The tragedy of the Thermostat;

Solipsistic v. co-created individuation

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Abstract

This paper asks how far the destructive aspects of over-consumption can be attributed to Western approaches to technology and individualisation. It reminds us that the autonomy of the monarch became a convenient prototype for the emancipation of the ordinary citizen and draws attention to the adverse ecological consequences of this development. Just as palace officials are inclined to shield Kings and Queens from certain unpalatable truths, so today's producers isolate their consumers from the ecological system that nourishes and sustains them. As a consequence, consumers enjoy strong individual rights of consumption but carry few acknowledged responsibilities, apart from payment. Taking a designer's

perspective the paper shows how industrialists encouraged individualism as a catalyst for economic growth. Here, product diversification became integrated with consumer individuation (Forty, 1986) to become an increasingly co-productive process. In this system, people and things become equivalent. The rhetorical self-identity of products (Buchanan, 1989) regulate the self-identity of consumers, and vice versa. When the process takes place within a stridently competitive system of economic production it leads to the self-increasing flow of materials and energy. The system is also sustained by myths of solipsism that encourage individual citizens to consume, despite the inevitable consequences for all. (Hardin, 1977; Festinger, 1957; Sloterdijk, 1988)

The paper argues that these myths are created by the advertising and entertainment industries to make us inward looking and socially fragmented. In offering a historical thumbnail sketch of individuation the paper contrasts solipsistic individuation with more co-dependent modes of individuation. It shows how the tendency to solipsism coincides with the development of self-regulatory machines such as clocks and thermostats. It is often assumed that these self-regulating mechanisms are essential for ensuring the high 'efficiency' of industrialised technologies, they therefore reduce waste and damage. This is only partially true because such automation bypasses our phenomenological realities. Where we entrust our individual identity and autonomy to clocks and thermostats we increase our alienation from Nature and society. As technology becomes more dependency sustaining (Wood, 1989), noumenal, distributed, ubiquitous (Norman, 1999), omniscient, and invisible, these problems are likely to increase. The paper warns that although 'phenomena-feedback' systems would save energy, they might also enslave us as human 'pets'. A better solution would be to use the spirit of individualism to guide us from a macro-capitalism of consumption to a micro-capitalism of production.

Destructive aspects of consumerism

A generous view of the values that underpin our economic (and ecological) system is that globalised consumerism encourages transactional flow to ensure the self-regulation of collective wellbeing. Within this system, all transactions tend to be seen as part of the exchange of products and services at a global level. Because it is evolving within a competitive, user-oriented framework the system ultimately seeks to dispense 'convenience', 'comfort', 'speed', and 'mobility' to everyone, everywhere, at anytime (Wood, 1998). This is, to some extent, counterproductive where, for example, social ills continue to rise in some of the richest countries. Arguably, where globalisation of markets tends to make us, as consumers, geographically dispersed we become alienated from the source of our sustenance. At the political level governments create trading subsidies (Raven, 1995) in order to stimulate and sustain transactional flow. This process often includes the exchange of similar perishable goods across thousands of miles, even though it must be obvious that this reduces their real and, ultimately, their economic value. More importantly, economic growth has greatly enlarged our collective ecological footprint (Wackernagel & Rees, 1996). It is now many times larger than the Earth itself. This is only the latest stage in a long history of systematically destructive habits that pose enormous dangers to the long-term wellbeing of many species on Earth.

Consumer individuation

As the range of these arguments is too wide to map comprehensively we shall use representative historical details to highlight key points of argumentation. The paper will suggest that individual consumers have increasingly become defined in terms of product predelictions and brand loyalties. Without systematic customer individuation there would have been fewer products to choose from. Conversely, without the advent of product differentiation there would be less emphasis on social and cultural individuation. Adrian Forty (1986) shows how, in the late nineteenth century, products became diversified to cater to a bigger range of individual preferences and tastes. In one example, an American mail order company (1895) advertised a knife in 131 versions, grouped in four basic categories of gender and individual type. The strategy of product differentiation therefore led to a sharper differentiation of user types. Today, as markets expand

and mature, products and customers become increasingly differentiated to facilitate economic growth beyond optimum levels of need and wellbeing. Social individuation is therefore an important catalyst for economic flow because it helps to diversify and expand all market sectors. As part of this process, the system has tended to promote an ethic of individual self-gratification.

Sovereign individualism does not scale up

As twenty-first century citizens we are still enthralled by notions of individual genius, whether exemplified by the egocentric reasoning of the Enlightenment, or by the brooding visions of Romanticism. Arguably, both paradigms continue to inspire the evolution of the global citizen as 'individualised consumer'. These processes were symptomatic of a new ethics of the individual in which a citizen's environmentalist responsibilities became eclipsed by their implicit rights as consumers. We should remember that a contemporary model of royal privilege inspired the seventeenth century idea of the 'self-owning individual'. Indeed, we could regard monarchs at the time of Hobbes and Locke as individuals who consumed an inordinate share of resources and wielded enormous power. Clearly, from an ecological perspective we can see that few individuals could adopt this mode of living without causing enormous environmental damage.

An ethics of self

Over the last two or three hundred years, or so, the individuated citizen has come to stand as an archetype of the social realm. For this reason, we now tend to speak of the primary duties of industry as meeting the needs of individuated consumers, rather than serving society at large. In the early twentieth century, developments such as psychoanalysis, hermeneutics, existentialism, and many artist-oriented artworks substantiated an increasing fascination for the idea of the subjective individual. In 1927, Heidegger emphasises the individuated experience of the situated self[1] in his "Being and Time", Heisenberg published his "Principle of Uncertainty" theory, Bergson received the Nobel Prize for literature, and Reich published "The Function of The Orgasm". In the same year Coca-Cola introduced the first 'one-way' (i.e. non-returnable) bottles for use on ocean liners. By 1948,

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[1] He used the term 'Dasein' (literally 'being there') to reflect the spatio-temporal aspects of an individual's self-aware presence whilst 'in' the world.

non-returnable glass bottles were becoming standard throughout the USA and elsewhere. Despite environmentalist protests about the growth of such practices, consumer lobbies (e.g. Nader, 1965: 2000) have tended to blame corporations, rather than individuals.

The consumer is God

This paper argues that consumerism reinforces a mode of self-aware individualism based on ideas initiated at the time of Socrates, and intensified after the Enlightenment. It suggests that this belief system continues to uphold patterns of personal choice that encourage over-consumption and alienation. For this reason it is unfortunate that many non-western cultures have been strongly influenced by the cultural belief systems of western individualism. This is not to say that all collectivist cultures will necessarily become individualistic. Indeed, many Japanese citizens, for example, tend to regard consumption more as a duty to their national economy, rather than as a celebration of their individuality. However, many cultural exports from the Western entertainment industries continue to associate western individualism with a glamorous lifestyle. In other cases, different traditions can just as easily map onto consumerism. Despite their differences, the traditional British trading adage that "the customer is always right" is remarkably similar to more strident Japanese and Korean versions which declare that "the consumer is God".

Humanism and subjectivity

In the fifth century, St. Augustine challenged the prevailing rational idea of 'astronomical time' by declaring a more 'subjective', or 'lived' time. As such, he drew attention to the uniqueness of a temporal perspective in the way we experience events and actions. By the thirteenth century, interest in the individual had become more widespread. Thomas Aquinas (1225-1274) conceived of human experience as a situated and emergent act of 'becoming', rather than the more rudimentary idea of 'being'. At the metaphysical level, Duns Scotus (1266-1308) introduced a more specific term (i.e. "thisness") to bring the proximal realm into general discourse. By so doing, he made it possible to identify the 'intelligibility' of individual humans as free beings, albeit in a co-defined, rather than in a solipsistic sense. A few years later, Petrarch (1304-

1374) explored a much fuller account of the lives of individual thinkers than previous writings had done. In so doing, he brought an emotionally richness to what had largely been a rational discourse. By noting the human, performative aspects of handwriting, he also paved the way for a value system in which individuals were more likely to notice their own distinctive gestures and traces.

Solipsistic and co-defined individuation

In medieval society 'individuals' were usually identified and named by their occupation, rather than by any personal distinguishing features. In England in the late 16th and early 17th centuries the concept of 'the individual' changed to that of "a kind of absolute, without immediate reference... to the group of which he is a member" (Williams, 1961). Philosophically speaking we can identify at least two levels of individuation: 1) co-defined 2) solipsistic.

1   co-defined individuation

Co-defined, or ecologically embedded individuation entails a reciprocal relationship between the outward and the inward attributes of the individual. It can be said to refer to the negotiated terms within which a given entity becomes defined as unique. In other words it is characterised by its role or active predicament in a larger context.

2   solipsistic individuation

During the last three hundred years or so, humanistic developments in the West led to definitions of the self that were solipsistic. This tendency to solipsism is supported by myths of the ego in which an organism defines itself by reflecting upon its interior conditions, precepts, values and desires.

When consumers become alienated from their habitat

Over the last few hundred years, Classical Science and Romantic Art spawned stridently dualistic models in which the human mind became seen as separate from Nature. Intellectually, this notion was inspired, in part, from the cognitive theories of Descartes, Kant, Locke and Berkeley. Whereas non-solipsistic modes of individuation probably emerged from the need for role differentiation within a technological society, the myths and attitudes of extreme individuation (i.e. solipsism) evolved within the rational mindset of Baconian and Newtonian

science. At a more emotional level, it also developed from the development of Romanticism in which artists found themselves cut off from the traditional patronage of the church. This was an age of unstable euphoria in which the proactive imagination was seen as the unique property of the artist's mind. The word 'individualism' was coined in the 19th century, and marks a renewed emphasis on the self in an increasingly consumer-centred society. As such, the word 'individual' originally meant 'indivisible', or 'inseparable'.

Possessive individualism

The foundational precepts for these developments are often attributed to the rationality of Socrates and the idealism of Plato. Early Socratic individuation identified self-knowledge and the soul as a (unique) centre of a person's ethical integrity within society. However, it is only after the time of the Enlightenment that Socratic reasoning joined forces with the monadic idea of the self-defining and self-owning individual that the idea of self-possession begins to qualify the individual and his, or her 'own' ideas. Arguably, the developments of writing, moveable type printing, and, latterly, digital communication systems led to systems of representation that were progressively self-absorbing for their 'readers'. (Wood, 1998). In these 'virtual' domains, the 'self-imagined self' can easily become amplified or aggrandised. This may remind us of the ancient story of Narcissus, who became disastrously obsessed by his own reflection.

The alienation of solipsism

As we have noted, the acceptance of a citizen's 'private' thoughts and actions became established in early Hellenic cultures. However, we may suppose that the idea of solipsism became accentuated by the emergence of silent reading that took place, according to the suggestion of Borges, (1964) at the time of St. Augustine[2], although it was probably introduced in the tenth century. In the eighteenth century, Daniel Defoe's novel "Adventures of Robinson Crusoe" (1719) created a literary genre that mythologised the individual as someone independent

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[2]'Confessions' (Book six); Quoted by Borges, J., L, (1964) "On the Cult of Books" pp. 117-118 in "Other Inquisitions", University of Texas Press: "When Ambrose read, his eyes moved over the pages, and his soul penetrated the meaning, without his uttering a word or moving his tongue.... perhaps he feared that someone who was listening, hearing a difficult part of the text, might ask him to explain an obscure passage or might want to discuss it with him..."

of society. This became a popular theme in modern sci-fi literature and we are still inclined to read it as a positive, if uncanny tale. Jonathan Swift's contemporary satire "Gulliver's Travels" (1726) offers a less favourable image of solipsistic alienation in which, for example, certain characters would swivel their eyeballs inwards, thereby losing touch with their surroundings.

The self-owning 'object'

Protestantism is usually cited as the genesis of western, ethical, self-aware individualism. It certainly caused individual conscience to replace Papal authority. However, where Calvin, Luther and Swingli emphasised mankind's weakness of spirit, the Dutchman Erasmus (1524) asserted the importance of a freedom of will in securing eternal salvation. Today, this idea is familiar to most of us and we easily forget that, before humanism emerged, people in the middle ages attributed emotions like 'fear' and 'merry' to their natural surroundings (Campbell, 1987), rather than to their own psyche or state. We should not see this shift as value-free. Weber uses the term 'disenchantment' to argue that this change in the belief system coincides with an increasing gap between mankind and Nature. Between the 16th and 18th centuries, keywords such as a 'self conceit', 'self-confidence', and 'self pity' came into use, and Coleridge coined the term 'self-consciousness' in the 19th century.

Military self-control

All of the above ideas contributed to the understanding of the self as an 'object' in its own right. However, another important precursor to the modern autonomous self was the mercenary soldier. As a freelance merchant he was independent of allegiance to any particular realm or kingdom and, as such, he was free to offer his services to the highest bidder. On the other hand, many mercenaries conducted themselves according to strict codes of self-discipline. Both tendencies can be found in European mediaeval codes of chivalry. Arguably, they informed the development later ideas of reflexive self-control that can be found in the Cavaliers, Dandies, Flaneurs and Romantics. (Campbell, 1987) This led to a mode of fastidious individuation that is recognisable in the modern-consumer. It is also reminiscent of the modern 'freelance' consultant who believes that his own ethical standards should be repressed when working for a client. It may also remind us

of the way that automation permeated and influenced the pace and flow of the culture, especially with regard to the introduction of clock-time to induce self-discipline and social control.

Technological individuation

We may remember how, in 1577, clock-time became more socially intrusive when the first minute hands were added to clock faces. Around the same time that Galileo invented the thermometer, (1597) the Dutchman Cornelius Drebbel (1572-1633) developed a thermostat to regulate the temperature of an oven. Not long afterwards (1637) Descartes declared humans to be self-moving machines. Here, the fusion of individual and machine was made possible by a belief system that found technology irresistibly glamorous. Indeed, Blaise Pascal (1623-1672) is said to have prefigured the modern wristwatch by walking around with a small clock tied to his sleeve. The wristwatch was later issued to soldiers (1901) as a replacement for the fob watch, because it would be more immediately accessible in emergencies. It is interesting to note how, after the sixteenth century; ideas of self-regulation became blended at the social and technological levels. Perhaps we could imagine Pascal's prototype as exemplar for the modern 'cyborg' (Haraway, 1991).

Bureaucratic and technological individuation

As we have said, it is important to distinguish between self-defining and state-defined individuation. The latter case can be found in many bureaucratic and imperial contexts, where evidence of rank, class, and identity were required to sustain the vast social hierarchies of empire. In the fourteenth century, a government official in Persia noted that no two fingerprints were exactly alike. It has since become almost impossible for us to dissociate this observation from the technologies of criminal investigation and security systems. Sir William Hershel was the first to use fingerprints in India (1856) and Bertillon invented a picture identification system for suspected criminals (1879). handwriting analysis, lie detector tests, DNA tests, and many other technologies continue to emerge at a rapid pace.

From bureaucratic to self-organising individuation

The above methods are also compatible with F. W. Taylor's ruthless system of production that ignores the individual skills or views of workers (Taylor, 1911). Taylorism (or 'Fordism') became liberalised after World War 2 when the dance innovator, Rudolph Laban, collaborated with management consultant F. C. Lawrence to devise a method[3],[4] for personalising the body movements of factory workers in the UK. Today, many companies are becoming less hierarchical and more dependent upon networks of smaller companies. The subsequent development of 'flexible-time' and 'teleworking' has apparently created a more relaxed work regime. Nevertheless, despite the distribution of faster and more sophisticated technology, many people still work long hours and are subject to employer surveillance. This is partly because there is a degree of voluntarism (Wood, 2000) in the use of email, mobile phones and palmtop computers etc. which, although privately owned, render many workers 'on-call' to their workplace at any time of the day and night.

'Homeostasis' as emancipation

At an analytical level, by emphasising the role of the individual player within the collective domain, it subsequently became possible to visualise society as an emergent aspect of individual self-regulation. This has been a familiar theme within a variety of fields and eventually came to be seen as a form of homeostasis. The idea has also had important political and economic implications. In 1704, the Dutchman Bernard de Mandeville wrote an ironic and optimistic satire, "The Grumbling Hives" that explored the premise that individual selfishness might lead to benefits for all. This provocative argument made a deep impression on Adam Smith, and inspired theories of "self-help" and the "Invisible Hand" (1776) which influenced Darwin's theory of evolution (1859) and many later generations of laissez-faire economists.

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[3] Newlove, Jean, (1993) "Laban for Actors and Dancers; Putting Laban's Movement Theory into Practice, a Step-by-Step Guide", Routledge, New York, Nick Hern Books, London

[4] Maletic, Vera, (1987) "Body Space Expression", Mouton de Gruyter, Berlin, New York, Amsterdam

Self-awareness becomes more self-conscious

In the mid-nineteenth century the Flâneurs were gentlemen of leisure who rebelled against the pace of industrialisation by taking leisurely walks, and gazing at anything that would amuse them. Some were reputed to keep pace with pet Turtles as a way to resist the acceleration of industrial life. There is irony, here, in the theatrical detachment of the Flâneur, and the preoccupation of the factory workforces that hurried to serve him. His self-importance displays some of the militaristic vanity of the Dandy, who wanted to appear aloof and well groomed in every situation. The codes of behaviour that upheld these very public appearances were important to the way that fashion later developed within consumerism. Perhaps it is too fanciful to suggest that the consumer's twin imperatives of 'feeling good' and 'looking good' derive from the complementary modes of solipsism offered by Descartes and Berkeley. (Wood, 1999) This is not to suggest that this solipsism is absolute, but that its fashions have been inspired more by individualism than collectivism.

The self-designed self

Today we have a growing range of tools[5] for re-defining and representing an apparently autonomous ego. The variety of such approaches may remind us that the independent self can be defined using many different perspectives such as time, place, or phenomenological focus. As the twentieth century progressed, the attainment of self-awareness became an increasingly self-conscious act. Erving Goffman's 'Presentation of Self in Everyday Life' (1959), was an academic work based on observations of contemporary American society. However, it can also be used as a self-promotion handbook for citizens who wish to become more successful in business. The subsequent advent of the Internet gave Goffman's work a new relevance because it opened up a popular interest in a solipsistically defined and rhetorical 'self'[6]. Likewise, where most of Michel Foucault's work describes the individual as an object of power, his last works (1984) went on to explore issues including the individual as a self-creating subject.

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[5] For example, Nietzche, Goffman, 1959; Rogers, 1980, Foucault, 1970

[6] http://www.ntu.ac.uj/soc/psych/miller/

The self-reflexive shopper

Since the mid-twentieth century, the empowered, reflexive self has become increasingly important to the evolution of consumerism. Several key theorists provide a useful map of western individuation. For example, Jacques Lacan (1966), claimed that individual emergence is an inevitable phase in child development. Using Freud's theories he argued that infants in the developed world become individuated from society in an irrevocable experience of language-defined self-awareness called the 'mirror-phase'. Where Lacan's theory seemed to offer a clear proof of individuation Carl Rogers' (1980) client-oriented psychiatry placed the adult individual at the centre of his own solipsism. Not long afterwards the artist Barbara Kruger coined the phrase: "I shop, therefore I am". Kruger's hyperbole is not surprising, given the perceived importance of trading within a twentieth century society that increasingly believed itself to be governed by economic forces beyond national leaders or their States. In such a system, the need for increasing consumer individuation built upon the self-defining tendencies that already existed in western societies. This remains a mutually reinforcing process.

Individualism designed to maximise profit

Although, as modern, self-centred individuals we have become alienated from our ecological habitat, we are increasingly integrated within an economic system that has been designed us to be 'self-regulating'. The fashion industry, for example, must moderate innovation so that designs are novel enough to attract sales whilst being sufficiently recognisable that they will not challenge the commercially sustainable genres of fashion (Barthes, 1983). Likewise, there is always a trade-off between social conformity and individualistic autonomy in choosing clothes. The glamour of technology itself has also played a part in this process. Despite the subsequent development of digital wristwatches, Palmtops, Radio Watches, Mobile Telephones and Bluetooth technology, the rhetorical principle behind Pascal's wristwatch is intact. All of these gadgets individuate their wearers by enabling them to feel independent of them, whilst being controlled by, networked protocols of 'public time-space'. More importantly, the myth perpetuates an instrumentalist, reductivist, and atomistic view of the world as functional and artefactual theme park.

The age of cynical reason

Where life is defined according to perceived industrial imperatives, consumerism becomes a danger to the general wellbeing. Hardin (1977) notes the tendency for individual (over) consumption to endanger what is available to all. This is a sub-optimal version of Weber's (1964) argument that shows how individual action became rationally oriented to a system of discrete individual ends. Similarly, Habermas describes modern work patterns as 'purposive-rational action'[7] He speaks of "instrumental rationality" (Habermas, 1971, pp. 91-92) to show that we may excuse our actions by seeing them as individuated from the whole. Festinger (1957) talked of "cognitive dissonance" where we strive for 'consistency' between our desires and the conflicting evidence that we encounter in satisfying them. We see that there are dangers in what we do, but we may tell ourselves that the dangers are not immediate, real, important, or irreversible. Sloterdijk (1988) suggests that we live in an age of 'Cynicism', which he distinguishes from the conventional meaning by calling it "enlightened false consciousness". Sloterdijk's version is more dangerous. We may be aware that what we are doing is wrong but we do it anyway.

We assume that the thermostat is noumenal

Perhaps these attitudes have emerged in a society that has become accustomed to the invisibility and dependability of production. In times of plenty, automation seems to ensure that food is produced, no matter how we behave. The thermostat, to take a modest example, has become indispensable within the domestic environment, and we usually assume that its technological efficacy is inevitably higher than that of a human. Within systems thinking, a thermostat, in conjunction with a heater, is depicted as operating very much like any other negative feedback system. As such, we assume that it is a noumenal regulator that seeks to maintain whatever absolute conditions to which it has been set. This poses problems for consumption because we tend to associate consumer rights to comfort without regard for the specific effects that it causes. Where temperatures can be confined to a moderate level we may tell ourselves that we have subscribed to an acceptable level of environmental damage. This can be an

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[7]German word: "zweckrational aktion"

illusion. Even the most energy-efficient boiler, coupled with many well-placed thermostats can hide the fact that one's home may lack adequate insulation and draught proofing.

The noumenal alienates us from Nature

In many actual systems, the initial phase of a negative feedback control cycle uses positive feedback (e.g. an 'avalanche device') to hasten the decision-making process. In solid state devices this would be exemplified by Schmitt Trigger devices that convert subtle analogue levels almost instantaneously into binary decisions of 'on' and 'off'. 'Monostable' switches are designed to do a similar operation, and to leave the device in an 'on' condition for a pre-determined length of time, irrespective of the user's needs on that occasion. Exterior security lights work in this way, switching on and off throughout the day and night, perhaps triggered by passing animals or innocent visitors to the area. They are usually unnoticed by their owners for most of the time that they are in operation. Likewise, thermostats keep our rooms warm even when we are not in them. An additional problem is that many people tend to misunderstand its operational 'psyche' and override the temperature control by 'switching' it alternately 'off' and 'on'.

The binary, decision-making self

This paper has suggested that the technological metaphor of the thermostat has guided Western humanism towards mechanistic visions of the self as remote from society and Nature. Just as the thermostat emphasised decisive, autonomous decision-making, so the epistemologies of the nineteenth and twentieth centuries tended to take a digital, rather than an analogue path. (McCorduck, 1979). Wilden (1987) claims that this has made our society fact-oriented, rather than values-oriented. This is evident in the importance of binary decision-making, required by virtually all human-computer interfaces. Correspondingly, as Blackman (1995) points out, the post-consumerist role of selfhood requires us to frame ourselves in such a way that we are merely 'free to choose'. We should note that this is a mode of self-reflexivity in which, despite its claims to 'freedom', emphasises choice rather than a freedom to imagine alternative

visions. As thermostatic individuals, globalisation promises us the bland safety of homeostasis in return for dumb allegiance.

Could technology become more co-creative?

At present it is unlikely that the trend to consumerist individuation will decrease, especially where commercial corporations need increasingly individuated products as a way to create new markets. Within the current value system of orthodox economics, this tendency is likely to be stimulated by technological innovation, rather than from a radical shift to human services. But could technology be re-designed to save humanity from its solipsistic self-importance? Such an approach may call for a more playful relationship between users and their automatic gadgets. For example, if designers were to adopt a more phenomenological, 'smart-systems' approach we could have automatic systems that evaluate the perceived, rather than the actual warmth of a room. This would entail judging the user's perception in an anticipatory way. It would probably use neural net technology to ameliorate energy reductions over a given period. It would also be designed to take the user's health and age, etc. into account. Such systems would, perhaps, tease users by bargaining with them to attain a lower level of fuel consumption. Ultimately, there are dangers with such a system where emergent properties in creatively intelligent systems may eventually make decisions that are dangerously counterproductive, or damagingly sub-optimal.

Arrogant self-absorption

As we have suggested, the ecological outcome of an organism's excessive self-absorption is alienation from the system that co-produces it. When individuation occurs without adequate reference to the organism's ecological context there is failure and death. Even at the social level, solipsistic individuation is a self-limiting condition because the individual only survives when altruism and egoism are balanced to contend with his/her social and ecological context[8]. Nevertheless, genres of solipsism became useful for the marketing of entertainment systems, for fashion, and for beauty products. How problematic is this? Should we worry about the contrast between the 'actual' solitude of the computer workstation and

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[8]paraphrased from Maturana, H., & Varela, F., G., (1998), "The Tree of Knowledge", Shambhala, Boston & London, p. 197

the 'virtual' togetherness of an online 'community'? Perhaps we should seek to avoid individualism for its own sake, and see it as something that emerges only when we achieve an emancipatory order that reconciles Nature with society.

Better that global consumers become local producers

If we are to regain a more ecologically harmonious place in the world, perhaps we should see individualism as a special condition that justly emerges from shared wellbeing, equity, and conviviality at the local level. In this sense, individual emergence would be most helpful where it is situated in the immediate present and locality. In short, an individual should be proximally embedded within his/her ecological context via the shortest spatio-temporal paths. For this reason, a less technology-oriented solution would be a better place to start. Indeed, we would need structures that more closely emulate ecological systems themselves. Such an approach would probably require an organic model in which many species of discourse and exchange are encouraged to co-exist. At present we are moving towards fewer, larger currencies. Ultimately, this will tend to encourage the dominance of one or two highly rationalised ideologies and ways of living.

Personal eco-currencies

Smaller, more diverse money systems would have the effect of emphasising value, rather than quantity. It would be far easier to launch small rather than larger currencies because they can be 'seeded' by example. Also, they can evolve from local and consensual need, rather than be designed and imposed by a central ruling. In any case, small currencies do not preclude their users' participation in larger ones. Micro currencies can be designed in such a way that their circulation is responsive to the ecological and social circumstances within which they are used. How could we achieve this? One way might be for governments to tax currencies according to the numbers of their participants. Ideally, the transactional system should be small enough to enable all currency users to know one another. (Douthwaite, 1992:1996). This enhances individuation in a way that brings local economies closer to their local ecologies, and therefore ameliorates the benefits to each community. If designed for a specific neighbourhood, the value of a given denomination would be affected by the perceived credibility of the bearer of the coin, within a given context.

Ultimately, individualism could be reflected in the currency itself. Arguably, the personal CV is already a form of currency within the job market. If designed to reflect the holder's past and future relationship to the environment, it could provide the template for a new kind of personal eco-currency.

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