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Auspicious Reasoning:

Can metadesign become a mode of governance?

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Abstract

This article asks whether we should make clearer distinctions between 'truth-centred' and 'outcome-centred' argumentation. It notes that, whereas rational logic tends to be linear, the logic of nature is non-linear. It therefore looks for new parameters by which we might focus more on the 'auspiciousness' of writing, and less on its evenness or veracity. The ability to develop clear, sequential truth-claims has long been admired in academia. However, the presence of internal consistency within a text does not guarantee a consistent or auspicious outcome. This is clear from bureaucratic systems. In maintaining a bureaucratic, ballot-box system of governance our society has evolved a reasoning process that – broadly speaking – limits civic responsibility to the making of critical, often negative choices, rather than inspiring future-based, imaginative reflection. This decision-oriented mindset is now ubiquitous within the economic and political domain. Although this democratic style of capitalism may seem characteristically modern its origins can be found in the strongly truth-oriented philosophies of the early Greeks. This article argues that the mindset it produced is inauspicious if it encourages citizens and governments to regard facts, statistics, or scientific 'laws' as less important than imaginative thoughts and emotional experiences.

This article argues that it should be every citizen's duty to envision beneficial ways of living. This would require a radical overhaul of the education system and an alternative to the political and economic discourse that has led us to the brink of disaster. Where this may be useful to individuals who wish to formulate a truth-claim, or to defend a rhetorical position, it is less helpful for facilitating actions that are attuned to the ecosystem. This article asks whether design thinking, incorporated within 'metadesign', might inspire a more sapient form of governance. Where precedent-based legislation manages society at the level of textual and categorical logic, traditional design methods do similar things by managing forms and anticipating the behaviours they might inspire. What is most urgently needed in the 21st century is a more collective, imaginative, incentivizing and outcome-centred mode of reasoning that will support new, co-creative forms of democracy. This new mode of reasoning may need to be highly situated and contextualised, because an ethics of creative engagement would need to eclipse an ethics of 'standing-for' particular a cause, or belief. By exploring 'design-thinking' as a possible basis for further development we may therefore create a richer type of ethics that is eudemonic, synergy-enhancing and, above all, auspicious.



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The way we reason is dysfunctional

In politics, the implicit claim to being part of the so-called 'real world' is common. Ironically, this idea evolved from within the Western idea of a world that is independent from the thinker yet is also, somehow, amenable to truth-oriented inquiry by the rational mind. This dualistic approach was implicit in the idealism of Pythagoras and Plato, and in the categorical reasoning of Aristotle, all of whom, in different ways inspired the notion that data, numbers, forms or sets might represent a higher mode of 'reality' than the experiential world. Many legal, bureaucratic and political systems still reflect this kind of alienation. The world needs wisdom, but although governments consult some of the brightest, most highly literate thinkers, collective human actions frequently turn out to be ineffective, or even counterproductive. As most readers are aware, after the British Government introduced the first Coldstream Report of the 1960s, art and design colleges were obliged to include writing within practice-based degrees. This soon led to the adoption of academic writing genres that were borrowed from the humanities and the social sciences. I am a strong advocate of writing as a way to inform responsible practices by artists, designers and other 'creatives'. However, as I have previously argued (e.g. Wood, 2000), received styles of academic writing exemplify a fundamentally truth-centred approach, rather than one that is outcome-centred. While the art school, or design school essay is evolving, albeit in a meandering way, the deep purpose of writing within the art or design syllabus is still seldom questioned explicitly.

Truth-centred reasoning

At a time when human extinction is now openly discussed, the disparity between truth-centred, and outcome-centred modes of reasoning is clear in the familiar mismatch between political rhetoric and its outcome. This, in turn, may also remind us how dysfunctional we have become, as a species. One of the dangers of the truth-centred, observation-based approach that evolved from classical scientific discourse is that axiomatic reasoning renders the observer as neutral, or extrinsic to the facts, and therefore seems to put her, or him, beyond accountability. In the past, this practice of estranging the author from the text seldom posed immediate problems. Today, however, the epistemological world has a far greater influence over the way things evolve. This is what James Lovelock (the scientist who first discovered a 'hole' in the ozone layer) said in an interview given in March 2008: *"Enjoy life while you can, because if you're lucky it's going to be 20 years before it hits the fan"*. Sometimes, the shock value of a pessimistic statement is useful for mobilizing constructive actions. In extreme cases of pessimism, however, unless a positive action is also recommended, this tactic may prove counter-productive. When asked about alternative energy sources, in the same interview, Lovelock continued, *"...You're never going to get enough energy from wind to run a society such as ours..."* (Aitkenhead, 2008). While Lovelock's diagnosis may, ultimately, prove to be correct, these statements lack any self-scepticism. Worse, they appear to endorse a planner's, rather than a designer's perspective (c.f. Wood, 2007:2). They imply that society has intractable 'needs' that must be regarded as a given. As such, they represent a fatally inauspicious form of reasoning.

Political reasoning

A different problem exists in political discourse. Like designers, orators often use contingent modes of logic to persuade the general public. Politicians habitually speak to many listeners at the same time, and are therefore accustomed to balancing the wanted and unwanted effects. Nevertheless, this is what Tony Blair said in July 2005: *"If it is impossible to bring America into the consensus on tackling the issue of climate change, we will never ensure that the huge emerging economies, particularly those of China and India, who are going to consume more energy than any other part of the world, we will never ensure that they are part of a dialogue, and if we cannot have America as part of the dialogue on climate change, and we can't have India and China as part of the dialogue, there is no possibility of us succeeding in resolving this issue."* (Tony Blair, Gleneagles Summit, 2005). Again, as a logical truth, this statement is hard to refute. However, it begs several questions. Whilst it was probably intended to shame the largest countries into changing their policies, it also suggests that positive unilateral action by smaller nations



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may be futile. In terms of human actions, what, therefore, seemed to be subsidiary logic may subsequently prove to be the more decisive factor in fulfilling carbon emission targets, etc. For example, it may tempt individual citizens to reason that, if the world were soon to end, it would not be unreasonable to squander some fuel and die a little happier. Greg Craven has published an entertaining and constructive antidote to this dumb type of reasoning that represents an 'outcome-seeking', rather than a 'truth-seeking' approach. (See his YouTube broadcasts at: <http://wonderingmind42.com>)

The Way Humans Tend to Reason

One issue that attends the above examples is the confusion between individual and collective action. This question has dominated western politics for many hundreds of years. For example, a popular interpretation of Adam Smith's 'invisible hand' argument (Smith, 1776) has probably inspired the current political tendency to regard self-interest in terms of immediate, individual, local imperatives rather than long-term, reciprocal processes of wellbeing. Loosely speaking, this is similar to Garret Hardin's famous 'Tragedy of the Commons' (1968) scenario. According to this theory, taking just one more fish from an over-fished river will be perceived from two separate perspectives. For the fisherman's family it may seem to make a relatively large contribution to the food cupboard. By contrast, the negative impact on fishing stocks will seem relatively trivial if he divides it by the total number of people who are likely to suffer from it, even though he, and his family will lose-out, like everyone else, from the longer term outcome. Hardin believed that we think like this is because our brains evolved when the world was under-populated, and when nature could recover from most things humans could do to it. In an over-crowded, consumption-oriented world of dwindling resources this kind of reasoning is virtually suicidal. We need a wiser way to reason.

The evolution of mechanistic reasoning

William Calvin (1997) has suggested that the human ability to reason developed over millions of years of evolutionary development. It therefore emerged, in part, from the logic of lifting, carrying, dragging or throwing weighty objects around. It is interesting to note that the Greek word for 'problem' also meant something (i.e. some 'thing') that is thrown, or placed, onto one's path. In a sense, notions of 'problem' and 'project' therefore share the same metaphorical allusion. Ultimately, in our Western understanding of the current ecological predicament, the human technological project (i.e. our existence) is challenged by a pervasive *problem* that calls for the appropriate plan. The minimum requirement for an appropriate form of collective reasoning process is that it should be sensitively embedded within its whole, living context. Also, the ethical role of the reasoners themselves must be strongly implicit within the theories they contrive. Today, metaphors such as 'attaining objectives', or 'meeting targets' have come to seem normal and unremarkable. Perhaps this is because they are corroborated by phenomena that once were axioms within religion and classical physics. Sir Isaac Newton is still revered as a scientist. This is not only because his equations of motion so accurately predict the trajectory paths of massive objects but, also, because of the implication that they prove the presence of ubiquitous and absolute mathematical principles that pertain everywhere.

Designers can re-unite 'saying' and 'showing'

Although words such as 'project', or 'trajectory' suggest a high level of predictive certainty, it is important to note the limits to this assumption. Whilst the reasoning behind ballistics seemed self-evident within classical physics it carries less weight within biology, or even chemistry. We do not live as inertial objects in space. We are co-sustainers of a frail ecosystem, teeming with life. In ecological terms, the observer can never be as certain as a classical physicist, because he, or she is always inextricably entangled with what is observed. The metaphors used to create the reasoning behind this 'project' are significant, because they inspire, or limit the mindset that will guide future actions in the experiential and active world. Presumably, in developing a better methodology for reasoning it will be important to design a minimum propositional grammar that seems familiar enough for the average person to understand. This may be reasonably straightforward. Heidegger traced



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the etymology of the verb 'to say' to the word 'Legein' (Greek) and, subsequently, to 'Legen' (German). This root is part of the word 'Vorliegen', which means 'to lay something down (i.e. to 'place') before someone'. This resembles the 'show and tell' proposition that is commonplace in most design studios (Wood, 1997). It suggests that this means that to 'say' embraces a kind of purposeful bringing-together of associated things (German: 'zusammen-in-Vorliegen-bringen').

A democracy based on shareable envisioning

Heidegger analyses this into tangible, rudimentary elements. First, there is the selection process that leads to a *gathering together* of the significant 'things'. Next, there is the *laying down* of the gathered objects. In the propositional sense, they are *laid before* a judge, as we might do so for a dinner guest. This theory helps to define a prototypical model that may have informed what we now regard as axiomatic logic. Ultimately, if the mathematics confirms the model then many classical scientists would have accepted it as a 'Law of the Universe'. What makes the imputed authority of these claims dangerous is that they exclude the role of the observer in almost all respects. Although, in theory, scientists no longer believe in the 'thing-in-itself', many designers are taught to 'see' a form as a physical object, or material 'thing' that has little actual context. The word 'thing' derives from an ancient Scandinavian word that refers to what presumably became the first parliaments, or people's assemblies. It refers to a specially constructed arena in which the whole tribe, or its representatives could gather in one place to discuss problematic goods, possessions or deeds. As such it reconciles the world of beliefs, ideas, and material objects. One reason why governance based on design thinking might restore some good sense to the world is that our democratic, consumption-oriented societies have forgotten how to dream. In the twenty-first century, Western politics should expect its citizens to envision alternative realities (Wood, 2007:1) rather than offering them a freedom of choice. This is an idea that is seldom discussed. It presents a challenge for the advocates of consensual politics.

The 'Critical' design products that offer no solutions

At present, although the idea of using 'design thinking' as a mode of governance may be appealing, the current hegemony of power operates mainly through words and agreements, rather than by forms or images. This is exercised through legal documents, or via sophisticated arguments applied at a diplomatic level. It is easier to express disapproval than it is to offer viable, practical alternatives. This because, unlike design, language is good at framing negative propositions, even though they are symbolic, rather than actual. Where reasoning often uses the logic of negation or refusal, design offers a more positive approach, by integrating many possible factors into a totality of experiences, affordances (Gibson, 1977, 1979) and perceived affordances (Norman, 1988). Whilst design has been shown to have, often, a strongly rhetorical nature (Margolin, 1989) it is hard to see how it can really be critical, in the negative sense, except by inference. Many supporters of the 'Critical Design' movement of Anthony Dunne and Fiona Raby (Dunne, 2005) would presumably disagree. In my view, 'critical design' appears to situate designs within a satirical context as an ironic gesture of resistance. While this is a sophisticated movement that certainly attracts admiration, it is more likely to inspire equivalent actions that are also critical, rather than design strategies that will drive change. This is because the politics of resistance is more painful, and less effective than practical, positive innovation.

Reasoning needs to be more positive and collective

There are numerous inauspicious habits of thought that contribute to our collectively dysfunctional behaviour in the 21st century. One is our tendency to act only in accordance with what we are told is practicable, or believe to be possible. Increasingly, our society has tended to identify the possible within rational, technological terms. Max Weber (1946) used the term 'disenchantment' to describe technological society's recoil from the spiritual, or otherwise irrational modes of thought. This tendency led to the rise of cynicism, or what Sloterdijk (1983) described as 'enlightened false consciousness'. This exacerbates the 'Tragedy of the Commons' syndrome because, even though we know that a given action



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may be unwise, counterproductive, or wrong, we go ahead and do it anyway. If we are to find a more auspicious form of reasoning and acting we need to think more positively and collectively. This means reframing the role of critical thought. It might mean avoiding it altogether, or by applying it at a much later stage in the reasoning process. Buckminster Fuller understood these problems when he suggested that we 'reform the environment' (Fuller, 1969), rather than using moral or legal constraints to address the problem at a psychological or political level.

Reasoning needs to be imaginative and outcome-centred

One reason why the Enlightenment era was known as the 'age of reason' is because it was hoped that 'reason', or rationality would operate as a universal language. As such it could be used to ameliorate political differences, argued from a shared basis of 'truth'. Although more embodied modes of reflection have evolved since that time, rational, disembodied reasoning still dominates scientific and governmental thinking. As such, it continues to affect the way that the most powerful nations define and conduct themselves in relationship to the biosphere. This is not always helpful. Rational logic is a form-based mode of reasoning because it is inspired by the predictability of codes and numbers. Here, the idea of 'form' refers to the codes or numbers, rather than what they are used to describe. In the technological marketplace certain types of formalism lead to an emphasis on the retrieval of data or information, rather than the cultivation of knowledge or wisdom. In business as a whole it is characterised by a focus on profit rather than purpose. In education it is exemplified in the so-called 'tick-box' tendencies that value assessment, or that put procedural fairness above the deeper purposes of learning. Loosely speaking, formalism is used here to refer to an over-emphasis on form, rather than content. In the above example the word 'form' may mean the shape or style of 'things', or it may mean protocols and rules. The formalism of, for example, pure mathematics is appealing because the numbers may make sense even when they have no actual context. This is also how dictionaries work. They uphold the mythology of factual 'truth' because they reduce meanings by stripping words of their situated context.

Truth-centred approaches have led us astray

Our faith in rules means that dictionaries are used to arbitrate in situations of which their authors are ignorant. The appeal of formalism may be demonstrated by the ongoing scientific quest for a Theory of Everything (TOE). This is a quest for a totalizing (but non self-inclusive) description that will summarise the whole universe within a comprehensive 'Law'. For many centuries, the formalistic teachings of Pythagoras and Plato inspired our ruling elite to believe that, in essence, the world consists of self-identical numbers and abstract forms. This notion still has a special resonance in the way that design students are taught to look at shapes and spaces. However, the idea also connects with the way we look at the processes of governance and the way we process textual information. For example, the categorical nature of alphanumeric writing makes it possible to be used as a kind of code; and code systems are unyielding. In traditional codified logic, 'A' is not merely 'similar' to another 'A', it is identical to 'A', and never, therefore, 'B'. This is why it led to legislative or bureaucratic procedures that may appear to be scrupulously fair whilst, on occasion, fails to bring justice to the particular or specific issues that it was invoked to settle. Political or religious fundamentalism is an extreme example of formalism. It is the process by which the means of representation – rather than what it describes – takes over, and reduces its ability to adapt to new conditions in a flexible way.

Metadesign is an outcome-centred mode of reasoning

This article calls upon designers to inform their practices with more 'outcome-centred modes of reasoning'. It advocates a comprehensive superset of practices that it calls 'metadesign', in which 'design as planning' would be replaced by 'design as a seeding process' (Ascott, 1994). Our research at Goldsmiths seems to confirm that metadesign teams can act as 'systems integrators' (Galloway and Rabinowitz, 1983) on many levels of awareness (See <http://attainable-utopias.org/tiki/m21>). This might replace or augment existing methods of governance with a combination of co-creative thinking and what Herbert Simon (1969) called 'design thinking' or what Nigel Cross (1982) called 'designerly



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ways of knowing'. Today, design encompasses a widening vista of possibilities and capabilities (e.g. 'interaction design', 'environmental design', and 'communication design'), so it has become possible to imagine it becoming a form of social enterprise, or even as part of political governance. At present, governments lean heavily upon negative rules and measures in order to dissuade people from doing bad things. Moreover, the recourse to legislation and fiscal policies has become the norm. This process often tends to solidify hierarchical power relations, and even to discourage citizens from thinking in a more socially responsible way. Improving the way we reason, collectively, is a task of high priority. However, it represents a complex and uncertain mission that may, or may not, improve the way we behave. Actions are guided by habits. Habits are informed by beliefs, and reasoning may, or may not, modify belief. At each stage there is the risk of slippage.

Rational epistemologies may be unreliable...

In the early 20th century science discovered some limits to rationality that cast a shadow over the certainty of formalist thinking. For example, Heisenberg's 'Principle of Uncertainty' (1927) showed, for the first time, that there are intrinsic limits to what we can know about the world. Gödel's 'Incompleteness Theorems' (1931) highlighted the impossibility of a (mathematical) language that is always consistent and true. Lorenz's observations of chaotic flow (1963) suggest that computation with numbers will always be too granular to help us to anticipate the future, reliably. Judging by the confident, presumptuous ways that modern societies conduct themselves, these warnings have yet to be understood. According to Foucault (1980) Western thought is underpinned by a competitive logic of power that is embedded, and therefore sustained, within the social and political discourse. This would make clear why certainty and predictability are so highly prized. It would also explain why rhetoric is still an essential instrument of governance in the 21st century, and why today's political discourse so often lapses into a 'point-scoring', rather than a synergy-finding exercise. For metadesign to be effective it must be extremely open and democratic, therefore democracy would also need to ascend to the next level. At present the average citizen is not, for example, expected to contribute to a social bank of ideas and possibilities, although this would be both helpful and feasible. Most democratic systems are representative-based. Their protagonists proudly advocate the idea of 'open debate', although this does not mean inclusive discussion. Instead, the citizen is expected to choose representatives from a handful of political parties. This kind of political reasoning is close to formalism, in that it emphasizes the political party's agreed ideologies, 'brand-values' and agenda. It is most visible in the form of public speeches that maintain the party line, and which are made on behalf of unidentified interest groups.

Situated reasoning resists being 'chunked'

Competition and rhetoric have remained important to the development of Western civilization. Historically, they were used to support a win-lose process that is a narrow and decisive, rather than open and creative. This is illustrated by the word 'debate', which derives from the old French word 'debatement', literally meaning to 'beat down' one's opponent. This does not sound like the most sophisticated approach. How did we come to accept the logic of public rhetoric as a 'natural' way to reason? For one reason, the democracy of ancient Athens evolved from within an imperialist system that encouraged fierce internal rivalry as a way to uphold the nation's invincibility in war, and in commerce. Competition existed at virtually every level of society, whether among slaves, citizens or leaders. In Plato's play 'The Gorgias', a famous orator (Gorgias) is ridiculed because he boasts of his ability to maintain a lengthy monologue. In Plato's line of reasoning, more than one speaker is always needed to create what we might, today, call a 'good argument'. In the 5th century BC orators were expected to pitch their arguments against one another as a way to sway the opinion of voters. In a democracy that had no equivalent to today's mass media the politician's role was therefore synonymous with the act of public speaking. Leaders wanted crowds to make informed choices about public policy so they offered a variety of carefully designed options. There was therefore a need to reduce arguments down to manageable chunks or what may have become compressed still further, today, as 'sound-bytes'. This discursive method may have inspired the western tendency to reason using 'ideas' as a rhetorical form.



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Chunking led to an 'ideas-based' economy

In ancient Greece, the 'idea' was an important idea. In a sense, ideas are units of semantic potential that reside at the interface between words and products. Arguably, in today's consumption-oriented economy, the citizen's main duty is to make choices concerning ideas, products, brands, political candidates and celebrities. As a result, the valorisation of choice has therefore become both a right and a duty, not only in the ballot box, but also in the workplace, in leisure pursuits and in online shopping. This explains why databases have become a seamless part of the practice of making choices available in a vivid, instantaneous and amenable form. Regrettably, this approach discourages new visions of the possible. By reducing the citizen's perceived range of options it therefore renders her, or him, less able to imagine another way of doing things. As I have shown, in the West's development of reasoning, philosophical discourse has been entwined with political reasoning and the art of influential argumentation – i.e. rhetoric. How do we resist rhetoric? Unfortunately, rhetorical reasoning inspires contradiction and criticism, rather than positive action. The rise of sophistry was a counterpoint to rhetoric, in that it adopted similar methods, albeit for opposite reasons. Generally speaking, the sophists used critical modes of reasoning to refute existing assumptions or arguments. In this sense sophistry is a negative mode of persuasion. Where rhetoric was designed as a strong form of advocacy, sophistry developed more as a means of repudiation. Both systems are therefore imaginatively convergent, rather than divergent. Historically speaking, this is because the decision-making, or winning-losing process was of more interest to the Hellenic rulers.

The rise of reductionism

Over the several thousand years since the Aristotle, the emphasis on categorical thinking evolved in a number of important steps (too many to itemise in this short article). One of the most important was Ockham's 'Razor', (from John of Ockham, 1285–1349) - the idea that no argument should contain more elements than the minimum required for proving the case. This notion underpins Leibniz's (1646-1716) formalistic notion of the 'identity of indiscernibles', an expedient method by which, for the sake of reasoning, anything sharing the attributes of something else is assumed to be the same. These arguments informed Kant's (1724–1804) search for clarity and distinction within the world of taste and judgement. It was Kant's work that enabled George Boole, and others, to create his decisively 'either-or' mathematics of binary logic. Without these successive contributions to Western thought it is unlikely that we would have invented digital computers (McCorduck, 2004); and without which we would not have been able to create the artificial wonderland of restricted consumer choice that we now call the 'global market'.

Altruism is Auspicious

In essence, when consumers make product choices they only need to imagine each option within the product's horizon of affordances. Again, this bounded mode of imagination seems natural to the Western mind, partly because of the highly developed Socratic tendency to identify differences, rather than similarities, between the viewpoints of individual citizens. With many products and service, designers have helped to refine the process as an almost solipsistic mode of envisioning, in which self-image shrinks to that of compliant consumer of the item on offer. What we need is a more positive discourse of generosity and optimism. Good examples are the web-based 'pledge' schemes such as Pledgebank (<http://www.pledgebank.com/>) or the BBC's Action Network (<http://www.bbc.co.uk/dna/actionnetwork/>). These systems encourage individuals to propose specific initiatives that they publicly promise to undertake within specified conditions and timescale. This pledge is usually made on condition that a certain number of other people will undertake the same, or similar action. This process can become politically transformative because it can make what used to seem 'unthinkable' or eccentric appear more credible, and therefore worthy of support. In this sense it engenders optimism, and that is important for society as a whole. The work of psychologist and magician Richard Wiseman confirms the value of optimism, showing how people can become luckier by nurturing a more 'positive' outlook to life (Wiseman, 2003).



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The importance of generous, optimistic reasoning

Optimistic, opportunity-finding logic is very different from the kind of reasoning that is needed for choosing from a ready-made palette of options. It amounts to a selective type of sensitivity to one's internal state, then matching it to everything that is happening around one. In very large, complex systems the role of positive feedback is critically important, because it amplifies small tendencies and turns them into larger trends (Csikszentmihalyi, 1990). This is as true for beneficial outcomes as it is for unwelcome effects, so it is important to build this into the metadesign process. Where there is optimism there can also be generosity, and where there is generosity there are more opportunities for synergies in commerce (c.f. Barbrook, 2005) and elsewhere. Part of this cycle of positive change includes the cultivation of a eudemonic ethics, or, what we might describe as an altruistic spirit (see Trivers, 1978). It emerges more flamboyantly in the 'pay it forward' movement (Ryan Hyde, 1999) in which 'acts of random kindness' are made, but without an expectation of reward for the donor. There are similar movements such as 'smart mobs' (Rheingold, 2002) that bring an additional level of joie de vivre with spectacular actions, or 'glamourbombs' (see Wikipedia for definitions).

Reasoning should encompass the 'impossible'

Fortunately, language operates at a level that informs beliefs. George Orwell illustrated this in a critical way when, in his novel, '1984', he described how the Government took more and more words out of dictionaries in order to 'dumb-down' the population's level of reasoning, and thereby, to curtail their involvement and competence. Fortunately, we can reverse this process, because new words offer new affordances of thought. All of the above processes are complementary to a new, positive and optimistic paradigm that may inform economic and political reasoning. For example, as an alternative to an economics of Gross Domestic Products, Richard Layard, (2005), explored a happiness-oriented approach, because he noted that the wealthiest nations are often far from being the happiest. Another useful principle is the 'Law of Increasing Returns' (Romer, 1991, Arthur, 1996) that enables businesses to base their performance on renewable resources, rather than on the old practice of exploiting reserves until they become uneconomic. One of these 'renewables' is the principle of creativity and innovation. As Romer said, "*We consistently fail to grasp how many ideas remain to be discovered. Possibilities do not add up. They multiply.*" (Romer, 1991). In some of my work with the 'Attainable Utopias Network' (<http://attainable-utopias.org>) I have tried to take this principle further by reflecting on the role of doubt and disbelief in collective human endeavour.

Designing miracles is a credible aim

In a fast-moving materialistic society, we tend to conflate the 'unthinkable' and the 'impossible'. However, when we try to describe the 'impossible' more clearly it may become more 'discussable'. Once we try to discuss it, it will slowly become more 'thinkable'. Once the 'thinkable' proliferates it will become more attainable. Once the 'attainable' is perceived to be attractive it becomes more feasible. In short, if we believe that something is possible it has more chance to work than if we believe it to be impossible. One way to make miracles more thinkable is by speaking about them as incidents of low probability. When a miracle is noticed it has more chance to become replicated and normalized. This is how natural evolution works (Sheldrake, 1981). In other words, we can simply define a miracle as an exceptional event, irrespective of its semantic significance. We may therefore quantify it. Mathematically speaking, a large enough sample size would always include 'extraordinary' parameters. Miracles can thereby be identified within a minimum inclusive set of all the probabilities. Littlewood (1953) considered events that are 'one in a million' to be 'surprising'. We might therefore expect at least 100,000 surprising events each year in a large country. According to Diaconis and Mosteller (1989, cited in Weisstein, 2007), at the global level we can expect to see 'incredibly remarkable events'. However, in order to sustain auspicious conditions a probabilistic approach is inadequate because it is likely to be disconnected from some intangible parameters that inform the way things change. Instead, a more co-creative, contingent and imaginative mode of reasoning may



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be required. In theory, by using auspicious reasoning structures like this it may become possible to design miracles.

Reasoning needs to be more synergistic and holarchic

Many changes will be needed to bring about a radical enough improvement to the way human society reasons about its actions. The notion of 'strategic languaging' is also based on the realization that habits are often sustained or initiated by words and concepts. As such, collective reasoning is an important issue for education; therefore schools will need to teach collective reasoning in a self-reflexive way. This, however, will help industry to become more effective, because it will be an easy step to encourage young citizens to evaluate their own cognitive style in relation to that of others (Smith, 2005). This will help individuals to recognize their own style of working, and to seek out the capabilities and predilections in others that will enable them to work with them in a complementary and synergistic way. In our paper describing highly synergistic processes of co-authorship, or what we called 'sympoiesis', (Wood & Nieuwenhuijze, 2006) we defined synergy in this context by the following performance indicators:

1. Transcendent

When work achieved is of a quality higher than the best work by either/any of the participating authors

2. Emergent

When work achieved embodies favourable qualities or outcomes that are surprising and, or unpredictable by both/all author/s.

3. Applicable elsewhere

When work achieved also connects, richly integrates, or transcends the collaborative task itself.

4. Manifestly attributable

When work achieved remains recognisable and interoperable to both/all authors.

Designers need to expand the horizon of the thinkable

This process may inform the more complex task of fostering an auspicious discourse among members of a whole community. In a shared language one intervenes at a meta-level of the whole. This will be vital to any successful metadesign system. In order to operate in a truly consensual way, every player would need to be reasonably well connected to every other player. In large societies this is seldom feasible for any length of time, except by access to a shared discourse that embodies the role and experience of every citizen. The more often this happens the more chance there would be for citizens to reverse the logic of the 'Tragedy of the Commons'. If this process were to start (as I have suggested) more people would see that, by making small sacrifices for the good of the society there will be an emergent benefit for all (de Zeeuw, 2005). More importantly, beliefs emerge from concepts framed by language. This is shown by the way that a new word, or term can precipitate beliefs that did not exist before, hence making them 'thinkable'. A wonderful example is that of Raphael Lemkin, who spent many years unsuccessfully attempting to convince the United Nations that certain nations were systematically attempting to annihilate other nations. Only in 1943, when he invented the word 'genocide', did he find acceptance for his arguments. What is seldom realized is that anyone can create a neologism.

We can all 'language' the possible

I introduced the term 'Lemkinism' to make this point. Whether others use this word is up to them. Language is often taught as though it is a set of facts to be learned. When in use, however, it is inseparable from the organism that brings it forth. As such it is therefore a verb as well as a noun (as it is, for example, in Spanish). Drawing upon their observations of living systems, Humberto Maturana and Francisco Varela (1998) noted the ecological purpose of 'languaging'. We may observe how tiny babies use a heuristic approach to



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'language' what they want. This process is surprisingly effective, given their ignorance of dictionaries or their grammatical skills. This may inspire designers to 'Lemkinise' the unthinkable in order to make it possible. The idea that language sets the boundaries for thought probably derived from the writings of a 6th century Indian thinker, Bhartrihari (450-510). It inspired Western linguists such as Wilhelm von Humboldt (1767-1835) and led to the now famous 'Sapir-Whorf hypothesis' - otherwise known as 'linguistic relativity' (Whorf, 1956). This states that the grammatical categories of a given language influence our understanding of the world. Followers of this theory (e.g. Lakoff & Johnson, 1980) have elucidated this process, showing how our experience of the world is afforded by the metaphors we use in our language. If language enables us to redefine the boundaries of possible experience, then it may be a way to change the way we reason and, hence, to change our behaviour. Metadesigners may therefore be able to help society to 'language' its own evolutionary change. We can all contribute to this auspicious process...starting right now.

BIOG

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