

4º Workshop Investigação Próximo Futuro - Felicidade

Fundação Calouste Gulbenkian, 4 - 5 November 2010

A Good Life sees Virtue in Responsibility

Responsabilidade Ambiental como uma virtude. Um possível caminho para a “boa vida”?

Sofia Guedes Vaz (CENSE, DCEA, FCT, Universidade Nova de Lisboa),

Olivia Bina (Instituto Ciências Sociais, Universidade de Lisboa)

Resumo

Pensar a responsabilidade como uma virtude é um meio através do qual podemos desenvolver um conceito alternativo de “boa vida”, contribuindo assim para a agenda da felicidade sob uma perspectiva diferente. Este enquadramento aristotélico da “boa vida” potencia uma cidadania ambientalmente activa. Colocando a responsabilidade ambiental no centro da noção de “boa vida” cria novos espaços que favorecem reflexividade relativamente ao que pode ser verdadeiramente bom para as pessoas, para o planeta, para as gerações futuras, para todas as espécies.

Introduction – Challenges to happier times

If we compare countries across the world in terms of per capita gross development product (GDP), or even in terms of the human development index (HDI) - then we can safely conclude that most people in high-income countries (rich countries hereafter) enjoy a good life. However, much depends on how we define “good life” and in this paper we interpret it to encompass more dimensions, than the usual suspect: material satisfaction leading to a comfortable life. We want to propose a notion, which essentially caters not only for the individual (and more specifically, the consumer), but also in terms of the quality of relations of individuals’ towards others (the community, society) and towards the environment (their immediate environment and the biosphere). In doing so we appeal to a range of theories linking virtue ethics to the idea of responsible being, and acting, including Aristotle’s notion of *eudaimonia*, Hume’s idea of inward peace of mind, Dobson’s ecological citizenship, Leopold’s land ethic and Naess’ deep ecology. This allows us to refine, the currently in vogue notion of ‘happiness’, enriching it with discussions on the potential of virtue ethics and responsibility.

In defining a good life, and thus a happy life, in such broader terms, we note that our ‘golden age’ is somewhat tarnished. Rising levels of anxiety (De Botton 2004 ; Layard 2005), declining or stagnating levels of happiness, and wellbeing (Bartolini 2010 ; Jackson 2009), partly linked to our ‘growing unequal’ (OECD 2008), and partly to our rising dissatisfaction with what we have materially, politically or personally – have all been causes of concern. The recent financial crisis has only contributed to highlight, and exacerbate these, and to shift concern a step closer to social and political strife, notably as a result of the austerity plans.

The current prevailing socio-economic system is one driven by the pursuit of unconstrained growth (expressed in percentage of GDP), dependent on ‘debt-fuelled, fossil-fuelled, consumption-based growth with insecure jobs’ (GEC 2010; see also: Foster and Magdoff 2009). It is a system that is built on the notion of individuals as

maximising utility agents (or *homo economicus*), that equates material wellbeing with the good life (and happiness as part of this goal), and which persists in viewing the environment as a mere input to the economic system of production, limiting itself to the acknowledgement of externalities. This worldview emphasises the individual above the community, society and the environment. It tends to deny the link between man and nature, as much as it denies the relationship between the economy and the biosphere – except in instrumental terms (see for example: MEA 2005). It is in stark contrast with conceptions of ecological sustainability, and has resulted in rising inequality (intra and inter generations), widespread signs of ecological degradation, and a worrying stagnation in the levels of happiness when compared with the universally acclaimed goal of growth (or the constant rise in GDP, see Layard 2005; OECD 2008).

Unconstrained growth has led to (1) an increasing questioning of the results of growth, primarily expressed in GDP terms, in terms of promoting equality and contributing to happiness and wellbeing, and (2) a rising concern about the environmental un-sustainability of a widespread adoption of Western lifestyles by emerging countries, notably China and India; concern driven primarily by the notions of carrying capacity (CCICED and WWF 2008), and the accumulating evidence of ecological degradation and exacerbating risks (Rockström *et al.* 2009 ; Schellnhuber *et al.* 2005). These two, strictly related concerns have been the main drivers of the renewed interest in happiness and wellbeing in the economic field, and the broad debate in terms of the overall notion of societal progress and the right to a good life; notably in the field of economics - in alliance with psychology, neuroscience, to name a few – and specifically in terms of questioning the dominant role of GDP in policy-making (EC 2009 ; Stiglitz *et al.* 2009).

This paper is meant as a contribution to this new research and policy agenda, through the interpretative lens of virtue ethics. We propose to review the link between virtue ethics and responsibility to find additional ways of addressing the two concerns mentioned above. We argue that working on the notion of responsibility as a virtue is a possible means through which we can develop an alternative notion of good life, thus engaging with the rising agenda on happiness from a different perspective. We explore

responsibility as a virtue thus enabling individuals/citizens to find meaning in acting responsibly towards the environment. We examine the multiple benefits that arise from framing good lives in active terms, focusing on citizens and their capacity for responsible action, compared to the passive notion of consumers. The notion of virtue is central to our proposition. Virtue includes a mix of being and acting good for the self, for the other, for the future and for the planet, and is linked to *eudaimonia*, and more broadly to the ecological sustainability agenda (Pelletier 2010). Contributions to *eudaimonia* will come from the often referred “feel good factor” and the Humean “inward peace of mind” given by an active (environmental) citizenship. Thus acting good – responsibly towards the environment - contributes to a better environment and will make our lives more meaningful and ultimately feel happier persons. Furthermore placing responsibility at the centre of a notion of the good life can create a space that enables and empowers individuals to envisage a life that is good for them, for the planet, for all children and all species. We will argue that virtue thinking may broaden our sensibilities as members of the polity by giving more room to alternative and positive ways of thinking and acting, introducing into our political discourse about the environment the notion of a virtuous attitude towards nature and others. Therefore, in summary, we wish to contribute to the theme of this workshop by exploring the potential of environmental virtue ethics and responsibility to promote “happier” (or more meaningful) lives.

Responsibility as a virtue

According to the liberal Western tradition, responsibility is fundamental to the political agenda and must be considered as one of the values against which a society and its institutions ought to be evaluated. In his paper with the self-explanatory title, “If we value individual responsibility, which policies should we favour?” Brown (2005: 24) analyses why individual responsibility should be promoted, presenting five rationales for promoting it:

1. Utility – individual responsibility tends to promote happiness and the optimal satisfaction of our desires.
2. Self-respect – individuals who take greater responsibility for their own lives and livelihoods experience enhanced self-respect.
3. Autonomy – expecting people to take individual responsibility for the success or failure of their own lives is an important way of showing respect for their competence as freethinking agents
4. Human flourishing – individual responsibility is an essential part of what it means to lead a good life
5. Fairness – the habit of assigning responsibility to individuals for the situations in which they find themselves responds to our intuitions about the fair way to distribute goods and services.

The spirit of Brown's proposal is partly in line with ours. Actively choosing one's values and one's goals instead of passively receiving them from empowered political or economic structure (including legal constraints or economic incentives), implies a commitment to responsibility as a property of one's identity as an agent. Responsibility, which depends on choices, then might be understood as a virtue of character. And not only: drawing on evidence from psychology studies, David Harvey highlights the negative effects of 'positive' economic incentives on behaviour, as well as overall satisfaction and notions of a meaningful life (Harvey 2010). Similar arguments are advanced by Tim Jackson (2010) in his argument for a redefinition of 'the self'.

The narrow definitions of the self (or 'what it means to be human', in the words of Jackson, 2010) as a self-interested, utility maximiser, after neoclassical economic theory, and autonomous agent, after Rawls' ideas of contractual liberal justice, have been widely criticised (Pelletier 2010). Here we are interested in two specific weaknesses: the emphasis on the individual as separate from the community and society, and furthermore, the virtual denial of a relationship between man and nature (Bina 2010). We draw on Leopold's (1981 [1949]) land ethic and Naess' (Naess 1973) biospheric egalitarianism (also as discussed in: Pelletier 2010) to emphasise the need for a more holistic understanding of what it means to be human, beyond the worldview that characterises neoclassical and liberal ideas of the self. Hence, recognising that the

individual is a member of a community of interdependent parts, and that humankind is an integral part of its environment. Human wellbeing, therefore, cannot be conceived of in isolation of either fellow human beings (we are, in Aristotle's understanding, social beings), the community and society, nor of its environment and the ecological systems upon which we depend (MEA 2005). In this sense we therefore draw on the concept of ecological citizenship, as developed by Andrew Dobson:

‘an example and an interpretation of ‘post-cosmopolitan’ citizenship, and it possesses four principal characteristics. First, it deals in the currency of **non-reciprocal responsibility**; second, it works with a non-contiguous and non-state understanding of political space, best understood in terms of the ‘**ecological footprint**’; third it argues that the **private arena is as much a sphere for citizenship as the public arena**; and, finally, it **cleaves to the notion of citizenship virtue** understood in terms of the virtues required **to meet ecological citizenship’s specific obligations** rather than in terms of ‘citizenship virtues’ more arbitrarily understood’ (Dobson 2004: 2, emphasis added).

Discussing responsibility in terms of using virtue ethics to further investigate its potentialities for creating a kind of ecological citizenship becomes then our preferred means. One of the traditional entry points to ethics is the question, “what should I do?” Different framing thoughts or approaches help us to answer it. Normative ethics is usually divided between schools that emphasize either deontology, utilitarianism, or more recently, virtue ethics (Hursthouse, 1999; Slote, 2001; Crisp and Slote, 1997). Deontological ethic, which is identified with Kant and his followers, takes as its central proposition that ethical rules are universal and unaffected by subjectivity – that is, emotion. Thus, one should always act according to the duty devolving on all agents, and in so acting treat human beings as autonomous ends in themselves - and never as means. The utilitarian ethics inspired by Bentham and Stuart Mill was based on the principle of acting so as to maximize the greatest happiness for the greatest number, which, at heart, entailed consequentialism – it was the good consequence, and not the good intention (as per Kant) which counts as worthy. The approach of virtue ethics is to claim that any

response to the question, “what should one do?” is related to another one related to the whole of one’s life, namely “how should one live?”¹

The focus is then on the individual as an active agent and on his character, motives and behaviour within his form of life. Virtue thinking attributes quite a lot of responsibility to the individual, and in doing so, contributes to her empowerment. This responsibility translates into a need of constant awareness of the inner self and its development. “In a philosophical analysis of morality, what place should be given to the “inner life”?” asked Murdoch (1956, p.36). Murdoch is questioning the idea that morality can be completely reduced to problems and solutions, and instead involves something she calls someone’s “total vision of life” (p.39), or “texture of a man’s being or the nature of his personal vision” (p.39). As she says, in the ordinary sense, the question is of how “a person is like” (p.39). And how one is like is constituted above all by one’s character.

This leads to the question of character traits and their development. Following Aristotle, virtues are excellences of character. They are more than tendencies to act, but signal to others what can be expected of one - that is to say, the social face of the virtuous person is reliability. So in virtue ethics, being virtuous is the same as acting virtuously. Doing the right thing for the right reason in the right moment and in internal harmony with the life form one has, with others, developed, is basically a matter of character. For the position we are sketching, the question is one of impressing a dimension of responsibility on one’s “inner self” that can be decomposed into three aspects: being responsible, feeling responsible, and acting responsibly. A responsibility that relates the individual to the community (others) and to its ecological base. We view the current limited notion of the self as an obstacle to the good life’s socio-political, environmental and ethical dimensions and therefore this paper proposes that environmental considerations should become part of how character is developed. Responsibility towards others has been a perennial value in the history of mankind (for an interesting

¹ As McDowell (1979) so nicely puts it “If the question “how should one live?” could be given a direct answer in universal terms, the concept of virtue would have only a secondary place in moral philosophy. But (...) occasion on occasion, one knows what to do, if one does, not by applying universal principles but by being a certain kind of person”.

treatment, see: Rifkin 2009), just as environmental responsibility figures largely in the history of environment. But translating such a value into virtue is giving that crucial step of moving forward in the so called action-value gap.

Eudaimonia

More importantly for the theme of this workshop is the fact that one strand of the modern revival of virtue ethics has to do with reconstructing the *eudaimonia* concept for contemporary purposes. Hursthouse (1999:167) talks about what she dubs Plato's requirements on the virtues:

- i) “the virtues benefit their possessor (they enable her to flourish, to be, and live a life that is, *eudaimon*)
- ii) the virtues make their possessor a good human being (human beings need the virtues in order to live well, to flourish as human beings, to live characteristically good, *eudaimon*, human life)
- iii) the above two features of the virtues are interrelated.”

For Hursthouse (1999: 172) “the claim is not that possession of the virtues guaranteed that one will flourish. The claim is that they are the only reliable bet”. Believing that investing in environmental responsibility as a virtue will therefore also promote our flourishing, our happiness, our wellbeing is therefore the proposition we wish to advance. We refer to four major contributions to support our arguments: the nobility of virtuous actions in Aristotele, the inward peace of mind in Hume, the meaningful life in Wolf, and finally we draw on Jackson's critique of the self in economic theory.

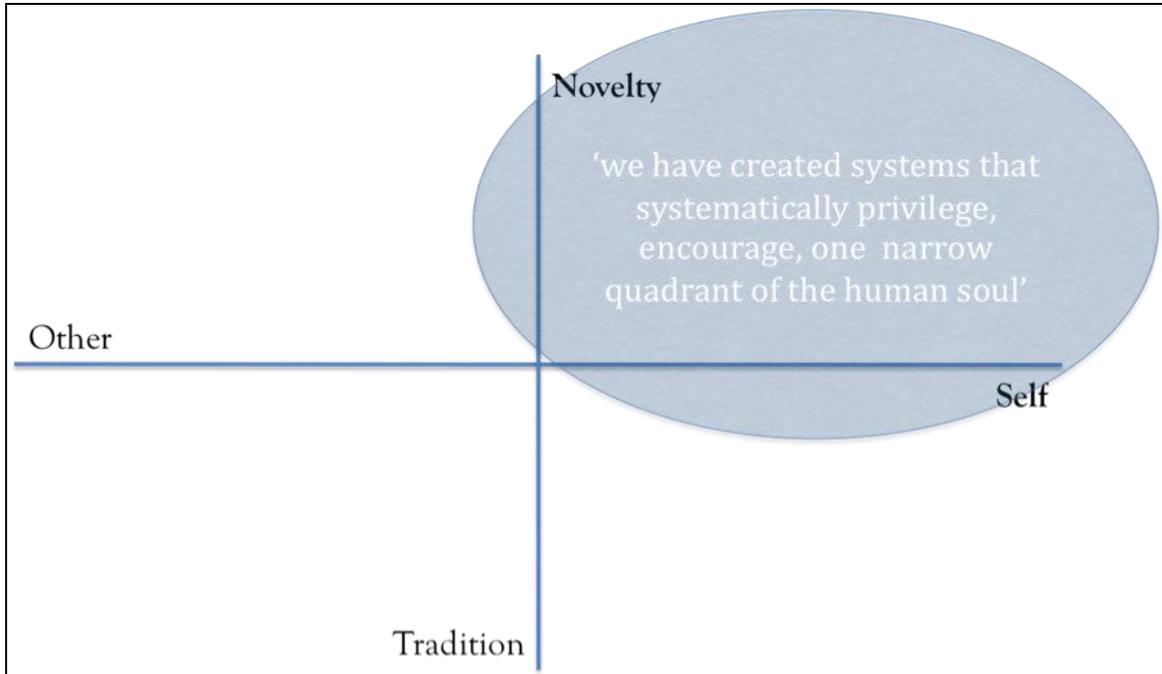
Being a virtuous person is being a happier person, in the *eudaemonic* sense of Aristotle. For Aristotle, virtuous activity is not burdensome, but noble and enjoyable: “Moreover, the life of these [active] people is also pleasant in itself. For being pleased is a condition of the soul.” (1099 a 5) And he takes a one-to-one view of virtuous actions and pleasure: “actions expressing the virtues are pleasant in themselves.” (1099a20). David

Hume, similarly, acknowledges that acting virtuously is a source of happiness: “Inward peace of mind, consciousness of integrity, a satisfactory review of our own conduct; these are circumstances, very requisite to happiness, and will be cherished and cultivated by every honest man, who feels the importance of them”. Finally, Susan Wolf notes that the terms in which the modern question of the good life is posed have changed. According to her, “the meaning of life” is no longer part of the philosophical inquiry, having been replaced by an inquiry into “a meaningful life”². Wolf concedes that there might be no meaning to life; yet she claims that this is not in contradiction with the project of having or seeking meaningful lives. She describes a meaningful life as one that is involved in “at least partly successful engagements in projects of positive value” or “projects of worth”. If someone dedicates some part of their energy to projects of worth, which are difficult to define conceptually, but intuitively intelligible, then the meaningfulness of their lives is increased. Both investing in having a virtuous character and actively engaging in “defending” and being responsible towards the environment are examples of some intuitively worthy projects.

Together, these three contributions highlight circumstances that are essential to a good life, and all of which emphasise how individuals relate to others, to the community and to society. This is further discussed by the fourth contribution: Tim Jackson (2009 ; 2010) discusses the tension – identified by psychologists – in our behaviour between the self-regarding and other-regarding, the novelty seeking and the traditional or conservative (Figure 1). He stresses the need to change economic systems so that they embrace the other-regarding dimension as well, and we further expand this to include a non-anthropogenic worldview, in line with Leopold, Naess and O’Neill.

² Luso-American foundation organised a session on 22 July 2005 where the American moral philosopher Susan Wolf exposed this theory. (Personal attendance and notes)

Figure 1: Bias for the self-regarding



Source: Tim Jackson, 2010, TED (@11:00 minutes)

O'Neill (1993, p.24) has proposed that "care for the natural world is constitutive of a flourishing human life. The best human life is one that includes an awareness of and practical concern with the goods and entities in the non-human world." O'Neill recalls Richard Routley's last man thought experiment: imagine that the last man, after some nuclear war, takes steps to ensure the destruction of all other life on earth. Though our human interest would not be harmed, Routley argued, our moral instinct would be to condemn this. In fact, the objects and organisms about us, in the world, do have a deep moral footing with us. "... the last man's act of vandalism reveals the man to be leading an existence below that which is best for a human-being, for it exhibits a failure to recognize the goods of non-humans" (p.24). O'Neill knows that this is a controversial claim, but he bases it on an Aristotelian interpretation of human flourishing. Intelligence and contemplation are characteristic human capacities that should, according to Aristotle be fully exercised, and if so these would allow us to understand and value the natural world. Accordingly, several studies, namely in household waste reduction (Fahy, 2007) and transport studies (Anable, Lane and Kelay, 2006), reveal how people

recycle or they take public transportation because it makes them feel good. This “feel good” factor suggests that environmental citizenship is likely to balance sacrifices in the consumer lifestyle with increases in the feeling of personal self-worth.

Thus, noble action, integrity, satisfaction with one’s conduct, the pursuit of projects of worth, and a deep awareness of the non-human world - all result from virtue acting, and all contribute to happiness, and to a good life. They all emphasise a wide notion of the ‘other-regarding’ dimension of the self. We therefore refer to these arguments in order to ground our relationship with nature in the notion of responsibility as a virtue, and to suggest this as an integral dimension of the kind of meaningful life that economic and environmental policies should ultimately serve to promote in pursuing wellbeing and sustainability. Or, in other words, in addressing the two main problems identified in the Introduction.

Environmental ethics has perennially aimed at promoting lifestyles that enhance an equilibrated and harmonious relationship with nature. Acknowledging the role of virtues to promote this type of lifestyles has been a specific added value of environmental virtue ethics.

We propose that the development of a virtue ethic in regard to the environment has three stages. First, one should develop responsibility as a habit; secondly one should be given the opportunity and hopefully have the openness and the will to learn about the environment; and lastly, one should develop the vision to see oneself as an active participant in the world and in a polity, i.e. being an active citizen. Here we are using three of the Aristotelian concepts: habits, *sophia* and *phronesis*.

Conclusion

Complementing policies based on the usual rational choice framework with a cultural policy of promoting internal motivations using the model of responsibility as a virtue will have benefits at both the personal and political levels. In the end, our quest is to live more meaningful lives, and we believe this is interlocked with living more

environmentally caring lives. A new social ethic might be taking form due to our current deteriorating situation, shaped by environmental loss (we need to live within nature limits), economic boom and bust (we need to consume less nature resources), political inertia and corruption (we need good governance), social inequality (we need a fair society) and existential crisis (we need to find balance and meaning). We should therefore understand politics, and particularly economic policy with its emphasis on growth, in a wider sense than as mere techne, whereby it might assume its former role of contributing to *eudaimonia* through developing virtuous acting in its citizens within the environmental realm. We attain three things by being responsible towards oneself, the other and the world. First we become better persons; second, we chose to live in a good environment; and thirdly, we will all experience not the compensatory happiness of consumption, but the *eudaimonia* of meaningful lives.

It therefore seems appropriate to conclude with a final reflection on the link between the challenges to a good life and education. While the link with dominant socio-economic systems geared towards growth and consumption has been central to our argument, there is an additional and more long-term implication in our proposition that there might be virtue in responsibility: a change in the education agenda. Well before the evident rise in frequency and scale of crises in capitalist systems, Schumacher (Schumacher 1974: 64) argued that Western civilisation's state of 'permanent crisis' suggested that 'something [may be] wrong with its... organised education'. Commenting on science and engineering he (1974: 66) noted these produced 'know how', but that this remained 'a means without and end' due to a failure to 'turn the potentiality into a reality to the benefit of man'. This critique that has been similarly applied to mainstream (neoclassical) economics, as it moved further and further away from the tradition of political economy, emphasising its scientific credentials and methodological integrity (Cardoso and Palma 2007), at the expense of ethical and political goals of distributive justice (Foster and Magdoff 2009 ; Lunghini 1996). Schumacher (1974: 66) appealed to education systems to transmit 'ideas of value, of what to do with our lives', considering this to be 'the essence of education... [so that values] become our own, a part, so to say, of our mental make-up'. Responsibility has virtue, but it needs to be reclaimed as a central dimension of what it means to be human, starting from how we educate future

generations, if it is to contribute to a life that is good for them, for the planet, for all children and all species.

References

Anable, J., Lane, B., Kelay, T., 2006. *An evidence base review of public attitudes to climate change and transport behaviour*. Final Report, Department for Transport, UK

Aristotle, 1985. *Nicomachean Ethics* (Translated with introduction and notes by Terence Irwin) Hackett Publishing Company

Bartolini, S. (2010) *Manifesto per la felicità. Come passare dalla società del ben-avere a quella del ben-essere*, Donzelli Editore, Roma.

Bina, O. (2010) Can, and should economics remain relevant in the 21st Century? Reflections on the challenges to economics in the light of a double crisis. In *The Revival of Political Economy: Prospects for sustainable provision*, CES, Faculty of Economics, Coimbra University, Coimbra, Portugal, October 21-23, 2010.

Brown, A., 2005. If we value responsibility, which policies should we favour? *Journal of Applied Philosophy*, Vol.22, N°1, pp 23-45

Cardoso, J. L. and Palma, N. (2007) The Science of Things Generally. In *Lionel Robbins's Essay on The Nature And Significance of Economic Science 75th Anniversary Conference Proceedings*, (Eds, Cowell, F. and Witztum, A.) STICERD, London School of Economics, 10-11 December 2007, London, <http://sticerd.lse.ac.uk/textonly/events/special/lionelrobbins/ConferenceProceedings.pdf> (accessed: 2/2/10), pp. 387-402.

CCICED and WWF (2008) *Report on Ecological Footprint in China*, China Council for International Cooperation on Environment and Development (CCICED) and The World Wide Fund for Nature (WWF), Beijing, www.footprintnetwork.org/download.php?id=503 (accessed: 7/6/08).

Crisp, R. and Slote, M, 1997. (ed) *Virtue Ethics*. Oxford University Press

De Botton, A. (2004) *Status Anxiety*, Oxford University Press, Oxford.

Dobson, A. (2004) Ecological Citizenship. In *Paper presented at the annual meeting of the Western Political Science Association*,

http://www.allacademic.com/meta/p87792_index.html (accessed: 10/10/10), Marriott Hotel, Portland, Oregon, Mar 11, 2004.

EC (2009) *GDP and beyond - Measuring progress in a changing world* Communication from the Commission to the Council and the European Parliament, COM(2009) 433 final, 20.8.2009 Brussels.

Fahy, F., Davies, A. 2007. Home improvements: household waste minimisation and action research. *Resources, Conservation and Recycling*

Foster, J. B. and Magdoff, F. (2009) *The Great Financial Crisis: Causes and Consequences*, Monthly Review Press, New York.

GEC (2010) *Green, fair and productive: How the 2012 Rio Conference can move the world towards sustainability*, Green Economy Coalition,

http://www.greeneconomycoalition.org/sites/default/files/documents/GEC_Rio2012_0510.pdf (accessed: 16/6/10).

Harvey, D. (2010) *Crisis of Capitalism*, RSA Academy,

<http://comment.rsablogs.org.uk/videos/> (accessed: 14/7/10).

Hume, D. 1777. *Enquires concerning the human understanding and concerning the principles of morals*. (Edited by Selby-Bigge). Oxford, Clarendon Press, (2nd Ed - 1902), Impression of 1972.

Hursthouse, R., 1999. *On virtue ethics*. Oxford University Press.

Jackson, T. (2009) *Prosperity without growth? The transition to a sustainable economy*, Sustainable Development Commission,

<http://www.sd-commission.org.uk/publications.php?id=914> (accessed:20/3/09).

Jackson, T. (2010) *TED Talks Tim Jackson's economic reality check*, Transcript of presentation, filmed July 2010, Oxford,

http://www.ted.com/talks/tim_jackson_s_economic_reality_check.html (accessed: 12/10/10).

Layard, R. (2005) *Happiness Lessons from a New Science*, Allen Lane - Penguin Books, London.

Leopold, A. (1981 [1949]) The Land Ethic. In *A Sand County Almanac with Other Essays on Conservation from Round River* (Ed, Leopold, A.) Oxford University Press, Oxford.

Lunghini, G. (1996) *Political Economy and Economics*, Università di Pavia, <http://cfs.unipv.it/opere/lunghini/political.doc> (accessed: 19/9/10).

MEA (2005) *Ecosystems and Human Well-being: Synthesis*, Millennium Ecosystem Assessment, Island Press, Washington, DC.

McDowell, J. 1979. Virtue and reason. Reprinted in Crisp, R. and Slote, M, 1997. (ed) *Virtue Ethics*. Oxford University Press

Murdoch, I., 1956. Vision and choice in morality. *Aristotelian Society*. Supplementary Volume XXX.

Naess, A. (1973) The shallow and the deep, long-range ecology movement, *Inquiry*, **16**, 95-100, Summary at:

http://www.alamut.com/subj/ideologies/pessimism/Naess_deepEcology.html (accessed: 10/10/10).

OECD (2008) *Growing Unequal? Income Distribution and Poverty in OECD Countries*, Paris.

O'Neill, J., 2008. Happiness and the Good Life. *Environmental Values* Vol. 17, pp 125-144

Pelletier, N. (2010) Environmental sustainability as the first principle of distributive justice: Towards an ecological communitarian normative foundation for ecological economics, *Ecological Economics*, **69**, 1887-1894, doi:10.1016/j.ecolecon.2010.04.001.

Rifkin, J. (2009) *The Empathic Civilization: The Race to Global Consciousness in a World in Crisis*.

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., Wit, C. A. d., Hughes, T., Leeuw, S. v. d., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R. W., Fabry, V. J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. and Foley, J. A. (2009) A safe operating space for humanity, *Nature*, **461**, 472-475, doi:10.1038/461472a.

Schellnhuber, H. J., Crutzen, P. J., Clark, W. C. and Hunt, J. (2005) Earth system analysis for sustainability, *Environment*, **47**, 11-25.

Schumacher, E. F. (1974) *Small is Beautiful - A Study of Economics as if People Mattered*, Abacus, second edition [1973], Sphere Books Limited, London.

Slote, M., 2001. *Morals from motives*. Oxford University Press

Stiglitz, J., Sen, A. and Fitoussi, J.-P. (2009) *Report by the Commission on the Measurement of Economic Performance and Social Progress*, Commission on the Measurement of Economic Performance and Social Progress, Paris, <http://www.stiglitz-sen-fitoussi.fr/en/index.htm> (accessed: 16/9/09).