongst the many practical suggestions they make about negotiating agreement, they emphasise, as noted above, not inferring motive and intention but going to great lengths to find out what people's concrete and specific interests are in the situation at hand. Again, this seems to be consistent with the way Reasons Analyses are used. Openness and honesty as to purposes and intentions are encouraged on the promise that it is the only basis for developing a more rational and more value-generating production process. Whether this promise is fulfillable and whether people are willing to participate in its realisation takes us to the third consideration – tractability.

### **Tractability**

On the basis of data about Weekly Work Plan failures, Pacific Contracting concluded that 'the vast majority of work plan failures were well within [their] control' (Ballard 2000). Tractability concerns those factors to which plan failure may be attributed which are not. Such factors include people who are not willing to participate in the process because they see no gain in doing so, organisational systems devised on the basis of a different logic or set of priorities (e.g. work breakdowns which reflect contractual rather than production needs), or on the basis of political interest and expediency (e.g. choice of criteria and timeframes for calculating financial payback). Such factors are consequential both within and between organisations who are party to a project. Thus, tractability concerns the way a whole range of systems, cultural and organisational features are to be identified and brought within the frame of Reasons Analysis. It encompasses the two issues already considered: What exactly is the constraint and in what ways does it act as a cause of plan failure (definition)? What evidence is there for its existence (verifiability). And, of course, it raises the third issue: what is to be done about it.

In addressing this vast set of concerns, we re-emphasise the central argument of this paper which is that it is more productive to reject the Planning Model and adopt the Alternative Model. This section, then, is about how we are to understand organisational structures and cultures using the essential logic of Reasons Analysis.

We have suggested that the way planning is conceived of in LC implicitly follows Suchman's Alternative Model. This has many implications, not least of which it brings into question the way research usually goes about understanding organisation. Despite the fact that many (probably most) researchers would claim to follow Weber's principle of *verstehen* (Weber 1947) - putting yourself into the actors' shoes and seeing things in their terms - pervasively, this does not happen and was not even achieved by Weber himself (see Seymour and Rooke (1998) for a fuller discussion of this point). Thus, there is much confusion about the status of a normative construct such as *bureaucracy* (equally *task culture* or any of Hofstede's 'dimensions' of culture, say *individualism* (1980)). They are used in two ways: i) the constructs provide for a selective narrative of people's conduct which show them to be *exhibiting* the features of the construct which has been laid out *a priori* by the analyst (e.g. Weber's 'ideal typical' description of bureaucracy (Weber 1947)); ii) on the basis of these selective accounts people are presumed to be *complying* with or following the rules and norms which the analyst has identified in the construct.

The confusion resides in the fact that it is not clear how the formulation provided by the researcher (e.g. *bureaucracy*, *individualism*) is supposed to relate to the intentions of the members of, say, a bureaucracy or an 'individualistic' culture. However, in the work of some analysts it does become uncomfortably clear. For example, Hofstede's notorious definition of culture as 'a collective programming of the mind' implies that people's conduct is entirely governed by a set of rules, norms, etc, (the culture) which, moreover, the analyst presumes to be capable of specifying. It is disconcerting because the computer programming analogy and the Planning Model are very clear and do not correspond to the way people in fact formulate and realise their intentions and purposes. With reference to this mistake, Garfinkel has coined the term 'cultural dope'. He writes:

“By 'cultural dope' I refer to the man-in-the-sociologist's-society who produces the stable features of the society by acting in compliance with pre-established and legitimate alternatives of action the common culture provides.” (1967 p68)

In other words sociologists or organisation researchers assume that what they observe in people's behaviour is merely the acting out of what has already been identified as 'the culture'. Explanation of given behaviour is in the form 's/he is acting like that because s/he is a bureaucrat (member of a task culture etc)'. Thus, it is argued, for example, that people have difficulty accepting lean production methods because they have a 'product' or 'merchandising mentality'. While this kind of causal implication need not be present in such characterisations, the important point is that they foreclose the pursuit of understanding why, for example, people reject or have difficulty in adopting LC practices. To understand better how tractable are the systems, cultural and organisational causes which a Reasons Analysis can identify, it is necessary to find out how people actually do formulate purposes and intentions, how these formulations are used; how people *do* go about attributing motive and intention; how typifications and occupational and personality stereotypes are used, and so on. Currently, all these matters tend to be obscured by 'jumping to conclusions'; by construing whatever is seen and heard in terms of *a priori* constructs.

The logic of Reasons Analysis, we think, provides a research method that may provide an antidote to this tendency. Rather than attempting to abstract action away from its circumstances and representing it as some kind of plan, as an already existing set of purposes or intentions (bureaucracy, task culture, merchandising) the aim is to understand how people produce and find evidence of meaningful action. This involves putting the primary emphasis on the way people themselves communicate intention through various representational devices (words, symbols, diagrams, etc.), make sense of, explain actions and events and so on.

For example, on the basis of findings from the concrete cover research, conducting a Reasons Analysis on the reasons for inadequate cover might be expected to be something like this. (The following reasoning was present in many conversations we had with site practitioners).

“We didn't meet the specs.” “Why didn't we meet the specs?” “Because they were unbuildable.” “Why were they unbuildable?” “ Because designers were designing

without knowledge of site conditions.” “Why were they building without knowledge of site conditions?” “Because contractually there is nothing to require them to do so.”

The point of this example is that it refers to what is seen as an intractable cause. The next step is to find out how they work around this organisational barrier. We do not presume that their conduct (the workarounds) is evidence of *the contracting system* or *an adversarial culture* or some such construct. There are a multitude of such explanations of the malfunctioning of the industry and, in particular, the incidence of communication failures and the failure to remedy them. For example, the critical writers like Green (1999a) attribute (explain) the actions of LC practitioners themselves, ultimately, in terms of the aims of capitalist accumulation. That is, they argue, communication failures (as in the example above) and a multitude of other malfunctions are traceable to structural defects. This kind of explanation involves the assumption of Garfinkel’s ‘cultural dopes’. The more fruitful research task, we suggest, is to get a more thorough understanding of what is going on in the many different situations to which this example refers and not assume we already know and that what we observe is just a confirmation of it.

In contrast to construing people’s conduct in terms of and as evidence of a sociological (or economic) construct, the research task is to understand what people are doing in *their* terms. (It is to be noted that some of Greene’s empirical work does, indeed, try to do this, e.g. Green 1999b). Thus, beyond the immediate practical purpose of Reasons Analysis, we see in it a general principle for organisational research which puts prime emphasis on the situated meanings of members whose action is the very stuff of organisation. By identifying organisational features relevant to the purposes of and in the terms used by members, it promises to reveal more about the way construction organisations actually work. This contrasts starkly with conventional approaches which, by representing members’ interests, purposes and actions in terms of constructs (plans, models, categories, etc.), short-circuits attempts to find out what they are. To achieve this seems to us the necessary first step to making any generic observations that one might wish to about construction organisation.

Thus, a finding of our concrete cover research was that a feature of the situation concerning the failure to achieve adequate cover is the method of specifying. However, we emphasise that we do not offer this finding from any claimed privileged position; as the ‘real’, ultimate or only reason. Our concern was to show how a communicative method was used, with what observable consequences, as attested to by the participants in specific situations. A finding may then well be (as was the finding of the research) that the specifications were not used in the way the theory that underlies their use assumes! The practical consequences of this are for practitioners themselves to decide upon. For example, redefining contractual boundaries and responsibilities (e.g. contractor detailing) or specifying in ways that are more suited to the variable conditions of site, are options available.

## CONCLUSION

Reasons Analysis is a practical tool that may be refined with the view to doing better what it is designed to do: to find out why people were unable to do what they set out to do. We have suggested two issues relevant to this refinement – *definition* and

*verification*. A third issue, referred to as *tractability*, concerns factors which are identified as reasons for plan failure but which are not readily remediable since they concern broader systems, cultural and organisational matters. It is suggested that the specificity of Reasons Analysis provides for a more thorough understanding of situated practice and hence a better understanding of the tractability of the existing organisational and institutional arrangements. We suggest that the Planning Model impedes this understanding.

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