

Carnivals, cultures and daisy-chains: Project Solar Eclipse as a case study for sustainable use of new media

The nexus between technological and social systems and

hence the context for social and technical sustainability:

When Shirley Ali Kahn defined sustainability (*HE21/Sustainability Indicators Consultation Project, Nov 1998*) as encompassing development practices that were able to "sustain the human, social and institutional systems" she definitely mirrored Cooley's thoughts from the eighties. Cooley (*1981*) had said: "as we design technological systems, we in fact end up designing social systems."

Cooley was already inferring a link between technology and sustainability through his concern that any technology that did not assume a humanizing face could not expect to sustain itself, far less be able to sustain social systems.

Technology's role in sustaining social systems has since come under deep scrutiny, especially during the post-nineties, thereby making it imperative for us to understand how far back the roots of humanizing technology go in order to draw meaningful lessons from the past. Given our own specific concern about the networking technologies as a context for social and technical sustainability, even more so.

According to Gui Bonsiepe (*Ulm #13/14, Mar1965*), faculty-member at the Ulm School of Design in the sixties, the history of design started officially in 1919 when Walter Gropius founded Bauhaus with a few firsts:

(i) it was for the first time that the total human environment was being mandated as an object of design; (ii) the first time that such a human environment was being envisaged as driven by modern technology and industry; and (iii) the first time that a human environment, conditioned by such forces as industry and technology, was being visualised as necessarily having to be humanized.

Fired by these broad principles and tasks, "the impulses of the Bauhaus people were (then) directed towards improving the environment through the use of technology" rather than through its avoidance.



The concept of humanizing technology as a directive principle is, therefore, not a post-nineties creation as the rush of jargons from the computer-human interface (CHI) practitioners would suggest. With historical references available from nearly a whole century ago, it is obvious that humanizing technology assumes primary importance as a principle for design practice and pedagogy, with sustainability forming its very bedrock.

A test-case from the networking technologies for examining

social and technical sustainability - precursors for pedagogy:

It is against this background that we would like to present the case of Project Solar Eclipse as an experimentation into new media technology undertaken jointly in the Fall of 1997 by two universities [Falmouth College of Arts (FCA), UK and Indian Institute of Technology (IIT) Bombay, India]. The collaboration (now extended to West Dean, Chichester) continues to date. Seen from the point of view of sustainability as an operative for design practice, the Project's mandates could very easily represent the following intentions: (i) to make technology touch base and be relevant with user-groups either perceived to be intimidated by the networking technologies or are deprived access to the same; and (ii) to strive towards working 'resource-optimally' - both with respect to digital and computing as well as with respect to physical resources connected to the use of new media.

There are six sets of identifiable attributes emerging from this experimentation, which we should like to present here as early precursors for pedagogy. These are being underpinned by 'sustainability' as the continuing thread of the narrative in support of Bob Pulley's own efforts at outlining a charter of faith towards shaping design into a meaningful and equitable discipline. And more specifically, in support of his avowed intention to build a "daisy chain" of universities across the solar eclipse's line of trajectory from Cornwall in UK to Mumbai in India (*footnote about the eclipse as a starting point for our project*).

Basically, here was a priceless opportunity to use a moment of history when a complete solar eclipse was on its way to eclipsing the largest swathe of landmass in recorded human civilisation. To make a strong figurative statement about "connecting up" cultures and institutions of learning on an occasion of such cosmic

splendour must only be viewed as our own tribute to this matchless phenomenon.

The following have been identified as some of the potential strands/models for pedagogy emerging from the experimentation:

(i) *The particular facility of the medium of the Internet to be self-generative and in that sense 'green', not to mention the medium's capacity to be documentative* (quick and easy publication, display and upgrading possibilities).

It is these qualities of self-generative, regenerative and documentation (thereby ensuring more optimal use of learning material already generated) that makes us reference thinkers such as *Shirley Ali Kahn's (1998)* work on sustainability.

The two noteworthy features about new media's re-generative and self-generative capacities have already signaled early signs of a paradigmatic shift in the way that we can expect learning materials to become available to us. This paradigm shift involves a movement away from the prevailing teacher-to-taught situation towards a potentially symbiotic relationship between learner groups.

How does this happen?

While it has usually been the case that material generated through learning exercises by children have remained closeted and treated as such prior to the Internet. With the new media's ability to now display works for viewing and their potential use, children now not only get to learn, they even get to be enablers of the learning process for others by adding their work to the compendium of work already on the Net. This distinct possibility of children's creative output getting distributed combined with the highly diffusion-driven quality of the Net, can itself form a trigger for further such interactions.

(ii) *The experience of collaborative learning as an incipient quality of new media*, with a promise of revival of the 'collective-amorphous' as in the earlier, more spontaneous stages of civilisation in contrast to the modern, mechanistic 'individual-exact'. This is Maholy Nagy's (Staatliches Bauhaus in Weimar, 1919-23/ Munich, 1923) interpretation of our intellectual relationship to the world.

However, more specific to the context of web-based collaborative experience would have to be *Scivener and Clarke's (1994)* concept of *CSCW (computer supported co-operative work)*.

(iii) Embedded in such resource-optimisation and collaborativeness is the promise of making open source/share-ware/group-ware a vital and ubiquitous part of the Net, in the process enabling free or at least relatively *easy access of learning material*

to disadvantaged groups. This could, in turn, *cut across dependencies* such as ill-equipped schools or exploitative agents acting as sources of learning. (E.g., literacy-related tools on the Net would allow more numbers amongst the disadvantaged to learn in groups of certain numbers from the Net without having to shell out exorbitant fees and simultaneously being assured of standards/quality).

This is conceivably the only medium that has the potential for such *democratisation of information* and, in the process, reducing *subversive practices* of information-sharing. References to *Bordieu* here is pertinent since he draws parallels of such subversiveness from the issue of language hegemony and outlines the outcomes of '*symbolic domination*'.

(iv) *The experiencing of moving across the boundaries of disciplines (inter-disciplinary)*, viz., movement from specific to mixed disciplines The Net is extremely conducive to being informed by several disciplinary approaches at a time. The need to maintain the status-quo of an individual discipline or specialisation is often obviated in favour of the need to collaborate across specialisations - especially true in the case of children as a user group. Their relatively uninformed approach tends to attract/invite diversity of thoughts and fights the tendency towards over-specialisation/ vertical thinking. Pertinent in this context would be Eames' thoughts on design (1958).

(v) *The experience of moving across cultural boundaries (cross-cultural)*

- i.e., from fixed/rigid/stationary cultures to a mix of two or more cultures.

Relevant to both the tendencies of the inter-disciplinary and the cross-cultural lies the promise of delivery of an outcome whose whole could be greater than the sum of their parts since there is usually no way to control or limit the nature of such spontaneous intermixing. Also, the intervention of children shorn of adult biases could foster a wealth of spontaneous cross-cultural interactions. Pertinent to both (inter-disciplinary and cross-cultural) could be the works of *Henry (1990) and Kelly and Kelly (2000)*. And finally,

(vi) *The experience of spontaneous celebration of the very act of learning, as if learning were a 'carnival'* vs. learning as a rigid/static individual exercise in acquiring knowledge. Since a 'carnival' situation is a joyous one,

participants usually yearn for more of it. A common/oft-recurring question from the Project's

spectator/user is: "when are you holding another 'event'? Can I come and join?" This urge for an encore itself could provide the basis for a model for 'imparting lessons' otherwise considered uneventful or repetitive.

It is said that the Sumerians of Mesopotamia (now Iraq) invented formal education of children in Circa 2000BC. Early participants, as eye witnesses, have recorded for posterity their experience of such learning ('A School Boy's Day, Sumer, c 2000 bc/Eye Witness Account of Great Historical Moments from 2700

BC to AD 2000, Lewis): "Arriving at school in the morning I recited my tablet , ate my lunch, prepared my new tablet, wrote it, finished it, then they assigned me my oral work.....When school was dismissed, I went home, entered the house, and found my father sitting there. I told my father of my written work, then recited my tablet to him, and my father was delighted."

This anecdote does not indicate if the child, viz., the eye witness, was delighted as well. Today, in Circa 2000 AD, the story remains much the same. Perhaps, here is a medium that could change this forever. Hence it is important to understand the innate qualities of how a 'carnival' works.

From the experience of our Project it would seem that a carnival, by its very nature, is driven by collective inspiration/endeavour and definitely by the numbers. This condition is entirely in keeping with the collaborative promise of the Net. Which means, that a 'carnival'-like situation is feasible on the Net since both the 'collaborative' and the 'carnival' seem to go hand in hand - one a concomitant of the other.

Added to that is the fact that an essential factor facilitating this 'carnival'-like atmosphere is the extremely sensorious nature of its experience - derived as it is from the 'events' which are, in turn, colourful and exciting to their very core for both children and adult alike. And which unfold themselves right before the participants' eyes as if one were in the midst of a slow-motion or real-time animation film. Naturally, this experiential nature of learning can be far more vivid as opposed to the sifted and sorted nature of classroom teaching.



A case for optimism and metaphors - a solar eclipse is not

always about the sun under siege:

It might be presumptive to announce, with the certainty of faith, the concluding words about a medium that is so nascent in its development cycle especially given the open-source and shareware idioms of the new media and, indeed, our own Project. Instead, a scenario building, much in the manner of wishful thinking and storytelling would certainly be more synchronous with the "blue-sky" and "green-field" descriptions attributed to projects in this medium.

This Project started during the last decennia of the closing century. They say that when history is written in the 21st century, these decades will be referred to as the new gold rush. But that is only if you were on horseback sallying forth, looking to dig the gold. What if you were, instead, the indigenous 'Indian' who had tilled the soil all along and never bothered about any gold-digging? And who had rather the hindsight advantage of witnessing something unfold before your eyes?

You would then wish to refer to the same decade as one during which a media had exploded on our face to show us, for the first time, the complete nexus between "technology, science and art." A media that had demonstrated its power as a cultural intermediary with "interactivity as the key cultural technique" (*Prix Ars Electronica, Linz, Austria, 1999*). And most importantly, the prediction that the Internet would become "the digital stream in which everything will flow together," a poetic euphemism for the concepts of communication and interactivity moving within the parameters of technology convergences.