‘slow design’ – a paradigm shift in design philosophy?

Alastair Fuad-Luke
2 Fairview Place
Falmouth, Cornwall TR11 2BH, UK
Tel: +44 (0)1326 210130
kaw84@dial.pipex.com

ABSTRACT
This paper discusses the economic models which drive design, the role of the designers, the existing design paradigm and its legacy. New paradigms are sought in education and design practice. Design professionals were challenged over thirty years ago with a new paradigm called ‘Design for Need’. Yet little has changed and, despite the development of a new models to consider the full gamut of human needs, many designers still favour solutions which celebrate their, often, egocentric visions rather sustainable solutions. Design hovers in an ideological vacuum and designers wear the mantle of stylists to the powerful. So it is opportune to examine a new design paradigm, ‘slow design’. Slow design celebrates the culture of largo; slow design is beautiful; slow design is about well-being; slow design is sustainable; slow design is durable; slow design is pluralistic. Slow design offers fresh, innovative and creative opportunities for designers.

Keywords
Design, Design for Sustainability (DfS), Well-being, Human needs, Slow Design

DESIGNERS AS AGENTS OF CHANGE

Inter-generational debate around the globe would re-affirm a universally accepted observation that our (human) world is speeding up. The finger is often pointed at technology but a more robust examination of cause and effect would point to humankind’s ability to create new economic models which have lead to the progressive commodification of time. After all, ‘time is money’, or time is the basis for economics. This latter re-interpretation is most eloquently demonstrated by Murray’s ‘seven ages of man’ (Table 1) where an almost exponential speed of change has occurred in man’s desire and ability to create new economic models which affect the practical fabric and philosophy of everyday human life [1]. The ‘industrial economy’, creating the means of mass production, commenced some 200 years ago. Seventy five years ago the ‘consumer economy’ emerged as the production of things reached mass markets and individuals could create lifestyles by packaging together these ready-made things. The mid-1970s saw the emergence of the ‘knowledge economy’. On the cusp of the new millennium Murray suggests that we are in a transition zone to the ‘human economy’ which harnesses the technology of the Internet to break the monopoly of communication held by governments and commerce. It gives individuals an ability to form ‘amoeba-like’ groups and communicate at will. Finally, Murray sees the emergence of the ‘intelligence economy’ where real and virtual worlds merge, where the boundaries between natural and artificial intelligence are blurred.

Murray’s concept of progression of economies is fascinating although a more realistic picture today is a world of concurrent economies where ‘industrial’, ‘consumer’, ‘knowledge’ economies have a varied physical presence within each nation state. Latest estimates indicate that 655 million, just over 10% of the world’s population, are internet users [2]. This indicates that the ‘knowledge’ economy is not equally distributed. Nor are ‘industrial’ and ‘consumer’ economies equally, or equably, distributed.

What, might you say, has Murray’s ‘seven ages of man’ to do with the current design paradigm? Design, and the professional design community, has been the great enabler. For the last 200 years design has been successfully converting financial, technical, human and natural capital into materialised, and more recently de-materialised, products and services. The 19th century British Arts and Crafts movement paved the way for the Deutscher Werkbund (1907-1935) and later the Bauhaus (1919-1933) to ensure that successful industries realised the value of embedding artistic endeavour alongside technological progress into their mass produced products. The Bauhaus mantra, which combined art, science and technology, remains the Holy Grail of much contemporary industrial product design and architecture, although marketing and the media delivers the image and the message. Design continues to enable the development of products and

services for the 'consumer' and 'knowledge' economies. Design is the key agent of change or as Manzini puts it, 'Design in all its history, but especially in its more recent years, has been an agent of acceleration' [3].

An educationalist, Alain Findeli, sees the current design paradigm as being characterised by three central pillars – its obsession with materialism, a predominantly positivistic method of enquiry based upon problem: solution, and an agnostic, dualistic world view [4]. Findeli sees design as reactive; that is reactive to the needs of the latest economic models, to the needs of commerce, to the marketplace (Table 2). He argues that design must become proactive and that design should embrace a new framework inspired by systems science, complexity theory and practical philosophy. The Bauhaus model is rejected in favour of a model based on perception (visual intelligence), action (a technological act is a moral act) and aesthetics (an aesthetic logic not a deductive logic, encouraging a reflective relationship between perception and action). Such a paradigm shift would involve transformation of one's vision of the world and would involve all aspects of one's being: intellect, imagination, sensitivity and will. But is this a design paradigm which will produce a vision of a sustainable twenty-first century? Will it engage the professional design community?

Findeli's arguments are directed at the debate on design education but it will take a generation or two for emerging design graduates to shift the existing design paradigm. The legacy of the existing design paradigm, design in collusion with government and commercial interests endorsed by billions of consumers, is alarming. The design community has, largely, satiated its creative instincts within the boundaries of economic models, it has, largely, ignored its responsibilities to a world beyond economics. Designers, as the conductors of symphonies of materials realised as material objects, are determining key issues for current and future generations concerning resource usage (renewable and finite), the use of hazardous/toxic substances, and speed of resource flow (including the planned obsolescence of products). The net result of designers' role in the 'consumer' economy over the last 50 years is a salutary reminder of the huge responsibilities designers face (Table 3). The wake up call for designers is the challenge, and huge creative opportunity, presented by Design for Sustainability (DfS).

DESIGN FOR SUSTAINABILITY

Design for Sustainability is an umbrella term for an ongoing debate which emerged from the green consumerism which briefly surfaced in the late 1980s in Europe and the USA. DfS has evolved from earlier debates on 'green' design, 'eco-design' and sustainable design' [5,6]. DfS, like any robust debate, has a healthy divergence of opinion as to exactly what it is and where it is going with a divergence of viewpoints to be found in academia[7,8,9,10,11], commerce [12],the public sector [13] and NGOs [14,15]. Despite differences of opinion there is universal agreement that DfS is concerned with addressing the role of design in moving towards more sustainable development, Brundtland's definition being most commonly cited [16]. The trinity of sustainable development is economic viability, environmental responsibility and social responsibility, or, in commercial language, the 'triple bottom line' and in academic language, the EES model. In a design context Charter [17] also includes an ethical dimension to create the 3ES model. Such models provide a useful framework for creating checklists for thinking about the problems but few designers and even fewer manufacturers would think of their products as conforming to such models. Rather designers and manufacturers are much more focused on *their* immediate needs and the perceived needs of their customers. This is borne out by the realisation, and visualisation, of products which are trying to embrace DfS [18,19]. Such products remain very much in the minority in the marketplace, although big businesses, especially those signed up to the importance of the sustainability agenda [20,12] see sustainable products as a new marketplace – a new economic model? So far, so good. DfS is being taken seriously by commercial interests and governments and designers will, as before, faithfully respond to the needs of this market and do its bidding.

But what of designers? How do designers perceive DfS? What is their role in the debate? Examination of statements from a cross-section of the design community, albeit entirely from the 'developed' world, simultaneously gives cause for celebration and concern [21]. Celebration because the DfS debate is recognised - one in five of the interviewed designers' statements had some grounding in a broad bag of sustainability issues, although the word sustainable hardly featured. Concern because most designers, even including those with DfS issues, seemed to place themselves entirely within the system of the 'consumer' and 'knowledge' economy models. DfS appears to have failed to cement itself into the vision of most of the world's leading and emergent designers.

This failure is compounded by another problem. As a possible new design paradigm DfS is constrained by the 'economy' in the trinity of economy, environment and society. If designers continue a 'business as usual approach' they will continue to serve interests which control the economic model. In short, designers will continue as enablers of industry, the adjective 'designer' will be synonymous with 'stylist' [22].

'WELL-BEING' AND HUMAN NEEDS

So, a new design paradigm is not only needed to 'save our world' but seems essential to 'save designers' and the professional reputation of design. Papanek offered a new vision for design, Design for Need, Design for the Real World [23,24]. His books remain some of the most widely read books on design worldwide, yet it is hard to see the influences of his doctrine in everyday design. Since Papanek, Ezio Manzini has done more than most to engage the design community in new ways of thinking about design. His ideas around design as a generator of feelings of 'well-being' for humankind, and as a means to at least reduce damage to the planet, or, at best begin the process of healing are imaginative. He questions the ability of design to 'conceive solutions combining the real-time of the interactions with the possibility of taking time for thinking and contemplation' [3]. He talks of the journey towards more sustainable products and services which involves cultural as well as technological change [25]. Perhaps the most relevant need for cultural change is within the design community. So, how could this be achieved?

Designers are creative, emotional, inspirational. Design is a creative process. To date most of the energy of designers has been applied to oiling the wheels of various economic models. Economies, markets, consumers are the foci to which most designers are directed. Designers frequently voice frustration over these constraints. Designers have also shown consistent concern for design which improves our lives and show continuing interest in experiential design, universal design, design and emotion, design to meet demographic changes and so on. So let's examine a new set of foci which sits comfortably within DfS sensibilities but lets designers re-focus their creative skills.

To create new foci for design it is necessary to, initially, remove the constraint of the economic marketplace which tends to dominate all other foci. Then it is necessary to create several foci which centre on the concept of 'well-being'. These foci are environmental well-being, socio-cultural well-being and the well-being of individuals. While the economic marketplace equates the concept of individual well-being with material acquisition, the new design paradigm can search much wider for its definitions of well-being. While the economic marketplace is starting to talk about environmental and socio-cultural well-being, its conversation is largely couched in the terms of one group of stakeholders, the financial stakeholders. The new design paradigm can represent the voices of all stakeholders.

A core part of this new design paradigm is to re-examine the well-being of individuals by embracing a methodology for understanding human needs in the context of sustainable development called Human Needs and Human-scale Development. Developed by Manfreed Max-Neef and his Chilean colleagues in the late 1980s, and further refined in the 1990s, their model creates a taxonomy of human needs. Human-scale Development is defined as "focused and based on the satisfaction of fundamental human needs, on the generation of growing levels of self-reliance, and on the construction of organic articulations of people with nature and technology, of global processes with local activity, of the personal with the social, of planning with autonomy and of civil society with the state." [26,27]. Human Needs are conceived as a network of inter-connected needs which are found to be of universal significance in all cultures. These needs are finite and classifiable, are inter-related and interactive and can be satisfied by a variety of 'satisfiers'. Fundamental human needs are classified as subsistence, protection, affection, understanding, participation, recreation (leisure, reflection time), creation, identity and freedom. These needs can also be classified by the existential categories of being (qualities), having (things), doing (actions) and interacting (settings). The resultant matrix of fundamental and existential needs gives rise to a 36 cell matrix (Table 4). Each cell of the matrix provides designers with an opportunity to raise questions relating to the context of a particular design task or project. This matrix of questions provides a completely different kind of tool for arriving at design solutions. It permits analysis and definition of the problem based upon needs extending well beyond the domain of commercial goods and services. This confers a freedom on the design process.

The messaging from current commercial interests is that individual well-being is implicit in the acquisition and consumption of products and services - the faster car, the latest computer, the smallest mobile phone. The language of design is exploited to meet the desires of ownership and status, and used to foster the idea of the creation of identity through consumption. Design which balances individual, socio-economic and environmental well-being will communicate a different message. It will still satisfy, where appropriate, the existential need to have but it will also draw on the need to be, to do and to interact and to engage with products of consumption in a more responsible way. This doesn't rule out the post-modern 'fun' in function, nor does it mean we cease consuming, rather it aspires to create deeper, more meaningful experiences which we know account to a broader view of well-being that that of consumer self-interest.

Returning to the concepts of environment well-being and socio-cultural well-being, there is a need to develop methodologies and matrices which provide a framework for designers to ask the right questions. The environment

(ecosystems which operate in the biosphere, atmosphere and lithosphere), as distinct from the synthetic man-created technosphere, has fundamental needs for its well being. Evidence from all over the globe that the environment can not act as an infinite sink for the wastes from the technosphere and those parts of the biosphere which man manages, is legion [10,28]. Socio-cultural systems similarly have fundamental needs for their well-being, these needs being just as pluralistic as those for individuals in the Human Scale Development. It is beyond the scope of the present paper but developing a systematic way of classifying well-being for the environment and socio-cultural factors will ultimately involve designers talking to and working in collaboration with specialists in environmental science, sociology and cultural studies.

SLOW DESIGN

So, we have the conceptual birth of a new design paradigm where the role of design is to balance socio-cultural and individual needs with the well-being of the environment. This new paradigm fits the title of 'slow design'. 'Slow' because this paradigm removes the time constraints of the economic growth and expediency, it takes design beyond the fabrication of things for the marketplace and, consequently, it avoids having to compete in an increasingly accelerating game of technological progress, brand positioning and commercial globalisation. This design paradigm does not have to conform to the shortening time spans allocated to the life cycles of products in the marketplace, it doesn't celebrate the smallest, biggest, fastest. It celebrates balancing anthropocentric needs (individual, socio-cultural) with the needs of the planet, it celebrates the de-commodification of time.

The sceptics will say how can you remove economic constraints from this new design paradigm? The protagonists for slow design will retort that economic interests will soon gather around products, services and buildings which provide deep satisfaction of human needs, while scoring positively on the environmental and socio-cultural balance sheets, for the simple reason that these will be the design creations which people/societies/cultures actually purchase in the future. New products and buildings in the spirit of slow design are already becoming commercial reality.

There are signs that those who have embraced DfS are already exploring, knowingly or otherwise, the possibilities of slow design. A few examples might illustrate the potential of slow design. Where a network of water transportation routes exists it is now possible to commute to work by solar-powered ferries. The German company Kopf AG has commissioned ferries running in lakes in Switzerland and the large 120 passenger RA82 ferries operate services in Hamburg and Hanover. Quietly gliding to work on the power of the sun, rather than fighting in commuter traffic, is good for personal well-being, allowing a moment of relaxation and calm, it creates a mode of transport more conducive to social and cultural exchange and reduces impacts on the environment to a minimum. It is also a commercially viable project. There are other, less techno-centric, examples of slow design capable of filtering into the retail market which help link us to the natural world such as Jurgen Bey's 'Garden Bench' made of compressed plant waste which will degrade over time; David Trubridge's 'Body Raft' chaise longue whose organic shape simply invites one to lie down and slow down (the Italian company Cappellini are now manufacturing this product); Pawel Grunert's exuberant wicker chair, 'The Draught' which celebrates the material (willow) and its sculptural qualities while encouraging us to sit and contemplate [19]. Evidence of the socio-cultural and environmental aspects of slow design are emerging in the way we build our housing, schools, and factories – recent examples include the first zero-energy mixed housing development in Europe at BedZED near London, UK; Weobley Schools in Hereford & Worcester, UK; the Ecover factory at Oostmalle, Belgium [19].

Those looking for the economic evidence of the potential benefits of slow design should take note from the success of two Italian movements, Slow Food [29] and Slow Cities [30]. Slow Food emerged to provide a counterpoint debate to the problems perceived with the attempted commercialisation and dominance of food markets by fast food chains such as MacDonalds. Slow Cities responded to the increasing problems of traffic congestion in Italian cities and the real financial costs to commerce and individual health. More recently the World Institute of Slowness [31], based in Scandinavia, sees new ways of examining business, fashion, shopping, design, culture, cities, travel, books and more based upon equating 'slowness' with 'goodness' and a paradigm shift in thinking.

And designers? How does the design community benefit from slow design? Slow design is: where designers can experience real freedom; when design improves our lives while simultaneously improving our societies and cultures; when design contributes to restoring the health of our environment. Slow design appeals to creative instinct, it is the 'art' in Design for Sustainability for, as James Wines notes, "Without art….sustainability fails" [32]. Slow design responds to the call of Christopher Day for buildings, artefacts, which embed "spiritual functionalism" [33]. Slow design embraces Design for Need [23,24], Design for

Society [34], design, emotion and user-centered design [35], inclusive design [36], and experiential design [37]. Most importantly slow design is a creative opportunity for designers to save themselves from the ignominious label of stylists and enablers of commercial gain. Slow design restores the debate on the role of design in the twenty-first century to the designers and opens up a creative conversation with a diverse range of stakeholders to secure a better present and a more sustainable future. Slow design can help commercial enterprise develop new business models and perhaps forge a new view of economies, an economy that is regenerative. Slow design can form the backbone of a 'regenerative' economy.

The success of slow design will be its relevance to the well-being of humanity and the global environment. Its incarnations will be varied but it has the potential to deliver a new spirit beyond the fashionable, the ephemeral, the 'zeitgeist'. It will focus on what the American architect Bruce Goff called the 'continuous present', rather than speculating about the future. Slow design will provide the means for new philosophical journeys, unconstrained by the mantle that economic imperatives have driven, and continue to drive, so much of our designed world. It will contribute to 'islands of slowness' [3] and begin the process of regenerating humankind and planet Earth.

A core tenet of slow design is that it is pluralistic. A few guiding principles are suggested for slow design (Table 5)…these are intended solely to create a platform for debate rather than be prescriptive. The future of slow design begins here.

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TABLES

Table 1 the seven ages of man and economic motivation

Type of economy	**Timeline (years ago)**	**Economic motivation**
Tribal	100,000	Survival
Rural	10,000	Civilisation
Industrial	200	Learning
Consumer	50	Lifestyle
Knowledge	25	Communication
Human	Year 2000 to ?	Individuality
Intelligence	Year 2000+ to ?	Being

Source: Murray, Will (2000) Brand Storm, Financial Times/Prentice Hall, UK [1]

Table 2 the characteristics of the current design paradigm

The current state of design focuses on:

- ?? Product engineering and marketing
- ?? The central role of economic success as the key evaluation criteria
- ?? A narrow philosophical anthropology – the user as 'customer' (defined by ergonomics and cognitive psychology)
- ?? An outdated 19th century system of design practice and intelligence
- ?? An overemphasis upon the material product
- ?? An aesthetics based predominantly on material shapes and qualities
- ?? A code of ethics originating in a culture of business contacts and agreements
- ?? A cosmology restricted to the marketplace
- ?? A sense of history conditioned by material progress
- ?? A sense of time controlled by cycles of fashion and technological innovation/obsolescence

Source: Findeli, Alain (2001) ‘Rethinking Design Education for the 21st Century: Theoretical Methodological and Ethical Discussion’, p5-17, *Design Issues*, Volume 17, Number 1, Winter 2001 [4]

Table 3 designers' legacy

Production and consumption, facilitated by designers, has changed our world:

An unequal world

- ?? 25% of the world's population – the rich people – account for 80% of global energy use, 85% of global chemical use, 90% of global car (automobile) use
- ?? a typical consumer from the developed 'North' consumes between 10 to 30 times more resources that a typical consumer from the developing 'South'
- ?? The average American's energy use is equivalent to the consumption rate of three Japanese, six Mexicans, 12 Chinese, 33 Indians, 147 Bangladeshis, 281 Tanzanians, or 422 Ethiopians

A biologically devastated world

- ?? the area of global rainforest has been reduced by 25% since 1950
- ?? biodiversity is under threat with diminishing populations of many species, for example the worldwide elephant population has shrunk from 6 million in 1950 to 0.6 million by 1997

A car dominated world

- ?? the world car fleet has increased from 53 million vehicles in 1950 to nearly 500million in 1997
- ?? the use of global fossil fuel has quadrupled since 1950 and is now over 8,000 million tons of oil equivalent per year

A world of consumption

- ?? The average American women owns five pairs of sunglasses
- ?? British novels
- ?? Major new electrical appliances bought by American consumers would make 11 stacks as high as Mount Everest every day. (130,000 units averaging 75cm)
- ?? Nearly one-quarter of Britain's entire trade deficit is attributable to wood and plywood products. Percentage of UK wood supplies imported: 85.

A world of waste

- ?? In the next three minutes, a stack of bottles and jars higher than Mount Everest will be dumped on the British Isles. Bottles and jars thrown away annually: 6 billion
- ?? In the next three minutes, a semi-trailer truck-load of plastic will be dumped on the UK landscape. Tonnes of plastic dumped per annum: 2.5 million
- ?? UK forests absorb only one tonne in every 66 of carbon give off by Britons burning fossil fuels

Source: Curran, Susan (1998) *Environment Handbook*, The Stationery Office, London [38]

and Morgan, Rowland (1996) *Digitations*, Michael O'Mara Books, London [39]

Table 4 Human Needs and the Human Scale Development by Max-Neef et al

Fundamental Human Needs	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
subsistence	physical and mental health	food, shelter, work	feed, clothe, rest, work	living environment, social setting
protection	care, adaptability autonomy	social security, health systems, work	co-operate, plan, take of, help	social environment, dwelling
affection	respect, sense of humour, generosity, sensuality	friendships, family, relationships with nature	share, take care of, make love, express emotions	privacy, intimate spaces of togetherness
understanding	critical capacity, curiosity, intuition	literatures, teachers, policies, educational	analyse, study, meditate, investigate	schools, families, universities, communities
participation	receptiveness, dedication, sense of humour	responsibilities, duties, work, rights	co-operate, dissent, express opinions	associations, parties, churches, neighbourhoods
leisure	imagination, tranquillity, spontaneity	games, parties, peace of mind	day-dream, remember, relax, have fun	landscapes, intimates spaces, places to be alone
creation	imagination, boldness, inventiveness, curiosity	abilities, skills, work, techniques	invent, build, design, work, compose, interpret	spaces for expression, workshops, audiences
identity	sense of belonging, self-esteem, consistency	language, religions, work, customs, values, norms	get to know oneself, grow, commit oneself	places one belongs to, everyday settings
freedom	autonomy, passion, self-esteem, open-mindedness	equal rights	dissent, choose, run risks, develop awareness	anywhere

Source: Max-Neef et al, 1987 summarised at http://www.rainforestinfo.org.au/background/maxneef.htm [26]

Table 5 'slow design' – a new design paradigm?

'slow design':

- ?? balances the well-being of individuals, societies, cultures and the environment
- ?? focuses on creating a sustainable today and tomorrow
- ?? considers physical, emotional, mental and spiritual durability important
- ?? celebrates diversity, is pluralistic
- ?? balances the benefits of localisation with those of globalisation
- ?? requires equity between humankind
- ?? celebrates a culture of largo
- ?? creates a new, strange beauty which responds to all human senses and values