

# Interdisciplinary inspiration

## Artscience: Creativity in the Post-Google Generation

by David Edwards

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### Alice W. Flaherty

What if science could move us in the same way art does? What if art could have the social impact of a technological advance? David Edwards' slender book proposes that they can. A professor of biomedical engineering at Harvard University, Edwards has launched several programmes with creative and humanitarian missions. *Artscience* is in some respects a part of his most recent project, Le Laboratoire (see *Nature* 449, 789; 2007). This Parisian cultural centre, which opened last October, recruits scientists and artists to interact, to spur their innovation and to engage the public in the process.

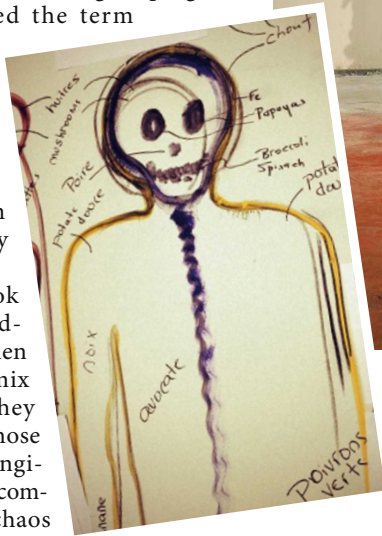
The 'post-Google' subtitle presents the book as part of a wave of technological progress — Edwards coined the term

'artscience' as if to suggest the emergence of a new discipline. But the book is less a technical tool than a motivational one: an exhortation for interdisciplinary intellectuals.

Most of the book sketches vivid models of men and women who passionately mix art and science. They include a pianist whose PhD in electrical engineering spurs her to compose music using chaos theory, an infectious-disease researcher who mingles theatre about Chekhov's tuberculosis with public-health advocacy, and a mathematician whose visual imagery drives both his paintings and his fluid-mixing models.

The profiles, apart from their notable freedom from gender bias, take the Great Man approach to understanding creativity that has been championed by researchers such as Howard Gardner and Dean Simonton. That said, Edwards's book is surprisingly ahistorical. Where are the hoary 'artscience' greats such as Leonardo or Goethe? Instead, Edwards's life-sketches encourage us that polymathic creative lives are possible even in today's era of subspecialization.

His contemporary artscientists have lives the reader might emulate — something that very dead Renaissance men do not. Edwards infects us with his subjects' creativity. When the final



These works by artist Fabrice Hyber were inspired by a visit to polymer scientist Robert Langer's lab.

chapter turns from vignettes to his utopian Laboratoire, we're rooting for it to succeed.

Le Laboratoire aims to foster the quality of the creative process, and de-emphasizes pressure for results. Practising scientists, whose process-to-product ratio is inevitably high, might favour such an emphasis. Yet many scientists — and all grant agencies — feel otherwise. A product-oriented reader might point out that without the constraint of a need for results, most novel attempts at 'artscience', however fervent, could end as badly as the works on view at the Museum of Bad Art ([www.museumofbadart.org](http://www.museumofbadart.org)).

Edwards might reply that the creation of what's new and good inevitably generates a great deal of what's new and bad, just as sex produces more failed offspring than vegetative replication does. Intrinsic pleasures of 'process', such as curiosity, turn out to drive creative results more strongly than extrinsic rewards do.

Creativity researcher Teresa Amabile and her colleagues at Harvard have shown that even positive results such as praise and being paid can decrease inventiveness, by distracting the creator from the process of creation.

Does the creative process differ in science and art? Edwards examines the traditional dichotomy between the artistic method (associative, emotional, and vividly image-based or sensual) and the scientific method (deductive, rational and symbolic). It is not surprising when his case studies knock that straw man down. Researchers in creativity would call those poles 'primary process' and 'secondary process' thought. Each is important for creativity in both science and art. In either domain, primary process produces a novel idea, and secondary process refines or edits it.

Edwards also examines the traditional split between art as pleasing but impractical and science as useful but arcane. In most of his 'artscience' examples, art works to make science more accessible, whether to the scientists themselves, to entrepreneurs who might translate ideas into reality, or, ultimately, to the public. Indeed, some reviewers have interpreted Le Laboratoire as a concept-heavy science museum.

Many scientists who find popularized science distastefully sloppy need not worry that Le Lab will attract the hoi polloi. Its website ([www.laboratoire.org](http://www.laboratoire.org)), whose avant garde videos echo those from Andy Warhol's Factory, does not seem aimed at mass consumption. It does promise a programme that can kindle scientists and artists to burn more brightly, and may inspire new ideas in a way that a more specialized centre would not. Reading this book, for all its slenderness of content, may do the same.

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