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BIM AND THE ART OF MOTORCYCLE MAINTENANCE

Martin KNIGHTKnight Architects
High Wycombe, UKm.knight@knightarchitects.co.uk**Keywords:** concept; communication; creativity; architect; memorable; legible; sketch; idea

Story-telling is the oldest form of communication – an art form as well as a system of knowledge transfer – which involves social bonding, the art of performance and results in a shared memory which is powerful and rich. Story-telling is also an enjoyable skill that is arguably more familiar to architects than to engineers, perhaps because of the emphasis on critique in education. Unlike design creativity, which to an extent is a natural skill that cannot be taught, the art of story-telling is a skill that can be learned and which has certain key ingredients. This is vitally important at several stages in the life of every project, no matter whether it is a high-profile bridge or an everyday crossing.

In this paper, I want to briefly explore the importance of the art of story-telling as it applies to bridge designers, with the help of my favourite story, *Zen And The Art Of Motorcycle Maintenance*, whose sub-title is “An Inquiry Into Values”. Written in 1974 by Robert Pirsig, this is a tale of a motorcycle road trip, of a father and a son, of philosophy and reality. The road trip is itself a metaphor for life and the experiences of the narrator are used to introduce philosophical themes of Quality and a Sense of Place, which are at the heart of an architectural understanding of bridge design.

Quality

Pirsig describes a ‘Classical’ and a ‘Romantic’ understanding of the world where the former “*sees the world primarily as underlying form*” whereas the latter sees it “*primarily in terms of immediate appearance*”. It is tempting to correlate this directly with engineers and architects in the world of bridge design: the hidden compared with the apparent, the enduring and the fleeting, the complex and the simple...

The problem with the ‘Romantic’ mode is that, as Pirsig goes on to say, “*Feelings rather than facts predominate*” yet this is how the non-technical users of bridges and other infrastructure view these projects. Conversely, they cannot understand or appreciate or accept them in terms of the ‘Classical’ mode, where everything is carefully controlled and whose “*value is measured in terms of the skill with which this control is maintained*”. In reality of course these are two sides of the same coin and, in the UK, many larger projects now establish a Design Vision at the outset, to guide and communicate the wider benefits of the project and setting out the role that design will play in making that project a success. This allows both Classical and Romantic understanding to co-exist and be mutually beneficial, provided their story is compatible.

A Sense of Place

Bridge design is the most potent architectural example of the Sense of Place that human beings so frequently yearn for and which is at the centre of the philosophical analysis of ‘Being’. Architectural form becomes part of the real world and this can be accidental or purposeful. The shaping of the counterweights at Merchant Square Footbridge was part of the narrative we wanted to tell about the mechanism, the different masses relating to the different beams, but to the public this equally represents physical form which is interactive and enjoyable, whether for skating or climbing upon, leaning on.

Returning to bridges, which are so frequently the symbolic identity of a city or place, they are undoubtedly engineering structures but, seen only in terms of stress and strain calculations, they are no more nourishing than Twitter. This is particularly true of footbridges, which offer the most personal and human interaction with the user.

But the telling of the story of bridge design, in both its Classical and Romantic form, depends on the quality of the story-teller and I am concerned that the drive towards systems of production which value the generation, processing and manipulation of data above the quality of design it represents, are the equivalent of JFK compared to Trump. Is BIM in danger of being our Twitter?

Certainly, the wider public do not view footbridges and the other components of infrastructure as data, they experience the reality in a physical sense. Our role leading bridge projects in sensitive locations illustrates this well. Perhaps the most interesting observation is the gulf in language between the engineer / technical aspects and the public / planning aspects, leading to misunderstandings on both sides and a consequent reluctance to negotiate. BIM endorses the technical language which cannot be understood by the public who are excluded from the discussion – paradoxically, given its core purpose is the sharing of information.

Public scepticism about the use of technical language to obscure and divert the true nature of infrastructure proposals. This has been reinforced through a commitment-averse approach to planning on the part of major projects which often lower quality as the consented design is developed and the balance between Quality, Cost and Time is realigned towards the latter two.

With good story-telling, the listener ultimately cares, identifies with the narrative and becomes involved... in a form of emotional and intellectual participation rather than as a third-party spectator. Whereas, the BIM method of communication promotes a reliance upon:

- technology above creativity
- accuracy above good
- general above specific
- corporate above individual
- how above why
- even function over form?

Is this the ultimate goal for the 'Classical' view of the world described by Pirsig and, if so, how can the non-technical 'Romantic' world engage with this alien language?

The characteristics of a good story are memorable, enduring, enjoyable, enlightening and as we all recall from primary school / kindergarten, it has a beginning, a middle and an ending. In terms of design, this is particularly true if we limit ourselves at each of these stages to the necessary level of information to tell the story well, not all at once but in a logical, accessible way, building upon basic central themes.

The logical and historically proven order of progressing through the processes of design, bringing refinement as layers of detail are added (and thereby bringing more certainty as risk is driven out) is disrupted or displaced, towards a paradigm of "too early, too early, whoops... too late". A good story-teller bonds with their audience, often through empathy (empathie), and generates momentum but the story cannot be properly understood if the reader turns too quickly to the final page of the final chapter and the experience is spoiled.

The zeitgeist of modern infrastructure design, including footbridges, is changing and we must recognise this and change too. The concept of architect versus engineer in bridge design is redundant, as too is the focus on aesthetics as the architect's role.

There is a need for a new paradigm which explores innovative design in terms of "Why?" and "For who?", rather than focussing on short term and frankly easy questions of "How?" and "What?". This is as much the engineer's responsibility as the architect's, but is best addressed by both professions working closely together, harmoniously and collaboratively but also thoughtfully and creatively. The structure and mode of story-telling is an ancient art which is more important today than ever, with new forms of data processing but reduced forms of human communication.

This is how to Tell a Story. This is not BIM.

The End.