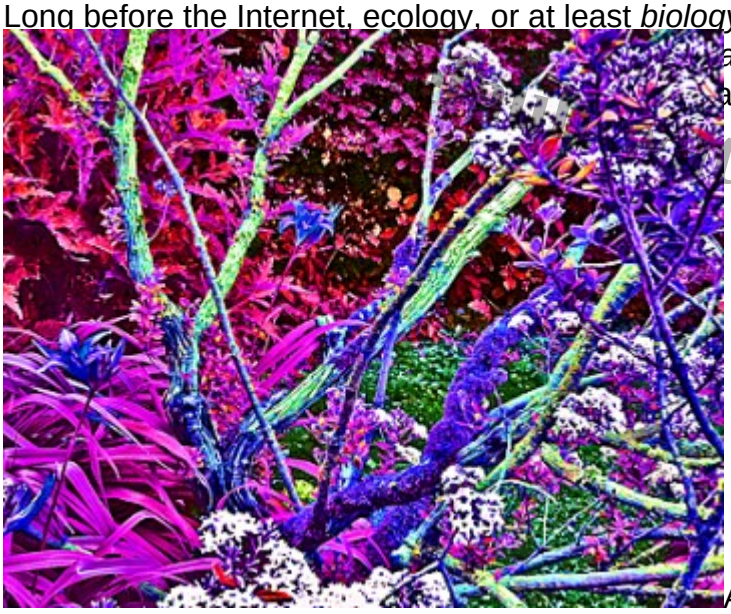
De-generation

Description

Occasionally when browsing the Internet Iâ??m struck by the new and unexpected, ie by the sheer *quantity* of creative production. Iâ??m perhaps of a *generation* that is still impressed by the volume of newness brought to light by postings on YouTube, Vimeo, TED, music channels, and architectural picture galleries, not to mention presentations of technology and science. New media give exposure to what was otherwise hidden, and in quantity and with speed that is without precedent. As well as reporting on and delivering this fecundity, we may presume that the medium itself is complicit in this *creative ecology*.

Long before the Internet, ecology, or at least *biology*, provided a useful source of metaphors for



ate, and improve (or *degenerate*) through successive aster metaphors.

As biologists order organisms into species, genuses (genera), families, classes and phyla, so the products of creation can be ordered by type. You can also progress at least part way in creating something new by selecting according to type or *genre* (a word related to *genus* and *generation*). If you want to create a scary novel then follow the format of the horror genre. If you want to design a place for storing books then look at the library genus (or *type*). Here creativity follows the conventions of biology, but in reverse.

With the right tools, the Internet gets channelled and filtered as such a mega-catalogue or hyperlinked sourcebook for creativity.

The French Rationalist architects of the eighteenth century would order buildings into taxonomies and family trees as if biological specimens, and thereby invoke a method of creation: **taxonomic design**. This is also â??catalogue design,â?• as if selecting a chair from an Ikea catalogue, and customising it to your particular needs.

I re-read the primary Rationalist text, Descartesâ?? *Discourse on Method*, for further evidence of the biology of creation, but the text is really about mathematics and geometry. His model of invention was not biology but geometrical proof.

Descartes was writing about philosophy and the way we reason, but design theorists picked up on the Rationalist method in the 1960s. Break a design problem into its parts, subparts, and further subdivisions till you reach a point at which each of those subparts finds a ready solution. Then assemble all those solutions into a whole. Itâ??s unlikely the overall solution will be the best one. So after evaluating the combined solution have another go. Repeat the process until the best (or near best) solution emerges. This is the triad of the Design Methods Movement: analyse, synthesise and evaluate. Technically, itâ??s an *iterative search* process, with aspects analogous to the processes of natural selection in evolutionary biology.

Here the creative process is one of small, incremental steps, from simple components, rules, relationships, elements, connections and cells. As biology shows, from simple elements great complexity grows.

As the mathematician Benoit Mandelbrot demonstrated, a few lines of computer graphics code, with sufficient iterations and the right colour mapping, are capable of generating unpredictable but apparently regular and self-similar filigree patterns of infinite variation and complexity, hinting further at the creative power of mathematics and of nature, and computer programs as *generative systems.* (See YouTube videos of the Mandelbrot set.)

Cellular automata produce patterns across a gridded surface, as if artificial life forms. See www.interactionfigure.nl/2008/conways-game-of-life-in-flash

The Internet amplifies this promise of small elements contributing to the creation of some complex whole that exceeds the sum of its parts. In this case itâ??s through the combined agency of hundreds of interconnected individual computer users. Any individual may be oblivious to an overall plan, but the emergent â??mega-mindâ?• is more knowing, working through a kind of crowd-sourced, â??organicâ?• invention.

But the most potent metaphor of creation from biology is that of the **hybrid**: a break-out from the genus, monstrosity, the result of cross-species reproduction and genetic mutation.

This to me is the main yield from Rationalismâ??s reductive models of creativity, the clarity they provide to the process and problematic of breaking the mould, crossing the borders between species. Hybridity, as creation, is venturing outside the procedural structure. Itâ??s the collision between iterative search trees, a process ultimately un-calculable, ill-formed, rhizomic, and computationally unprovable and undecidable. Yet creativity is commonplace. It happens, demonstrating the unprovability, if not the degeneracy, of creation.

Bibliography

- Albert, R.S. and M.A. Runco, â??A history of research on creativityâ??, in R.J. Sternberg (ed.), *Handbook of Creativity*, Cambridge: Cambridge University Press, 1999, 16-31.
- Alexander, C., *Notes on the Synthesis of Form*, Cambridge,: Harvard University Press, 1964.
- Boden, M., *The Creative Mind: Myths and Mechanisms*, London: Abacus, 1990.

- Descartes, R., *Discourse on Method and the Meditations*, trans. F.E. Sutcliffe, Harmondsworth, Middlesex: Penguin, 1968.
- GÃ¶del, K., *On Formally Unprovable Propositions*, New York: Basic Books, 1962.
- Goldberg, D.E., *Genetic Algorithms in Search Optimization and Machine Learning*, Reading, Mass.: Addison Wesley, 1989.
- Langton (ed), C.G., *Artifical Life: An Overview*, Cambridge, Mass.: MIT Press, 1997.
- Martindale, C., â??Biological bases of creativityâ??, in R.J. Sternberg (ed.), *Handbook of Creativity*, Cambridge: Cambridge University Press, 1999, 137-152.
- Surowiecki, J., *The Wisdom of Crowds: Why the Many Are Smarter Than the Few*, New York: Anchor Books, 2005.

Coda

A book on â??degenerative writingâ?• begins, â??I am an addict. An addict of Degenerative Prose. Of anything that re-synthesizes wild, hybridized forms of prose including fiction, faction, friction and non-diction.â?•

- Amerika, M. and R. Sukenick (eds), *Degenerative Prose: Writing Beyond Category*, Kennebunk, ME: Black Ice Books, 1995.

Charles Darwin on genera and the tree of life:

> The affinities of all the beings of the same class have sometimes been represented by a great tree. I believe this simile largely speaks the truth. The green and budding twigs may represent existing species; and those produced during each former year may represent the long succession of extinct species. At each period of growth all the growing twigs have tried to branch out on all sides, and to overtop and kill the surrounding twigs and branches, in the same manner as species and groups of species have tried to overmaster other species in the great battle for life. The limbs divided into great branches, and these into lesser and lesser branches, were themselves once, when the tree was small, budding twigs; and this connexion of the former and present buds by ramifying branches may well represent the classification of all extinct and living species in groups subordinate to groups. Of the many twigs which flourished when the tree was a mere bush, only two or three, now grown into great branches, yet survive and bear all the other branches; so with the species which lived during long-past geological periods, very few now have living and modified descendants. From the first growth of the tree, many a limb and branch has decayed and dropped off; and these lost branches of various sizes may represent those whole orders, families, and genera which have now no living representatives.

Darwin, C., *The Origin of Species*, Oxford: Oxford University Press, 1996, p.129. See http://darwin-online.org.uk

> It is interesting to contemplate a tangled bank, clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us. (p.579)

Category

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Tags

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