

# HOW DOES INNOVATION HAPPEN?

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## 1 Introduction

For nearly 30 years I have worked on a series of projects designed to enable and enhance people's creative ability as individuals and in collaborations. My experience is in the arts, in media and in social, community and economic development in the cultural and creative industries. Starting in touring theatre, I was active in the community arts and participatory media movement of the 1980s. I stumbled across computers in 1986 and have been trying to work out how best to use them as creative tools ever since: at London's Arts Technology Centre through the nineties, then at the BBC and mostly now in a series intensive, rapid development workshops called 'labs'. In this article I will discuss some of the techniques which currently constitute the lab process and the rationale for employing them.

There are broadly two types of lab; the major current examples of each are the *BBC Innovation Labs* and an occasional series called '*Crossover*'. The essential difference is that where the Innovation Labs are structured for the participation of existing teams with an already existing idea (usually from a single company), *Crossover* brings together diverse individuals from different disciplines to form new collaborations around ideas generated at the lab. The latter form, which has been developed relatively recently, is more of a creative challenge and more likely to foster innovation. The talk in new media has for years been of 'convergence' but while the technology, the 'platforms' on which programmes and content run are converging rapidly, the creative teams responsible for delivering those services are responding slowly and with some confusion. The existing incumbents, as in so many industries challenged by the digital revolution, have so much invested in the previous ways of doing things that they cannot adapt quickly enough.

Old media, particularly television, are in obvious crisis. Rows about trust and fakery, queengate, noddies and the naming of kittens are just symptoms of the passing of analogue, broadcast media. Innovation in a mediascape where nothing remains constant demands a new sensibility, new interdisciplinary modes of development and production, a new relationship and engagement with users as co-creators, not just consumers. Audiences and users are adapting to opportunities opened up by digital tools for production, distribution and consumption at a pace which professionals, the controllers, the commissioners and the producers struggle to match. It's not just that audiences are fragmented, able to time-shift, use a bewildering array of devices and expect to participate, to create as well as consume. People have become much more sophisticated in their ability to read time-based media. They are capable of traversing and blurring borders between personal and

public, between fiction and reality in ways which challenge the established grammar of television and linear media.

In this environment, the Crossover approach, bringing people from different sectors of the audio-visual, creative and cultural industries to share knowledge, processes and understandings, is a fertile environment for innovation.

I am not a theorist or an academic but a practitioner and facilitator: I design collaborative creative processes and direct events designed to foster innovation. I have some established principles and acquired a set of techniques which seem to be effective. Distilled over the past decade, inside and outside the BBC, the Labs now comprise quite a robust set of tools for generating, testing, enhancing and developing ideas. They have also proved valuable in encouraging and fostering talented individuals as well as becoming an important catalyst for networking and interdisciplinary contact amongst creative professionals working across a range of disciplines.

While I currently apply these processes to support innovation in media, they could be applied in almost any field of activity. None of the techniques used at labs have been specifically designed for use in a media environment. Some approaches will be familiar to theatre practitioners, others are adapted from and widely used in technology research and development, product design, organisational change, education and business management. As such, the lab methodology can be applied in contexts and on challenges far beyond the media.

## **2 Only Connect: bisociation, metaphor and creativity**

In as much there is a theory of creativity underpinning labs, it is drawn from the now somewhat unfashionable ideas of Arthur Koestler, whose 'Act of Creation' is a compelling, coherent account of human creativity as essentially the same act no matter the domain of art or science in which it is practiced. Koestler's coined term *bisociation* seems to define the essence of creative thought. (Koestler, 1970)

Bisociation is the mixture in one human mind of previously unrelated ideas, insights from two contexts or categories of objects that are normally considered separate by the literal processes of the mind. It is the thinking process that is the functional basis for metaphoric thinking. Koestler uses the term to distinguish the analogical thinking that leads to acts of great creativity from the more pedestrian associative, logical thinking which is the usual mode of the conscious mind. "I have coined the term 'bisociation' in order to make a distinction between the routine skills of thinking on a single 'plane', as it were, and the creative act, which...always operates on more than one plane." (Koestler, 1970)

*Metaphor*, from the Greek 'to transfer' or 'carry across' is in essence the same thing: the connection of the qualities and attributes of two unrelated things and is at the heart of creativity. As Marvin Minsky suggests in "Society of Mind", it's

something that human beings do all the time. (Minsky, 1988) Some people just seem to be able to do it a little better than the rest of us but we all have the ability. The process is most simply and succinctly defined by EM Forster in the inscription at the opening of *Howards End*: "Only Connect". (Forster, 2000)

It is this premise which forms the basis for the work of writers such as Edward de Bono and other proponents of creative problem solving techniques. De Bono's lateral thinking, random connections, provocations and other tools help us to see things from a different perspective, in a new context. They are processes which force us to 'bisociate' and stimulate metaphorical thinking. Such exercises can be very valuable to start a brainstorming process; one idea that emerged from quite a basic forced-connection game at a lab lead eventually to the winning of a Bafta.

### **3 The BBC: "the most creative organization in the world"?**

Very few medium-sized or large companies have explicit policies for innovation or programmes to encourage, develop and harness the creative potential of the people who work in them. For a few years I was a staff member at the BBC, having been invited to run a series of internal labs on interactive television and other new platforms. Of all employers, this was surely a workplace which depended on the originality and creative thinking of the people who worked there. Yet a staff survey during my first year there revealed that over half the people who worked there thought that the corporation did not value their creativity. This finding came as a bit of shock for an institution whose then Director General, Greg Dyke, had set it the mission of becoming 'the most creative organisation in the world'.

A small group was given the job of figuring out how to change that perception, to devise and introduce structures and training to turn a pious aspiration into an everyday working practice. We started by looking at how the BBC's in-house production teams dealt with the challenge of creating new content and services. We were surprised at how haphazard, inconsistent and unprofessional the process often was. There were no defined methodologies or techniques, no clear structures to support innovation or nurture creative thinking. Producers working in the teams that generate new ideas, in 'development', saw themselves as serving time until they could get a production job. They were often in there because their last show had flopped, because they were about to go on maternity leave (or they'd just come back from maternity leave). Development wasn't seen as being at the dynamic heart of the organisation's creative process and, in a business where people are hired on the basis of production credits, working in a development team was considered a waste of time.

The BBC team visited a number of other organisations regarded as innovative and creative to find out what processes they used. Some had no more structure than the BBC. The creative director of an advertising agency, asked what techniques he used to get the best out of their creatives, thought about it briefly and then said "they're called 'deadlines', aren't they?"

We had rather more success in identifying useable methodology when our research took us to Stanford Research International in California. Founded in 1946 as the Stanford Research Institute, SRI engages in research and development for government agencies, commercial businesses, foundations, and other organisations. It brings its innovations to the marketplace by licensing its technologies and creating new ventures. It is one of the leading R&D centres in the world in communications and networks, computing, economic development and many fields of science and technology.

The BBC team of tv, radio and new media producers accompanied by managers from business and resource divisions found itself, jet lagged and in need of caffeine, in the lobby of the SRI building one November morning. There, in a perspex box on a pedestal in the centre of the lobby, was an odd wooden device which looked like a matchbox on wheels. Curt Carlson, SRI's CEO introduced us to it: the first computer mouse ever made, designed by Doug Engelbart in the late 1960s. Engelbart can legitimately claim to have invented the technologies on which the whole personal computer industry has been based for the past twenty years: mice, windows, icons, pull-down menus, word-processing, spreadsheets...

Carlson sighed. "The problem was at the time, no-one knew what to do with Doug's invention. It was interesting but we had no idea how to exploit it, so it was licensed to Xerox and Apple for \$50,000 apiece." He looked wistfully at the battered hunk of wood. "I wasn't here at the time, but even so I sometimes wake up sweating and thinking: 'if we had a dime for every mouse ever made,'"

#### **4 Value Creation: SRI's innovation methodology**

When Carlson took over as boss, SRI was in gentle decline. It employed 2,500 research scientists, over 1,500 of them with PhDs: "By definition, they were all doing something interesting, they were all innovating" he said. "But there was no system for determining which projects we should select for investment and development. And we had no methodology for creating value from all that innovation."

Carlson's solution has been to introduce an innovation process at SRI which is based on seven interlocking factors. He argues that each of them is essential to the success of any enterprise or project and to achieve any significant success, they all have to be in place. His seven pillars are:

- Important client needs,
- Champions,
- Productive teams,
- Value creation process,
- Human imperatives,
- Organisational alignment.

I will cover the two of these elements which form the basis of the creative labs in detail in this paper.

## **5 Client Needs: Making it people-shaped.**

For Carlson, there is a critical difference between interesting and important in defining the need a proposal claims to address: “When I arrived here, everyone was doing something interesting,” he said. “They all had approaches which were fascinating. They may not have been able to explain what the benefits of their research would be, what use it could be put to when they’d finished or whether anyone else was doing something similar. But they could talk to you for hours about what they were doing.” Without a clear sense of the potential applications in the real world, whether for social good or financial return, it was impossible for the SRI investment board to assess which projects to back. Carlson’s first requirement of a project is that it should address important needs of individuals, society or markets.

Putting users at the centre of any innovation process, from shaping the initial concept through design, build and implementation phases, is a fundamental requirement. If a product development team does not thoroughly understand their intended users, they will have little chance of successfully meeting their needs and they will fail to find a market. This approach, thinking about user or audience ‘need’ was unfamiliar to many in the BBC team and is an unusual approach to creative development contexts but fits well with user-centred design techniques which are increasingly common in new media. It is an approach being introduced into TV production where ‘audience insight’ is becoming recognised as important as peoples’ patterns of media consumption change. With the ever growing range of platforms and channels for information, entertainment and communication, media are used in different ways, in different places and at different times. For many people TV has become an ambient medium, on in the background without being actively watched. So what need does it meet in the new digital mediascape? How does it fit in to people’s lives? What will make them watch a specific programme, find a particular web-page, or subscribe to a mobile service?

This is not simply a question of doing market research, useful though that can be, especially when the goal is innovation. Asking people what they want or need will only reveal conscious, articulated needs for which there is almost inevitably going to be an existing solution. As Henry Ford said, ‘If I’d asked people what they wanted, I’d have designed a faster horse’. Real innovation requires going beyond what people know, searching for gaps in provision and gaining insights into their unarticulated, unconscious needs.

There is an extensive toolset available throughout the life-cycle of a project which helps to ensure that from start to finish there is an emphasis on ensuring that the design teams conceptual model is in fact fit for purpose. There are two techniques that we almost always use in the context of the creative labs: personas and scenarios or user journeys.

A persona is an archetype of a target user. It is an outline, a sketch of a person who could be real and may be based on ethnographic research, evidence from focal groups or other direct observation of members of a specific demographic. This data is distilled into a portrait of a character defined in words and images which becomes a kind of filter which can be constantly applied to ideas in order to test their validity. A well-drawn persona will give just enough information about the facts of a person's life to get a sense of who he or she is and an understanding of the specific context of use for the product, programme or a service in development. It should also identify the triggers which will motivate the user to choose the product. The persona should specify conscious, articulated needs and, perhaps more importantly, should provide insights into underlying goals or aspirations which the user may not be aware of. At an early stage a project team should brainstorm many personas and then focus on one or two who will be the primary targets who, if their needs are met, will guarantee that the others are more likely to be satisfied.

Once personas have been defined they are used in 'scenarios', stories in which they are engaged in tasks or achieving goals and in which they have the opportunity to interact with the product or service being designed. A scenario takes into account a persona's experience, environment and personality; it should be as honest as possible about the psychological, environmental or physical obstacles which may prevent a persona from reacting in ways that the project team might intend. It's a common mistake to create ideal scenarios which simply reinforce assumptions already made in the design process.

## **6 Knowing what you think: pitching as a design tool**

The engine of innovation at SRI is the value creation process. One element of this in particular interested me: pitching. I had already identified the pitch as a key design tool from my experience directing labs.

When I first started directing Creative Labs, at Bore Place in Kent in the mid-nineties, they were relatively unstructured events. They brought together talented creative teams with interesting ideas to spend ten days hothousing projects with the support of expert mentors from around the world. The only fixed element in the programme was a pitching day at the end of the process when participants would present their ideas to invited guests. Initially it came as a surprise to find how difficult many people found this and how reluctant some were to do it. Many artists seemed to feel that their work should speak for itself and that it was somehow diminished by the attempt to explain it. I came to recognize that people were particularly unwilling to articulate their ideas when they didn't make sense or weren't very interesting.

If you can't explain a project or proposal clearly so that people understand it (and are, hopefully, excited by it), then the likelihood is that there's something wrong with the idea, not just the presentation. It's always tempting to think that people don't get it because they don't have the vision, don't understand the business or are plain stupid and prejudiced. That may occasionally be true but

it's more likely to be that a pitch doesn't make sense because the idea isn't properly developed. When a creative team makes the effort to structure, edit and present projects clearly, the discipline of pitching becomes a vital tool in an iterative design process. As the pitch gets better, so does the idea.

The pitch is at the heart of SRI's Value Creation Process. At every stage of a project's development, from gleam in the eyepiece of a research scientist's microscope to negotiation for investment from the venture capital companies on Sandhill Road, the team leader or champion is expected to construct a pitch in the form of a 'value proposition' based around the four key NABC questions:

- what is the important *need* that you aim to meet?
- what is your *approach*?
- what are the quantifiable *benefits* from your approach?
- what's the *competition*?

The pitch isn't expected to be compelling or totally convincing from the very start, but from the earliest stage of development, a project team does have to attempt an answer to each of the four questions.

At SRI a pitch has to make a very strong case for the *benefits* of an approach or idea if it is to move from research into a development phase. These can be defined in business terms as achieving market share and generating revenue or as social benefit like educational gain or health improvement. Whatever the domain, the critical determinant is that the benefits can be quantified. To make a business case at SRI, the project champion has to argue convincingly that the opportunity is worth at least \$1 billion. A social benefit case might be that a million school children improve their reading ability with an e-learning application, or five million lives are saved through vaccination.

This kind of discipline is alien in much of the creative sector and is often actively resisted by creative practitioners who argue that art should not be subject to such crude numerical analysis. But there are many good reasons for thinking through and specifying the beneficiaries and the benefits of an idea. A controller will want to have a realistic idea of the size of audience a show will pull in at a specific time of day and how it will promote the image, values and brand of a channel, the editor of a website will need convincing that users will be motivated to engage with a proposed service or application, a publisher needs to know how many copies of a game or DVD are likely to be sold.

It's also a critical element of the development process to find out who else is operating in the same space, to know the *competition*. If another writer, artist or producer is working on something similar for the same platform, a creative team has to be clear how its product is different and why it is more likely to succeed in the market place. As with the other questions which make the four key elements of a pitch, understanding the competition is not necessary just to sell a project to potential investors. Looking closely at what others are doing is an important part of coming to understand the context in which a product is

being launched, getting to know the consumers for whom it is intended and recognising the characteristics of a market. The comparison with rivals helps to clarify what is distinctive about a product or service, to highlight its distinguishing characteristics and to define its values.

There is no project or enterprise which does not benefit from the attempt to express it as a 'value proposition' and applying the questions of need, approach, benefit and competition to it. Properly answered they will provide the basis of a business plan.

## **7 Seeking Perspective: 'the watering-hole'**

According to Nicolas Negroponte, Curt Carlson's counterpart at the MIT Media Lab, "ideas are often born unexpectedly - from complexity, contradiction, and, more than anything else, perspective." Negroponte cites Alan Kay, father of the personal computer (among other things), who says that perspective is worth 50 points of IQ.

Seeking as many views as possible on an idea, particularly in the early, divergent stages of development, is one of the secrets of great design. It is the purpose of the user-centred approach described above: the intended users' views on a proposed product are the most important that you can get. But a project team should seek the opinions of a very diverse, interdisciplinary group of people: colleagues, friends, family, technologists, experts, lay-people. This can be done through both formal and informal processes: over lunch, in cafes and bars or at meetings which have been specifically convened to hear the project pitch and to give feedback. At SRI such meetings are called 'watering-holes' to indicate their interdisciplinary nature. A meeting of this kind can be used for many purposes: as a source of support and encouragement, to seek feedback about specific aspects of the project (one of the four NABC questions), to brainstorm new ideas, as a source of expert knowledge, to get information about market domains, technology, business models and potential customers.

At the Labs, people pitch their projects frequently and watering holes are often structured in such a way that the people giving feed back play specific roles: one person is required to give positive feedback, another to be critical and see flaws, another to suggest creative alternatives. This technique is based on Edward de Bonos 'Six Thinking Hats' which can be an invaluable mechanism for getting people to adopt unfamiliar modes of thinking and also gives the same freedom to speak and act that an actor has when wearing a mask. (de Bono, 1990)

Such meetings should be held frequently as part of an iterative design process. A value proposition (the NABC) is never right at the beginning; it is refined through rehearsal, repetition and recreation and from the multiple perspectives garnered from feedback.

## **8 Champions and productive teams and organisational alignment.**

I do not intend to go into much detail on these three factors in successful innovation regarded as essential at SRI apart from outlining their one or two key characteristics.

To find its way into a hard, competitive market place, every project needs a champion who is its advocate and will find a way past every obstacle to its success. He or she can gather, inspire and motivate the interdisciplinary team that will bring the project to life. A champion is able to create an overall vision for the project and has the passion to make a significant impact while actively soliciting new ideas and being open to change. One of the hardest dynamics on an Innovation Lab, where a team has arrived with an idea, is getting them to understand when they need to 'kill their babies'. According to Curt Carlson: "The most valuable and rarest individuals in today's world are champions who understand value creation"

As for productive teams, interdisciplinarity is essential to foster Koestler's 'bisociation' and stimulate new forms. It is well expressed in Canadian designer Bruce Mau's *Incomplete Manifesto for Growth* where the 40<sup>th</sup> of his 43 principles is: "Avoid fields. Jump fences." (Mau, 1998) Disciplinary boundaries and regulatory regimes are attempts to control the wilding of creative life. They are often understandable efforts to order what are manifold, complex, evolutionary processes. Our job is to jump the fences and cross the fields.

There is no room in this article to cover the topic of organisational alignment adequately. The premise which informs it is simple, though: every organisation is perfectly designed to deliver the results that it delivers. A company exists to perform a task in the world; its success or failure rests on how clearly defined, appropriate and relevant the task is, and whether the organisation has the right people in the right structure to achieve it. All too often companies fail to notice and keep up with significant changes in the environment around them, have people with increasingly outmoded skills and a structure which is no longer fit for purpose.

The tools and techniques described in this article do not on their own guarantee success, but they have been proved to be effective in helping to generate and develop ideas in a variety of contexts. The source of innovation will continue to be what it has always been, human creativity; the biggest obstacle to achieving it a view that such talent is a rare commodity, an accident of divine inspiration or a roll of the genetic dice. There will always be people with exceptional natural ability and moments of insight and inspiration which defy rational explanation, but a motivated team working with the right methodology designed for purpose is always going to be more effective than a genius in a garret.

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