

CONTRADICTIONS, DECENTRING AND REFLECTION

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ABSTRACT

When trying to reflect on complex social situations, like the design of an information system, we need the insight provided by some powerful concepts. One concept that has been used to considerable effect is that of the contradictions between two other concepts. For example, the concept of 'knowing' provides some insightful reflections, as does the concept of 'power'. However, when creating a contradiction between these two concepts this insight can be further enhanced. 'Knowledge is Power', becomes 'Power defines Knowledge'; and a debate is opened. So specifically, this paper will argue that creating contradictions between concepts can enhance reflective thinking on information system design. This contradiction can come in many forms including underlying tensions, irony, paradox, and certain types of humour. The evidence presented to support this argument come from writers who have used contradictions to see a range of differing issues.

THE PROBLEM STATEMENT

To information system designers, who must frequently re-view (see again) past events, the relevance of reflection seems self evident. Pragmatism is the episteme which very specifically uses the term reflection to emphasise that we think using conceptions of the world (Dewey 1910). As seeing is understood to be light reflecting off objects and entering our eye, so Pragmatism suggests the mind then compares these sensory inputs (experiences) with concepts so as to give them meaning; this is reflection. Thinking is reflecting sensory inputs against concepts stored consciously or unconsciously in our minds (Rorty, 1989). Some of the more popular concepts used to reflect against by system designers include efficacy, cost, power, system, time and knowledge. Reflecting on

past performance using the concept of 'efficacy' induces different insights to those generated by using the concept of 'power'. Useful reflection becomes a quest to find useful concepts to reflect against.

So those who wish to design information systems need to be on the lookout for a range of useful concepts to reflect against, ones that suggest more choices of how to act in the future. James (1910) and Dewey (1910) separate themselves from Pierce (1878) by arguing that one concept is not preferable or more correct than another; each offers a unique way of seeing the world. However, it is being suggested some concepts are richer and thus more useful than others.

...if we treat the world as if these concepts do exist then we find we can manipulate

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the world and make things work much better. The point about this is that you cannot just choose any concept. What is useful is not just on our whim to choose. [A concept is] a better concept for looking at the world because it works much better than others. You don't have to worry, as some British philosophers have thought that if you go down the pragmatic route that you might believe the world is flat because [that fits best with our sensory input]. Ultimately it isn't useful to believe that the world is flat. All sorts of things won't work if you construct your view in that way. These concepts are tools for helping us manipulate the world and some work better than others"

Julian Baggini, (2005) Editor of The Philosophers' Magazine

Contradiction¹ between two concepts provides a very useful meta-concept to reflect against. For example, it has provided incredible insight when used to reflect on the biological world around us. Evolution theory reflects on nature in terms of the competitive tension between species. A meta-understanding of the design of species emerges from reflecting on the contradiction between the differing needs of each species. It will be suggested in this paper that the contradiction between two other concepts provides other unique ways of seeing the world.

Consider a very well known quote:

We shape our buildings; thereafter they shape us (Winston Churchill).

This suggests a contradiction between people and buildings. The first part of Churchill's statement uses the concept of our dominance over nature suggesting the design of our building to our specifications. The second part, however, switches to the concept of us being a product of our environment. For example, a building designed to allow social interaction may encourage more creativity. This sort of contradiction between the two concepts seems to act to stimulate new thoughts in two ways. Initially, they work by creating some sort of cognitive dissonance, and/or logical jumps between concepts, which is reminiscent of cognitive switching. The differing concepts are not expected to provide

CONTRIBUTION

The contribution this paper makes to the IS community includes providing supporting evidence that the concept of contradiction is useful for reflecting on IS projects.

explanations about the gaps between each other. The dissonance is thought to be de-centring, encouraging the brain to go into a state of rapid sense-making (Weick, 1995), or at least be more open to the senses while attempting to interpret inconsistencies; to doubt.

After the initial decentering, the need to sense-make can open up a world of recursive balance. Churchill's contradiction reveals a recursive loop between our buildings and us. Generalising everything can be seen to be in recursive balance. For example, what is true of building can be seen to be true of any technology including IT. Technological determinist and the social construction of technology (Roe-Smith, 1994), can be seen as being in a recursive balance, each affecting the other. Rather than there being objects and relationships, the world is in tension. Balance is needed to stop the world falling apart. With nature, a lack of balance means the end of a species; with technology a lack of balance suggests either a Pol Pot world of poverty or an Orwellian one of technological oppression.

This paper will therefore argue that reflection be undertaken against a contradiction partly to decentralise but also to expose the recursive balance view of the world. There are numerous sorts of contradiction, some more subtle than others. Those identified in the past as being useful for understanding organisations and technology will be discussed below. For convenience, they have been collected together under the labels of underlying tensions, ironic contradictions and paradoxical contradictions although these are not mutually exclusive. Contradictions can also be exposed as humour.

FROM METAPHOR TO CONTRADICTION

Metaphors offer something of a 'half-way house' between reflecting on single

concepts (eg. effectiveness) and reflecting on contradictions (underlying tensions). Many readers will be well aware of this metaphor literature, (Pepper, 1949; Lakoff, 1993) in particular, Morgan's (1986) book *Images Of Organizations* which suggests a series of metaphors for thinking about (reflecting on) organisations. For example, an organisation is like a machine with cogs as people, or an organisation is like an organism trying to survive in a hostile environment. To use pragmatic language, organisations are being reflected upon against the concepts of machines, organisms and so on. Metaphors for problems include messy, structured, wicked and situations. The intent of metaphors is to reflect on the similarities, to compare the attributes of one against the other. However, there would seem to be nothing to stop metaphors being used to reflect on dissimilarities; the tension in the metaphor. This can be taken further by reflecting on some contradictions.

Reflecting against contradictions, as a richer way of reflecting on complex problems, has a distinguished academic track record. For example, the organisational theorist, Benson (Benson, 1977), used the language of looking for underlying tensions in organisations as a good place to start thinking about designing change. The tensions were seen as the source of potential catalyst for change; a process of becoming. Sowell (1985) presents the identification of contradictions as Karl Marx's research methodology for his study of wealth and class. Marx identified the contradictions in the interests of capital and skilled labour. Nielsen (1996), as commented upon by Mason (1996), identifies five types of what are being called contradictions (dialectics) that might be used to think creatively about organisation designs. He provides examples from the history of the Cadbury chocolate company. They are: 1) the tension between ideas being in conflict, not people but differing views or solutions; e.g. the idea that technological systems restrict flexibility; 2) the tension between managers' beliefs and the possibility of falsification experiments; 3) the tension caused by competitive resource allocation; 4) corporate processes not being aligned with the processes used in the wider society, e.g. democracy; and 5) the tension between

alternative well justified corporate strategic plans.

Seo and Creed (2002) provide a different list of four pairs of contradictions that may be used to reflect on organisational redesigns. These are 1) the power versus rationality; 2) adaptations that blind participants to certain other adaptations; 3) inter-organisational incompatibility; and 4) identification of actors not served by existing social practices. Importantly, in this context, tension between concepts is seen as a healthy state of competition; normal and unmovable.

Over three decades Linstone (1999) has developed from using single concepts to reflect on messy problems to using contradictions. Originally he sieved out three concepts that were being used in management research. These he called Technical (T), Organisational (O) and Personal (P) perspectives. So for example the Challenger Shuttle disaster in 1986 was seen as an O ring failure (T), a failure of engineering issues overriding public relations issues (O) and failure of problem solving skills in particular characters (P). Immediately it can be seen that the question of how these three might contradict each other arises. For example, the P-O contradiction includes the tension between individualism and social responsibility and Milgrim's (1992) point about whether our personalities are stronger than social and situational pressures.

After adding a fourth concept Religion (R) (mythological, spiritual), he now (2003) suggests the contradictions between these concepts provide rich concepts for thinking about messy problems. The same argument is being made in this paper. He therefore argues for a four-way box set of contradictions between the concepts of technical (T), organisational (O), personal (P) and religious (R) perspectives. So for example, the T-R contradiction is epitomised by the resistance to stem cell research by some religious groups. The P-O contradiction is epitomised by the debate about individualism against community responsibility. The T-O debate is epitomised by Taylor's instrumental management which treats employees like machine cogs. So for example Linstone uses his T-O-P-R ideas to think about the badly named 'War on Terror'.

The T-R tension can be seen as science against fundamental religious belief, and operationalised in the availability of very mobile explosive devices to people who believe in a utopian afterlife. Rather than reflecting on political bombing using the concept of technology and/or religion, the tension between the latter two is being suggested as a preferable concept for reflection.

This paper is arguing that systems designers reflect against explicit concepts, in particular contradictions between concepts. Reflection using the concept of the individual (user) is not thought to be as useful as reflecting on, for example, Linstone's (P-O) individual versus community contradiction. For example, does the system have the right balance of personal freedom and the advantages of some standardisation? Also, reflecting against the concept of 'technology' alone is not thought to be as useful as reflecting against Linstone's T-O contradiction between technology and organisations. Markus' (1987) work on technologist organisational power may be an example here. In general, contradictions (underlying tensions) appear to offer a much richer context to reflect against.

However, suggesting that system designers use the contradiction between two concepts does not seem to offer the sort of decentring flair offered by Churchman's quote which exposed the buildings versus people contradiction. This flair comes from setting up a recursive contradiction. The contradictions are presented not as a simple two-way pull in opposite directions but rather recursive turning back on themselves; from a linear to circular relationship. In the spirit of Churchill's quote, Linstone's O-P tension can be turned into: first we make out society and then it makes us. This generates a circular relationship which exposes a different relationship between the concepts in contradictions. It is more attention-grabbing, intriguing, even a little decentring; a statement which acts like a question. This process of adding some flair to contradictions, mainly for reasons of improving communications, comes in many forms.

Ironic Contradictions

Irony acts, at first, to hide contradictions, revealing them later. That said as Muecke (1982) points out, any word with a history is hard to define. Irony is a good example, and one whose modern meaning is beginning to forget how it differs from paradox and other ways of presenting contradictions. Muecke gets around this problem by dividing irony into at least two types, which he calls observational and instrumental. These may or may not be humorous, but they often cause a mingled effect of pain and amusement. Observational irony is explained using the example of 'the swimming coach drowned in the floods'. At first pass this is a sad, straight, comment. However further thought identifies a contradiction between the concept of expert swimmer and the concept of drowning in flooding. Instrumental irony, the form of most interest here, is explained by Muecke, using a Vietnam War example, 'Kill a Commie for Christ today'. It is intended to shock, to carry a political message, to make the listener feel like they are making a mistake. When first uttered in the context of the war the first pass might be that it was pro the Government line of encouraging Americans to sign up to fight communists. However, quickly those who appreciate Christian values saw it as contradictory. Good Christians do not kill people. Then it can be seen as simply a good anti-war slogan. The contradiction is at first hidden, if only for a millisecond, and then exposes itself to suggest confusion or decentring. Ironic contradiction is a way of slowly exposing the contradiction, it provides what Muecke calls "a double exposure... on one plate", "co-existing, irreconcilable, irrelatable realities".

Consider another example, the declaration, 'I tell lies'. First thoughts might be, this declaration is a simple confession that someone does not tell the truth all the time. Further thought makes us realise that it can be turned back on itself to reveal an opposite. Is the declaration itself a lie? If so the person always tells the truth, but then the declaration is a lie. So a recursive decentring loop starts up as the irony is exposed. In the management literature Oswick, Keenoy and Grant (2002) pick up on the role of irony as being more

stimulating than metaphor as a means for exposing assumptions or contradictions in management practice. As an example, they revisit Willmott's exposure of the irony of organisational empowerment where those chosen to be empowered through promotion are often those who have so far exhibited the highest degree of conformity. Further examples they use include the idea that anarchy is a form of organisation, as in Heller's *Catch 22*, and Burrell's *Pandemonium*. What at first seems reasonable is exposed as contradictory.

Lewis (2000) points out that irony denotes contradictory yet interrelated elements that seem logical in isolation but absurd when appearing simultaneously. She however seems to feel that ironies are not to be resolved so much as sought, appreciated and reflected upon. Lewis goes on to describe irony 1) as opposing interpretations of particular phenomena; 2) as oppositional thinking; 3) as aids to understanding divergent interpretations; 4) as perceptual; 5) as becoming apparent through social interaction; 6) as denoting a variety of viewpoints; 7) as residing in the observer not the observed; and 8) as being a possible outcome of using negatives to define something. She goes on to highlight different approaches for identifying irony, although she calls them paradoxes. Examples include the analysis of narrative, psychodrama and multi-paradigm.

Hatch (1997) studied irony, the exposure of contradictions in what at first seems reasonable, by reflecting on what managers had said immediately before an outburst of laughter. She was particularly interested in the need to be able to appreciate the context around an ironic remark before it appeared humorous. One example she uses is when an engineer tells the General Manager that her department achieved a quality rating of 51%. The first thought is that this is reasonable. The GM exposes the irony in the pretence of accuracy in his response, "Fifty one percent? That's Engineering. What would we do without Engineering? We wouldn't have any comedy!" He exposes a contradiction between the concepts of measurement, precision and quantification, something engineers take very seriously, and the complexity of human activity such as business.

Historians of science such as Cohen (1994) and Latour (1986a) emphasise the importance of precision and rigour in the physical sciences. However, as identified in Snow's *Two Worlds* when dealing with self conscious human beings, such precision needs to be replaced with the insight, imagination and perspective that may come from comedy. Precision in quality management practices has the same connotations as calls for precision in beauty. The General Manager exposes a contradiction between science and society in his '51%' statement. Hatch found more use of irony in some management groups than others. This suggests some groups are looking to expose the contradictions in statements.

So, in summary it is being suggested that irony is about taking reasonable statements or acts and revisiting them to expose a contraction between particular concepts - the intent being to generate decentring puzzled thought. It is also attention-grabbing so it provides a useful communications device. One way to apply ironic reflection for systems design might be to critique an event or report, looking for contradictory concepts. For example, in the statement, 'Kill A Commie For Christ' the concepts 'killing' and 'Christianity' can be identified and their attributes listed. Both are linked by the concept of 'life' but each having a near opposite intent. This approach of identifying the concepts (or root metaphors) used, where they conflict ironically may be used to expose contradiction.

Paradoxical Contradictions

Paradox works the opposite way to irony. Quine (1961) defines a (logical) paradox as a conclusion that at first sounds absurd but does have a reasonable argument to sustain it. Social paradox usually means that a contradiction is initially presented and then explained through rational argument. Poole and Van de Ven (1989) present it as paradoxical that organisations (like rivers) are both at the same time constant and constantly changing, and how people are both independent and yet dependent on others. The medical profession both relieves suffering and sustains it. Poole and Van de Ven go on to recommend ways of classifying and resolving these sorts of social paradoxes, which suggests

that they see paradox as being in need of, and capable of, reasonable resolution. In this paper the emphasis is not on resolution but on reflecting against contradictions to better understand the world.

Arnold (2003) in his discussion on the contrariness, paradoxical and ironical nature of mobile phones opts to use the term 'Janus-faced' after the "Roman Deity with two faces, cursed and blessed with the necessity of facing two directions at once". He uses paradox to gain our attention by asserting that mobile phones make us both liberated yet at the same time leashed, independent yet co-dependent, closer yet distant to people, private yet public, busy yet available, productive yet consumptive and boyish yet girlish. Each opposite is a new view of the technology. Arnold's string of mobile phone paradoxes is perhaps simply an imaginative way of presenting concepts that he wants to call to our attention. Invoking James' (1907/1910) advice that when faced with a contradiction one should make a distinction, it seems possible to reason out Arnold's paradox by careful definition of the words he uses such as 'liberating'. If 'liberating' means reduce risk, thus allowing new activities, then mobile phones are liberating.

The Abilene paradox provides another example. The contradiction is stated upfront, even in its label. The paradox states that sometimes a group will decide collectively upon an action that differs from the preferred action of each of the individual members. Presented like this, the contradiction is intriguing, which encourages us to stop and think about the concepts involved. One concept involved may be an assumption that a group should outperform an individual. Armstrong (2000) presents a lot of evidence that small groups do outperform individuals in experimental conditions. The other concept this paradox may highlight is that of communication. Small groups appear to be creative because there can be direct, one on one effective rational argumentation between all members. When interpersonal factors (such as loyalty or being supportive) come into play and override rational argument, then the group can be expected to make irrational decisions. The paradox may also motivate reflection on the behaviour of groups in terms of getting the right balance between collective and

individual behaviour. Whatever the interpretation of the paradox, its intent is to encourage thinking about contradictions.

So a systems designer may want to create an apparent paradox to highlight a particular contradiction. This may be to ridicule it or simply to gain the attention of colleagues. The attention-grabbing motive is used a lot in the opening remarks of grant applications and academic articles. Paradoxes are seen as problems that the grant or paper will investigate, if not solve. However, for those who see contradiction as merely a concept that is useful for thinking about the world, the need to 'solve' the contradiction suggested is not so apparent.

Humour, Contradiction, Decentring and Doubt

The reframing caused by the sudden identification of contradictions can result in the near-spontaneous physical response of smiling or laughing. If the contradiction is presented as an upfront paradox to be resolved then it is puzzling. If the contradiction is suddenly exposed as in irony then it is puzzling and humorous. Humour often occurs as a result of rapid cognitive reframing (Kelly, 2002); decentring. The intent of humorous tales is to achieve the physical response rather than a serious reframing. However, for those seeking creative ideas and useful reflection, humour might be seen as an opportunity for some serious reframing. Put the other way around, and at risk of being reductionist about jokes, it may be possible to identify the presence of decentring, contradiction and the creation of doubt from the physical response of laughter. In a study of social bonding in a group of managers, Hatch and Ehrlich (1993) concur that an analysis of laughter can reveal contradictions. In a later study, Hatch (1997) was specifically interested in the use of irony as humour. She used the case of managers discussing the security at the entrance to a computer manufacturing company. She identified ironic episodes in the conversation immediately prior to an outburst of laughter. In one case humour resulted from shifting the reflective concept of those trying to design an appropriate security system from that of 'protection' to the concept of 'imprisonment' with talk about their firm's reception installing

gun turrets, chromosome checks and high security prison routines on entry, as well as exit from their factory. The contradiction the humour identifies is that the company wanted to operate a creative hard working workforce based on trust and goodwill but found it necessary to install a staff security system. As a result, those opting to do overtime were causing the dilemma of putting themselves in a position of suspicion.

Hatch does not seem to be suggesting that ironic contradictions were there simply to be 'tripped over', rather that either she or the managers had to make the conscious effort to think in a particular way to expose the contradiction. Some of the management groups Hatch visited did not seem to have this creative flair or else social norms dictated it not be used in management meetings. From the perspective of this paper, the absence of the use of irony and paradox means the absence of one device for decentring people's thoughts and introducing some reflection on the contradictions in the situation. It would have been interesting to somehow compare the creativity of the companies that amused each other with creating ironic contradictions, against the companies that did not.

Consider the following humorous passage.

Jim and Mary were both patients in a Mental Hospital.

One day while they were walking past the hospital swimming pool, Mary suddenly jumped into the deep end. She sunk to the bottom and stayed there. Jim promptly jumped in to save her. He swam to the bottom and pulled Mary out. When the medical director became aware of Jim's heroic act he immediately ordered him to be discharged from the hospital, as he now considered him mentally stable.

When he went to tell Jim the news he said, "Jim, I have good news and bad news. The good news is you're being discharged because since you were able to jump in and save the life of another patient, I think you've regained your senses. The bad news is Mary, the patient you saved, hung herself with her dressing gown belt in the bathroom. I am so sorry, but she's dead."

Jim replied, "She didn't hang herself. I put her there to dry."

[Source Unknown]

In this joke, the decentring occurs at the 'punch line' which works by suddenly providing an alternative perspective on Jim's behaviour; his own rather than that of the 'voiceover'. The medical director's frame suddenly switches from him to that of the patient Jim. Jim's apparently honest explanation of what he did to Mary is the first we hear from Jim. My first take was that the voiceover was claiming that the medical director's perspective was the true and reasonable one; Jim is revealed as mad. Asking for Jim's perspective totally changes our understanding of Jim, but still only from the medical director's perspective. Shifting to a fuller concentration on Jim's perspective keeps open the possibility that Jim is sane, that he has a great sense of humour or that he does not want to leave the Mental Hospital. Moreover, if Jim is insane, then how can we trust what he says about hanging Mary out to dry? The irony is analogous to the example of 'I tell lies'. The passage decentres and opens up the possibility that we do not know what is going on; order is destroyed. At the punch line all sorts of contradictions emerge.

Clearly humour is a topic of overwhelming complexity (McGee, 1979), but the reframing type of humour, given that it is so explicitly flagged by laughter, may not only act as a means of identifying contradictions but may also be used actively as an attention-grabbing device. The same may be said of outbursts of anger.

IN SUMMATION

Systems designers need some powerful concepts to help them reflect usefully on their work. The argument of this paper was that contradictions provide a distinctive source of concepts useful to reflection. While metaphors might be used (ironically) to look for dissimilarities, and contradictions (including underlying tensions) have been used as a world-class pedigree for reflecting on messy problems, neither offers the circular opportunities of ironic and paradoxical contradictions. Cognitive dissonance or

reframing is thought to decentre, to place doubt in the mind of the thinker, and so provide a space to generate new insights, critical thinking and/or surface hidden assumptions about past experiences. Irony and humour at first appear rational, but later expose contradiction. Paradox starts with contradiction to puzzle and then is rationally explained. Both open up a recursive loop between two other concepts; a synthesis view. Humour may be used to motivate people as well as being a way to identify exposed contradictions. As a bodily function, spontaneous laughter seems to suggest rapid cognitive reframing; decentring and doubt.

Single concepts like the individual (user) could be used for reflection but contradictions like the tension between the

individual's freedoms and his or her obligations to society offer a richer dual concept for reflection. Practitioners might want to use what has been discussed in this paper by presenting their suggestions for change as addressing a paradox of their own creation, to stop change by pointing out the irony or humour, and to gain insight by reflecting on the contradictions between two differing perspective of the same social activity. They may want to design re-view or post-mortem meetings to systematically reflect off a set of explicit concepts and to end by reflecting off the contradictions between these concepts. However used, there may well be a serious role for contradictions as a concept for pragmatic reflection.

¹ The word 'contradiction' is being used as a generic for underlying tensions, dialectic, irony, paradox, and perhaps recursion.

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