Mobile ICT

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INTRODUCTION

Within building construction, the appropriation of a specific technology can vary across different job functions and participants (designer, foreman, stone mason, etc.). Embraced by some yet ignored by others, we can illicit insights into certain technologies and devices by reflecting not only on where they are successful but where they are problematic (Wiszniewski, Coyne, & Christopher, 1999) causing breakdowns and dysfunction in systems.

The rugged nature of the site condition quite often prohibits the proliferation of very delicate or expensive mobile equipment. Laser levels, point cloud generators, proprietary information and communication technology (ICT) devices, and so forth are limited to specific instances on the site where the usage is supervised and controlled, and all too often, "construction organisations have found that the ICT investment has failed to meet their expectations" (Peansupap & Walker, 2005). Robust, less expensive equipment is not subject to such extensive regulation (tape measures, bubble levels, nail guns), and their usage is often more prolific and creative. Various groups are charged with—and attempt to—fit ICTs into the current construction process; these ICTs are shown to create a much 'smoother' flowchart (COMIT, 2004). It is an established fact that the way in which a problem is presented generates a particular type of solution (Ortony, 1979; Schön, 1979); we would then suggest that contrary to popular representation and documentation of the construction process (Cox & Hamilton, 1995), there are perhaps more revealing models for presenting and understanding the communicative processes of the construction site than the established flowchart. Focusing on the ICT technology of mobile phones, we reflect on three different roles within a construction project: a director of a large construction organization, a site manager within that organization, and 'micro-contractors' of construction—that is, specialist subcontractors or small building contractors. We explore the usage and effects of the mobile phone in these different roles within a construction project.

OFFICIAL/UNOFFICIAL: THE FALSE DICOTOMY

There has always been unregulated communication within regulated work, and mobile phone usage has contributed to powerful unregulated and 'unofficial' (in the litigious sense) means for communication within construction. Theorists readily draw on concepts of space and containment to define communications. At the very least, language is an exercise in categorization, assuming similar meanings under a particular word or sign. Reddy (1979) suggests that these assumptions contribute to miscommunication, particularly when communicating across differing cultural categories. In formal communications there is an understanding that certain communiqués are meant for particular recipients, within certain categories of communications. This bureaucratization of communications has its place, but communication also requires the transgression of boundaries (Deleuze, 1988; Shannon & Weaver, 1963).

It has been suggested in a previous paper that parallels exist between construction and Carnival (McMeel, Coyne, & Lee, 2005). These unofficial means breakdown boundaries and thresholds (a distinctive feature of Carnival) and enables unexpected interaction, not unlike the 'crossroads' extensively employed when discussing native American Trickster figures (Hyde, 1998). These unexpected interactions cause discomfort and empowerment, both of which are symptoms of the Carnival condition.

CONSTRUCTION AS CARNIVAL

All the symbols of the Carnival idiom are filled with this pathos of change and renewal…of prevailing truths and authorities. We find here a characteristic logic, the peculiar logic of the 'inside out' (a l'envers), of the 'turnabout,' of a continual shifting from the top to bottom, from front to rear, of numerous parodies and travesties. (Bakhtin, 1984)

The construction process too has "prevailing truths and authorities"; we suggest that mobile phones have contributed to further breakdown or "suspension, both ideal and real, of hierarchical rank" (Bakhtin, 1984) within construction. Other features of Carnival introduce notions of re-interpretation and redundancy (Attali, 1985). Here we provide theoretical grounding to such assertions, and draw upon our findings from interviews and observation on the construction site and discuss the pros and cons of mobile ICT in construction under the emergent themes of contiguity, abstractedness, porosity, and instantaneity.

Contiguity (Contact)

This temporary suspension, both ideal and real, of hierarchical rank created during Carnival time a special type of communication impossible in everyday life…permitting no distance between those who came in contact with each other and liberating from norms of etiquette and decency imposed at other times. (Bakhtin, 1984)

According to Bakhtin, the renewal and revitalization are the hallmarks of the Carnival, and are brought about when hierarchical barriers are momentarily dropped and populations cross-pollinate. This created an intriguing relationship between high and low society, and the interstices between. Ritual has played—and arguable continues to play—a part in construction (Jones, 2000). We have previously suggested (McMeel et al., 2005) that traditional ritualistic ceremonies (groundbreaking, topping of) served as a melting pot for laborers, architects, clients, and engineers—groups who would not otherwise meet—to mix. Pedreschi (2000) reflects on the architect/engineer Eladio Dieste and attributes his success, in part, to his skill in choosing excellent interlocutors to work for him, thus his team encouraged discussion rather than dictation.

Our findings suggest that mobile phones encourage this crossing of boundaries and reveal the predominant tendency by users to contact the 'top of the pile', as in the case of the director of a small specialist stair manufacturer subcontractor. If the director (SF) as the 'top of the pile' is contacted, it will indeed garner results, by virtue of the fact that his company is relatively small and SF oversees every set of stairs manufactured. Within a large construction company, contacting the director (EMC) who is 'out of the loop' of the day-to-day running of most projects would still allow him to re-direct the query to achieve resolution. Either way contiguity was expected and, when not achieved, often generated feelings of offense, as discussed with SF who deposits his mobile phone with the administration staff when he is attending a meeting or is on the workshop floor. The administrative staff regularly encounters hostility from callers who take exception to calling SF's personal number and speaking to someone else.

Distraction (Abstractedness)

Shock from the Carnival-esque can be caused by distraction from it; when surrounded by and embraced, it can be both surreal, exciting, and invigorating; if however it is thrust upon you, it is distracting and perhaps frightening. The construction site differs here in that distraction when in a dangerous environment can be fatal. In the words of EMC: "If you can't use a mobile phone when you're driving, you shouldn't be allowed to use one if your operating heavy machinery should you?"

Perhaps the process of 'making' things (either stairs or buildings) has its own unique environment, one of noise and dirt in this particular case. The 'making' process perhaps suffers from distraction, not from traditional notions of distraction (i.e., noise and dirt), but from the distraction of outside interventions: "If I'm on the workshop floor it's not to wander round and have a break…I'm probably attending to something a dam side more important than a phone call" (SF). Several other examples were discussed where site workers received calls (while guiding cranes, for example), and while no accidents ensued, their concentration on the task at hand was compromised. Whether it was the skill of the workshop environment or individuals in high-risk areas, distractions were problematic and repeatedly caused by incoming messages or calls.

Porosity (Screening)

This comes from the Greek 'pore', literally meaning 'passage' or 'gateway' (OED). When finding the gateway closed ,we find callers either lose interest, as in the case of the estate agents who would call CR (site manager of a large construction company) on a daily basis. The information they require can be obtained elsewhere; CR as the site manager is simply most up to date on matters such as completion time, floor areas, and so forth—he is the 'top of the (sub-)pile', so to speak. Or callers focus their attention on times when the 'gateway' is open, in the case of site manager CR at designated break times, when he would be in his site hut close to his phone.

When receiving calls we have seen smaller 'micro-contractors' (7-10 employees) prioritize their calls. By looking at the name and number, they can decide whether the call requires immediate attention or could wait or was unimportant and could be ignored. Depending on the decision, the call is answered, noted for a call back, or ignored.

Within the realm of Web portals, permeability and porosity has been explored (Coyne, Lee, & Parker, 2004) in terms of commerce, discourse, and interaction. At an organizational site level, the porosity of the mobile phone allowed for incoming calls to be prioritized by knowing who was calling and what their role on a specific job was. It could then be determined by the recipient if the call required an immediate quick answer, in which case it was answered with only a small pause to the task at hand, or if it was urgent and required a substantial break until the matter was resolved. What seemed to be problematic was "this automatic reaction to answer the phone" (director of a large construction company).

Instantaneity (Immediacy)

The quality of being instantaneous; instantaneousness. (OED online)