

## **Transparency and the limits of ‘see-through knowledge’**

An essay about the drive for limitless scientific knowledge and total transparency in social relations and what we may lose along the way.

### ***A ‘see-through world’***

Once upon a time, in the Garden of Eden, God said to Adam: “You are free to eat from any tree in the garden; but you must not eat from the Tree of the knowledge of good and evil, for when you eat from it you will certainly die”. Yet the Devil lured Adam’s partner Eve into eating from this Tree with the enticement that its fruit would open her eyes and that she would “be like God, knowing good and evil.”

The human species, it seems, is well on its way to eating the fruit of *all* of the trees in the Garden, including from the forbidden Tree of the knowledge of good and evil. In our headlong rush to discover the workings of everything – ‘laying bare all things’ - nothing is excluded from the relentless probing of scientific enquiry. Working both inwards and outwards from the scales of unassisted human observation, our scientific chains of reference now reach into the vanishingly small and the astonishingly large. We have deconstructed Plato’s atom as far as The Higgs Boson – that (still, just) hypothesised elementary particle. And not content with discovering a still expanding universe of unimaginable size, we are on the verge of bringing into being the multiverse, which would comprise an infinite number of such universes. Such revelatory power – such astonishing knowledge - seems matched only by the ability of the human imagination to dream into being inexhaustible numbers of its own invisible worlds. Whilst science keeps on discovering more than we imagine, we humans keep on imagining more than we discover.

This scientific pursuit of the infinitely small and of the infinitely large – our tasting of the endless fruits of the Tree; our knowledge of all things - is accompanied by new technologies which indiscriminately open up our life-worlds and our materiality to voyeuristic gaze. The eye of Google is all-seeing: our streets, our gardens, our doorsteps are bared for all to see. The mind of Google is mapping and re-mapping our personal shopping and viewing habits. The memory of Google is now digitising every printed word, re-casting human literature as irreducible bit-sized chunks of text.

And, also unapologetically, other technologies are making the human body transparent. Thus the micro-architecture of human physicality is revealed in the A-C-G-T DNA sequences of our genome. The products of the brain – our thought patterns – are given lurid shape, colour and movement through MRI scans. And digital images of intimate sexual organs and acts in picture-perfect high resolution clarity fuel our pornographic voyeurism. Nothing is barred from this opening up. We are truly living in a ‘see-through world’.

This trajectory of enquiry is doing more than laying bare the physical basis of existence for all to see. It is also reducing the human experience of being to ever greater digitisation: our thoughts, our memories, our emotions, our movements, our sexuality, all captured in exabytes of data. The ultimate end point of this brutal unveiling will be when the entire cascade of physicality with which our lives and personalities are associated can be captured digitally – what we see, hear, think and speak for every second of every day of every year stored on ultra-high density media. Our lives will then not just pass before us in those flickering milliseconds as we approach death. They will be recorded for posterity: our lives re-livable vicariously by our descendants - whether before or after they have been edited by the social guardians (aka the new gods) to take out the undesirable bits.

Thus does the fruit from the Tree of knowledge offer humanity unrivalled power and mastery over all that matters most to us as humans: our identity, our life-story and the twin poles of good and evil.

### ***Openness and transparency in science***

It is this deep penetration of physical substance and the exhaustive digitisation of the grounds of all being, which in the future will hold the key to wealth accumulation - and to political oppression. Debates about the privatisation of knowledge have already been played out with regard to the form of ownership of the human genome, but many more arguments lie ahead. How will the Google Books project change ideas of copyright? Can my genetic profile be sold to insurers? Who has the ownership rights when my memories become digitised? What authority will I possess over my human clone?

This insatiable appropriation of god-like power – with all of its potential for subsequent abuses – lies behind calls for another form of transparency. As science lays bare the physicality of everything and our identity and lives become digitally captured, demands proliferate for a parallel transparency about the practices of science and about the ownership of science's accumulations of exabytes of data. In a previous era social progressives called for the 'common ownership of the means of [industrial] production'. Today, in the name of democratic accountability, social progressives call for the common ownership of the means of knowledge-making about the digital glasshouse in which we now live. In other words, their call is for the practices and products of science to be owned *by* the people, *for* the people.

The new Clause 4 might then read: *'To secure for the citizen the full fruits of knowledge and the most equitable distribution thereof that may be possible upon the basis of the common ownership of the practices and products of science and the best obtainable system of popular administration and control of each scientific venture.'*

It is this new drive for transparency with regard to knowledge-making and knowledge-owning which underlies movements for open-access academic journals, open source-code models and fully public data depositories. The Royal Society has just conducted a study into ‘openness’ in science<sup>1</sup> and the UK’s Freedom of Information Act and the Environmental Information Regulations are being mobilised increasingly often to ‘open-up’ scientific data, information and communication to public view. Bloggers and internet-based citizen-scientists use new spaces of argumentation to hold scientists to account.

This call for openness and transparency in science may be an admirable democratic instinct, but one wonders if it is enough, or even whether it is misplaced. Can one form of transparency compensate for another? Can the relentlessly-probing and all-seeing Eye of science be held accountable through the common and transparent ownership of the practices and products of science?

### ***‘Seeing everything, yet seeing nothing’***

In this manic urge to reveal everything about everything - to constantly expose, reduce and digitise – and to open-up every process to everyone, it is possible that something important is being lost. There is a danger that by making all things transparent – by making our world entirely see-through – scientific knowledge is in fact leaving us with nothing to see. Our gaze is so enticed by the vast clear distances of physicality through which we look – from the elementary particle to the multiplying universe - that we see nothing of importance at all. We see everything, yet are nourished by nothing. The mysteries of being, the human virtues of wisdom, humility, hope and love which together comprise the idea of goodness, have been lost to view.

Juxtaposing the idea of goodness alongside the idea of the ‘see-through world’ is interesting because no matter where one looks goodness cannot be located. Virtue cannot be reduced to its elementary particles, nor digitised for later manipulation or virtual reprise. Goodness will not be discovered by the Large Hadron Collider, nor by the Hubble Space Telescope. Similarly, trust in our social relations cannot be attained by ever greater disclosure nor by full transparency. Trust is relational and only makes sense – trust can only work – where there is at least partial non-disclosure, otherwise it is no longer trust but robotic calculation.

Yet although we cannot locate or dissect goodness or trust how desperately do we need to know how to cultivate them. The leading Australian environmentalist Tim Flannery concluded his most recent account of humanity’s future on Earth *‘Here on Earth: a new beginning’* with these words: “But I am certain of one thing – if we do not strive to love one another, and to love our planet as much as we love ourselves, then no further human

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<sup>1</sup> <http://royalsociety.org/news/Royal-Society-launches-study-on-openness-in-science/>

progress is possible here on Earth.”<sup>2</sup> And across the environmental movement there is a resurgence of interest in the idea of virtue - expressed through those elusive human qualities and practices of wisdom, trust, humility, hope and love.

Our transparent ‘see-through world’ seems largely impotent here. Does it make us wiser, more trustworthy or more loving to know that the Higgs Boson exists, or to know which 30 different parts of the brain are activated during orgasm or to know that the word ‘chided’ comprised 0.00003 per cent of all n-grams in Google Books’ digitised corpus of 8 million English language books? Does it make us any more trusting of scientists if we can scrutinise every email they exchange with each other and read every scribbled entry into their lab-book or personal journals? And if not, are we pursuing a chimera in demanding full and total disclosure; have we then reached the limit of useful knowledge?

Harvard psychologist Jerome Kagan in his book *‘The three cultures’*<sup>3</sup> surmised that the experience of living may not be improving, even as the vastness of our knowledge increases: “... as recognised by the ancients ... the human condition ... does not ascend on a bright path to a more perfect state of all humanity”. On the one hand, science is making an ever more ‘see-through world’ and one in which our very experience of being human is digitised, captured and manipulated. And on the other, our reaction to this irrepressible Eye of science is to call for greater openness and transparency in scientific practice. We seem to believe that by making transparent the practices that make the physical world transparent we will somehow discover there what we have lost in our ‘see-through world’.

Yet by making everything see-through we also lose some essential quality in our experience of being human. Greater transparency in knowledge or greater disclosure in social relations sometimes constitutes a loss. Opacity and ambiguity can at times be virtues. The ancient myth about a Garden and a Tree speaks of the relationship between human knowledge, power and morality. Knowing all is perhaps knowing less; there may yet be good reasons for restraint.

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Professor of Climate Change  
School of Environmental Sciences  
University of East Anglia  
Norwich NR7 7TJ  
[www.mikehulme.org](http://www.mikehulme.org)

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<sup>2</sup> p.281 in, Flannery, T. (2011) *Here on Earth: a new beginning* Allen & Lane, London, 316pp.

<sup>3</sup> p.272 in Kagan, J. (2009) *The three cultures: natural sciences, social sciences and the humanities in the 21<sup>st</sup> century* Cambridge University Press, Cambridge, 310pp.