ET IN ARCADIA EGO? 'ZERO TARGET' SAFETY PROGRAMMES IN THE UK CONSTRUCTION INDUSTRY

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Zero has become the biggest number in UK construction site safety. The emergence of zero within safety management programmes crosses industries and international boundaries, and has become a prominent safety feature of large construction contractors operating in the UK. However, zero has also attracted academic attention within these contexts; its practicality within practice as well as wider ethical and philosophical considerations. Indeed, a social constructionist perspective would suggest considerable variety in the way zero is approached, accepted and positioned within work and safety contexts. This incoherence will inevitably influence the reception and success of such programmes, and the potential for their impact in practice. 'Zero Harm', 'Mission Zero' and 'Target Zero', programmes currently in operation in the UK, may inspire commitment and safe working from some but disenchantment from others, depending on the individuals' constructions of safety in practice, the programmes' constructions of zero and safety, and the complex relationships between the two. Through a social constructionist approach, an initial exploration has been made of zero safety programmes within the UK construction industry. Discourse analysis was undertaken of the corporate promotional material for the programmes in the form of websites, reports and site signage, as well as talk data collected through conversations with site management and operatives who work with the programmes. The analysis found Zero constructed as both philosophy and target, the corporate and site voices developing alternative utopian visions in their incorporation of zero into practice. The findings identified incoherence and inconsistency in the wider discourses of zero, but also suggest it has a necessary place within industry health and safety management in order to support future developments and improvements in practice.

Keywords: discourse analysis, health and safety, social construction, zero

INTRODUCTION

'Zero Tolerance' entered the vernacular following the New York Police Department's tough stance on crime in the 1970s. More recently this approach has been adopted, developed and implemented around safety management on an international scale. 'Zero' has seeped into the rhetoric of safety, for example Scandinavia has set itself the 'Vision Zero' of accidents on its roads. This programme, which began in Sweden in 1997 has spread to neighbouring countries, and promotes a ' … new way of thinking about safety in road transport.' (Swuste 2012:1939).

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Within the construction industry zero accident cultures and programmes have also become popular (Wilkins 2011), a target proudly displayed on the hoardings of large construction sites throughout the UK. However, whilst a zero tolerance approach can be put into practice by those tasked with safety management on sites, to set 'target zero' is markedly different. The Olympic Delivery Authority adopted a 'zero tolerance' approach to unsafe practices and unhealthy working conditions on their project (Richardson 2006), which ultimately resulted in success. 12,000 people worked 80 million man hours in over five years to deliver the project, which was completed with an Accident Frequency Rate (AFR) of just 0.15 and no fatalities on the project for the first time in Olympic history (Wright 2012). Yet although this project can lay claim to zero fatalities, it did not achieve zero harm, or zero accidents; rather it achieved a highly impressive, albeit realistic safety record, which was acknowledged as such by the Royal Society for the Prevention of Accidents with a special Diamond Jubilee Award (RoSPA 2012).

The aim of this paper is to explore the use of zero within branded UK construction safety management programmes, rather than the association of zero tolerance with management practices. Yet this will inevitably examine to some extent how the former potentially affects the latter, and whether focus on a target of nothing is itself a distraction from the more practical matters of actually managing something (rather than nothing) on our sites.

CONSTRUCTING PARADISE

Despite significant improvements over the last decade, the construction industry remains 'high risk' (HSE 2012). Larger UK contractors continue to make efforts to improve this, supporting legislative adherence with sophisticated Safety Management Systems (SMSs). SMSs provide a structured approach to health and safety management (Howarth and Watson 2009), and often include a level of performance measurement (HSE 2006). Most recently the quest for a 'positive safety culture' has come to the fore (Dingsdag et al 2008). Zero Target safety programmes can be considered the next evolutionary step for safety management in practice. The target of zero is associated with performance measurement found within SMSs, yet this target is the ultimate goal rather than an incremental step on the road of continuous improvement. Zero Target programmes have also borrowed the safety culture use of 'identity', employing branding and engagement practices to deliver their message.

This is a paradigm shift in the underlying philosophical approach of safety management. Setting the ultimate goal to be achieved draws on enlightenment thinking, the belief that there will be an apocalypse after which ' … the flaws of human society will be forever abolished' (Gray 2007:2). This suggests there will be a moment of identifiable 'safety success', a realisation of a target achieved, a goal attained. The problematically practical nature of this 'apocalypse' is discussed later, however it naturally leads to the construction of the post-apocalyptic environment, a utopia in which zero accidents, incidents or ill health occurs. Yet since Thomas More introduced his Utopia in 1515, such thinking has been both lauded and derided.

In his work, Picture Imperfect, Jacoby (2007) calls for a revival of utopian thinking, the need to build 'castles in the sky', to picture a better society in which ' … practical reforms depend on utopian dreaming – or at least utopian thinking drives incremental improvements' (ibid 2007:1). Yet this challenges the construction of the Zero Target 'apocalypse'; a fixed value set to be achieved through articulated steps, in contrast to an emergent, organic process. Jacoby terms such constructions 'blueprint utopias',

where the future is mapped out in detail, a consequence of our 'image-obsessed' society (2005:xvii) where the propaganda around the utopian vision is more important that the thought behind the vision itself.

The contrasting utopian approach put forward by Jacoby is that of the 'iconoclastic utopia', where dreams of a better society remain just that, rather than articulated, detailed representations. This approach allows thinking to ' … escape the spell of the quotidian' (Jacoby 2005:xvii), and would encourage questioning of the accepted 'norms' of construction health and safety practice. For example whether the recent absorption of health and safety into the realm of 'Corporate Social Responsibility' (Rawlinson and Farrell 2010) is beneficial to its management in practice, or simply relegation in status? Whether the continued application of SMSs to a production driven management system which neither supports nor fosters implementation in practice (Patel et al 2012) is admirable perseverance or a quixotic venture?

Indeed, this wider system emerges within more critical approaches to utopian thinking. Gray (2007:28) feels a project is utopian if there are no circumstances under which it can be realised. If a project seeks to eliminate the fundamental contradictions of human needs it will break down. Human needs in the construction site system are arguably focused on time and money, where people are essentially paid to work faster (Spanswick 2007) and take risks to get the job done (Channing 2008). Within the industry as it is presently structured, health and safety improvements are, by Gray's definition, a utopian venture.

It is arguably the nuanced distinctions in approach and consideration of utopian or dystopian visions that are most critical. Despite the need for construction health and safety management to consider its utopia from an iconoclastic position, to challenge current practice to catalyse change, it has instead developed a blueprint approach with a focus on zero as the bull's-eye of the target.

The Devil is in the Details

Yet the actual target of 'zero target' programmes is not always clear. Scandinavia's Vision Zero caused ' … confusion as to whether (it) is to be seen as a concrete goal or more general ethical imperative …' (Swuste 2012:1939), an opinion that differed from country to country. Norway considered Vision Zero to be an ' … ethical foundation …' that '… the vision was not be interpreted as a target …' (Elvebakk and Steiro 2009:958). In contrast, Sweden set themselves very ambitious targets including a reduction in fatalities in traffic by 50% within a 10 year period.

This latter approach is reminiscent of the construction industry itself, and the grand gestures made at the safety summit of 2001. The Construction Industry Advisory Committee (CONIAC) pledged to beat the target of 10% reduction in fatal and major injury rates by 2010 set at the summit, and boldly committed to a reduction of two-thirds by 2010 (HSE 2009). Although industry achieved the 10% target, and continued in the same positive direction, it dramatically failed to make the giant leap to achieve the targets it set itself. Although targets give ideas ' … a certain weight and plausibility.' (Jacoby 2007:32), providing comfort through the tangibility of measurement, commitment to a target does not mean automatic achievement, despite the celebrations that often accompany their announcements.

In the UK construction industry health and safety targets are somewhat sensitive, with recent concerns officially raised around the accuracy of major and 3-day accident reporting (HSE 2009). Setting a target of zero could encourage sites to 'game the

system', to re-classify incidents to meet targets, or to seek out alternative processes for measurement. This relates to the achievement of Zero Target in practice; construction work is an ongoing process and although each project has a definite timescale, this does not translate to the wider organisation and achievement at a higher level of operations could prove problematic. Poor definition of parameters for success with regard to safety Key Performance Indicators has been shown to create vague claims of achievement; 'broadly achieved' (Rawlinson and Farrell 2010) can no longer be acceptable when the target is a very clear zero. As found in other applications of measurement to the potentially immeasurable, additional targets and more complex management controls are likely to be needed to support the initial target (Curtis 2007); 'zero' proving deceptive in its own simplicity.

Et in Arcadia Ego

Poussin's Arcadian Shepherds (1638-40) traced the carved words on the tomb in their utopia of Arcady, to read that 'I too am in Arcadia'; death was also with them in paradise. In the UK construction industry accidents, and deaths, also occur, and all too frequently. Sadly, they are such a part of the contemporary construction industry that a fatality on a site is often not even newsworthy.

Yet in their aim to eliminate all accidents, Zero Target programmes are stating that 'accidents won't happen'. However there is the potential for this approach to fall foul of its own constructions. Zero Target programmes must challenge the commonplace nature of accidents on sites, which suggest zero is unattainable in practice. Responses to the Scandinavian Vision Zero suggested the '… zero of Vision zero …' was ' … unrealistic … ' (Elvebakk and Steiro 2009:963). Such thinking may lead to instant dismissal of the programme as a consequence of its perceived unattainability. In setting a blueprint utopian target of zero the entire vision becomes vulnerable to just one incident; as a consequence of one accident the target becomes unachievable, it is lost, potentially disenchanting those it is seeking to inspire.

Arguably Zero Target programmes begin from an untenable position as defined by their own terminology. It has also been suggested that there has been a reluctance to consider that zero accidents would mean zero incidents, which would mean zero near misses, which would mean zero mistakes, which would be impossible (Hosier 2012). A further complication in the application of an unflinching Zero Target to the complex and messy social contexts of UK construction sites.

Tilting at Windmills?

The vision of Zero Target safety programmes is certainly not to be derided, indeed their intentions must be firmly supported, yet the construction and positioning of these programmes within the context of construction site safety raises concern. Whilst a paradigm shift is needed to move safety management on from its current plateau, setting Zero Target may not be the necessary catalyst. Where iconoclastic thinking is to be championed, the blueprint incarnations of Zero Target safety management in practice can be challenged philosophically, even by the most ardent supporters of utopian thinking in our anti-utopian age (Jacoby 2005). By their very construction, Zero Target programmes may inadvertently have a negative effect on the very environment they wish to change; the potential for disenchantment, disengagement, and their ultimate dismissal.

This study sought to examine how these blueprint utopian programmes are perceived in practice, how they are implemented by management through safety propaganda,

and whether they are supported or derided by the workforce they are seeking to protect; to explore whether they are seen as utopian visions, wider ethical approaches, concrete targets to be aimed for, or even whether they are 'considered' at all.

METHODOLOGY

This study took a social constructionist approach (Gergen 2009), examining the different constructions, associations and discourses that surround Zero Target programmes in practice. Two voices of Zero Target were sought; the corporate voice of the safety propaganda of the programmes as articulated by posters, leaflets and corporate web-pages; and the site voice of those who implement the programmes in practice and those who spend every day working with them.

Web-page data were collected from five large UK construction organisations, all of whom promoted a 'Zero' safety management programme. Navigation was made from the organisation's homepage to pages referencing the programme, and all pages were collected individually. In total nine webpages, two 'sustainability reports' and one corporate flyer were included in the documentary data. Two live sites, under the management of two of these organisations, were visited to collect further documentary and talk data. Documentary data comprised digital images of five site posters and one site hoarding, and one hard copy site safety guide. Nine semi-structured informal conversations were held with three managers and six operatives on the sites; a total of 28min34sec of talk was recorded and transcribed. Where elements of the transcripts are reproduced in this paper, I: indicates the voice of the researcher, R: the respondent.

The data was subsequently coded and discourse analysis undertaken (Augoustinos et al 2006). This fine grain approach (Horton-Salway 2001) enabled triangulation both within and between the different data sources, and enabled key themes within the data to be identified and developed (Potter and Wetherell 1992). The analytical process resulted in the development of a wide variety of discourses of Zero in practice, and also saw the re-emergence of several master discourses of 'safety' which have been previously identified in other safety research (Sherratt et al 2012).

Due to constraints of space, only the most prominent discourses have been presented here to enable both a consideration of the critiques found in the literature and a detailed exploration of the realities of Zero Target in practice.

FINDINGS AND DISCUSSION

Constructing Zero

The corporate voice presented zero through bespoke safety programmes, all of which positioned zero as part of a two word brand: Zero Harm (two organisations), Mission Zero, Target Zero and Beyond Zero. The first positions zero as the lack of negative action, although the use of harm is not restricted to health and safety, and indeed may be more immediately associated with environmental and sustainable considerations in some contexts. The other programmes position zero as a participant in an active process, with variations in that process as journey, fixed point or commencement point.

These brands were physically contained within logos, used as visual tags for safety management in practice both on the websites and the site documents. Beyond this iconography, significant variation developed in the constructions of zero within the dataset as a whole.

Within the talk of the operatives, zero itself did not emerge within their considerations of the Zero Target safety programmes. Rather the programmes were associated with practice, as illustrated in the talk of a subcontracted floor layer:

> I: obviously, being a (company name) site it's got (programme name).
>
> R: right
>
> I: what does that mean to you?
>
> R: well, just, you know, making sure everything that you do is done in a safe way

Here, the speaker positions the programme as relevant to all work practice, safety constructed as an inherent aspect of work, rather than a distinct practice itself. This construction was also personalised to the individual, although not the speaker himself, who placed responsibility for safety with the actions of 'you'. Within this extract, and indeed the talk that followed, focus remained on practice and zero was not invoked in any way; it was not considered until directly introduced by the researcher, and simply remained an inert aspect of the safety brand.

Zero did emerge through managers' talk in the construction of accidents, targets and approaches to safety management. These developed to form two associated constructions of zero; the intangible and tangible. Throughout the talk data, zero was most dominant in its intangible form; positioned as a 'philosophy', a 'mind-thing', an 'idea', an 'awareness'. This was also identifiable in the corporate voice, which positioned zero as a way of 'thinking' and, more complexly, a 'culture'; either seeking a cultural shift to assist in the attainment of zero, or positioning the process of zero as critical in the development of a new culture. This intangible zero often accompanied a discourse of practice, enabling the positioning of zero as process, to encompass the everyday practices of work without tangible challenges to their operational reality.

Yet such challenges emerged in both the talk of the management and from the corporate voice. An incoherent relationship developed between the intangible and the tangible; a 'vision with targets' supporting the desire to quantify a tangible zero, which was further developed and defined through the process of measurement itself.

Measuring Zero

Measurement by time constructed zero as a tangible target, a future year assigned to the achievement of zero by the corporate voice '… by 2012'. Yet setting a date for apocalyptic success can become nonsensical without further explication; whether the target is to be implemented from the target year onwards, or from a fixed point before in order to 'achieve zero' at this date, making it highly problematical in terms of parameters, measurable criteria and ultimately interpretation. However, this articulation could be deliberate, constructing associations with ongoing improvement and progress necessary to meet this target in the future, creating a reality in which action is needed now, to encourage and instil support for the programme within the workforce, without further articulating its measurement.

Yet this becomes highly problematic should the year be reached and the target not be achieved; despite making significant improvements in overall safety performance, Balfour Beatty did not achieve 'Zero Harm by 2012' and have yet to publically re-brand at the time of writing. Although measurement by time has the potential to create clashes with reality upon its inevitable arrival, it could also construct

commitment through the future positioning of the target to a point in time where reality may have changed to one where zero is attainable, if not the norm. This resonates with the more intangible constructions of zero, articulating a target in the future with time to work towards it, whilst continuing with everyday practice.

Positioning zero as a tangible, numerical target also creates the potential for just one accident to bring failure and cancel its attainment, as found in the talk of a directly employed site manager:

I: has it made a difference?

R: I believe it has, I mean the numbers say that it has, at least on some of

the projects. Obviously you've got the odd project that something

happens, and it ruins the figures, but most of them, yeah.

Here, the speaker associates zero with numbers and measurement, quantifying his evaluation and positioning of difference within site practice. Yet this construction of measurement as success is necessarily associated with ruin should an incident occur. The speaker does not clarify what this 'something' could be, and makes no evaluation of the incident in terms of severity or potential consequences to a worker in reality, rather the focus remains on numbers and measurement of safety.

One corporate voice did consider that just one accident could and would cancel achievement of zero, and repositioned zero as the target for ' … the next day', as an ongoing aspiration placed within a reality where accidents can and do occur. However, this particular construction of zero was also associated with a highly complex web of supporting targets and other health and safety measurement criteria. Whilst zero itself was constructed as fluid, improvement and measurement of improvement could still be made towards these associated tangible goals.

Measurement was frequently positioned as vital to the wider construction of zero; that it was ' … necessary to manage and improve performance', associating both with the ongoing process of zero, as well as zero as a tangible target. It often constructed zero through associated criteria, such as incremental reductions in AFRs, targets positioned as a measurement of ' … impact against …zero'. This approach constructed zero as something larger than the targets themselves, a solid and tangible entity, and the programme an attritional process in achieving the wider aim.

These various constructions of zero through measurement also hold repercussions for the attainment of success. Parameters of time or quantification construct zero as something tangible which can either meet with success or failure. Zero in its intangible construction arguably cannot fail or succeed, yet the everyday associations of measurement with any number make this evaluation to some extent unavoidable.

Achieving Zero

Positioning zero as a numerical target creates a goal to be achieved at a real point in time, and the inevitable construction of a post-apocalyptic utopia in which people will be ' … safe from harm'. Yet, within the talk data achievement of zero in practice was constructed as an unattainable, as illustrated in the talk of a directly employed gateman below:

I: do you think we can actually get to (programme name) in reality?

R: no

> I:	why?
>
> R:	well, its just like, you could never get rid of human error
>
> I:	right
>
> > R:	so, obviously people are coming to work and they're working long hours and they're tired and things happen, but going back to the (programme name), if you've always got that in your head, there's always gonna be a minimum risk anyway.
> >
> > I:	right
> >
> > R:	but, like, you'll never get rid of injuries.

This speaker also associates zero with practice, positioning zero firmly within their own site reality in which people are the cause of unsafety, and the reason zero cannot be achieved. The speaker further develops this apportioning of blame by invoking the practice of work as a further causal factor, linking zero-people-work. Zero itself is constructed as intangible, something 'in your head', but this is subsequently positioned again within a reality of 'risk' and the speaker concludes that consequently the current reality will dominate; injuries can never be eliminated.

This reality emerged throughout the talk data; that it is people and practice that make zero unachievable. Safety management, legislation, PPE or other manifestations of safety in practice were not constructed as lacking, rather it was the fundamental 'nature' of the site itself. These discourses of 'safety and practice', safety as a hindrance to site practice, and site practice as a hindrance to safety (Sherratt et al 2012), have previously been identified as key to safety on sites.

Although the corporate voice positioned zero within a controllable and manageable site context, the operative voice struggled; the clinical, clean zero and the complex, confused site environment could not be reconciled within the context of everyday practice. Whilst zero is deceptively simple, people are simply complicated, and the practice of work on site is highly influential in the constructions of a reality of unsafety, in which zero remains a number that can never be attained.

However, this mythical status does not completely negate the value of zero in practice; no other number will do. Despite concerns with measurement, despite the potential for failure, despite the hostile context and despite the fact it is 'unachievable', zero was positioned within the talk data as an essential component of health and safety management on sites. Whilst setting an AFR target constructed a reality accepting of accidents; apocalyptic visions of zero did not. The apocalyptic discourse of elimination in the removal of accidents from sites was identifiable within the talk data, employed with no recourse to the events that might realise this in practice. This is arguably an iconoclastic utopian vision; Zero becomes a necessary goal. In contrast, the corporate apocalyptic discourse constructed a blueprint utopia, implementing Zero Target safety programmes through temporal and numerical measurement. This approach does not appear to have challenged the fundamental issues of practice that the site voice positions as critical in their reality of health and safety, and the ultimate attainment of Target Zero on sites.

CONCLUSIONS

The emergence of Zero Target safety programmes arguably reflects a wider societal desire to quantify and measure human life. Following the shift in political thinking of the 1990s and the application of scientific game theory to practice, target driven systems have become the norm (Curtis 2007). When health and safety on UK construction sites is considered, ethical and moral concerns become paramount. In an industry where Corporate Social Responsibility has developed into a significant marketing and pre-qualification tool for commercial success (Rawlinson and Farrell 2010), no target other than zero could ever be acceptable.

Consequently, the corporate voice of Zero Target speaks of an achievable tangible goal, positioned as future reality, which can be counted and measured through a plethora of targets. Yet this is challenged and derided by the workforce who position zero as an unachievable target, preferring instead an iconoclastic vision of zero. Their utopian vision operates beyond the current challenges of practice they face on a daily basis, and is simply content to look towards a potential future.

It is the desire for measurement that brings zero into an ugly reality, blueprint utopian thinking does not seek to challenge and change current practice; rather it aims to operate within the same hostile environment, seeking engagement of the workforce without addressing problems of practice. Furthermore, associations with measurement have arguably encouraged a focus on the numbers and continuous improvement, rather than the practices and the people behind them.

There is the potential for Zero Target thinking to bring change to health and safety management on UK construction sites, yet the approach must shift focus from the miniature, the numbers and the 0.01% improvements, and look to the bigger picture. To ask why practice is so prominently positioned as a challenge to zero, to ask why people are happy to position zero as a vision for the future, but remain derisive of its achievement within current working contexts. It is the Target that is arguably hindering the achievement of Zero, providing distraction and comfort in the application of numbers and mathematics to something that is actually about the complex, awkward and immeasurable world of people and practice.

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