The politics of creativity: interactivity and creativity in contemporary society

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ABSTRACT

In the field of informal learning, the terms creativity and interactivity have been notoriously difficult to define. Nevertheless, both are loudly proclaimed as values needed by 21st century society. This paper looks critically at the ways in which both creativity and interactivity – when considered as self-initiated, self-directed and self-sustaining activities – are fundamental to the development of a healthy society. The paper will argue that a 'culture of creativity' is one of the foundations of democratic civil society. Finally, the paper will present a new initiative to identify and make visible innovative projects on a web-based 'Map of Creativity'.

INTRODUCTION: WHAT IS CREATIVITY?

The word creativity is notoriously difficult to define. The starting point is almost invariably innovation or novelty, but when confronted with the far-fetched, ridiculous or silly, most try to leaven the definition with a measure of utility. Surely mere novelty cannot capture the essence of Leonardo's helicopter, Mozart's minuets, or Van Gogh's Sunflowers. Nevertheless, when it comes to determining the extent to which a novel idea, invention or proposal is creative, the question of how much utility is appropriate becomes vexed. Creativity is often argued to be both novel and useful. I think this leads us into error. Creativity by definition is novel – even if it means a new rendering of a Bach

cantata – but utility is a judgement that can only be passed with time. The utility of a suggestion (and by the old definition, its creativity) cannot be judged by contemporary measures. The use to which a novel idea may be put may lie – like so many creative ideas – far in the future. Oftentimes, the utility of a seemingly mad idea only becomes clear with time, as technological, social or political possibilities change to remove the constraints that stood in the way of its realisation. What seems patently ridiculous today may be blindingly obvious tomorrow. Even so, surely creativity is more than mere novelty – truly creative ideas seem to manifest an internal coherence, and almost invariably, this coherence comes at the expense of internal tensions. Novel, yes, but also useful. Impractical, certainly, but also possible.

The Next Generation Roundtable, a panel of experts assembled in 1998 by LEGO Company and the House of Monday Morning, a Danish think tank, struggled with the challenge of defining creativity, and formulated a series of indicators for whether or not a project was creative. These indicators took the form of a series of 'twosomes' that tried to capture the tension between opposites that seemed to characterise creativity. Briefly described, the twosomes were: Balancing Utopia and Reality, Balancing Challenge and Support, Balancing Freedom and Structure, Balancing Variation and Focus, Balancing Individual and Collective, and Balancing Action and Reflection. Each pair gave rise to indicators that would allow researchers to spot creative projects.

Despite the thoroughness of the analysis, the result was nonetheless not completely satisfactory. The twosomes were an attractive way to describe the creative tensions in existing projects, but difficult to use predictively. How much Utopia did a project need to have in order to be considered creative? A little, a lot? None? The twosomes were even more unwieldy as analytical tools. Was a project unsatisfactory because it had too little, Dystopia? Too much? Could the 'Freedom' of a project be reduced in order to improve it? At the end of the day, as effective as the twosomes were in providing a framework for specific indicators of creativity – things to look out for – the approach never really functioned as a grounded theory of creativity. Perhaps the problem wasn't in the

approach – perhaps the problem lay elsewhere. Perhaps it lay in the way in which we look at the notion of creativity in the first place.

Creativity and interactivity both suffer from confusion between object and subject – exhibits are referred to as interactive, spaces and toys as creative. I think we can make our task much easier, and our work more effective, if we see interactivity and creativity as properties of users, not of things. People are creative, children are creative, creative people are able to find solutions to seemingly intractable problems.

Let us look at this point in more detail.

Tools can certainly confer certain properties on their users. By use of tools, one can see farther, lift heavier weights, manipulate objects more precisely. By means of tools our voices can become louder, our eyes sharper, our arms stronger. Strength, accuracy, precision – these are properties that can be conveyed by tools. But creativity is not a property that can be conveyed by a tool. A creative chef works better with good tools. She is faster, more accurate, more productive. But a sharper knife does not make a chef more creative. A sharper knife allows a creative chef to imagine more possibilities.

By the same reasoning, environments can certainly suggest particular uses, encourage certain behaviours, and support certain activities. But the most it can do is to provide a context in which the human actor can better explore the skills of creativity – which include innovation, imagination, risk-taking and play. A creative chef blossoms in a well-equipped and well-arranged kitchen, but the kitchen does not make the chef creative. Even if a new tool suggests a new practice or if the kitchen makes possible new preparations, it is the chef – not the tool or the kitchen – who does the cooking, and it is the chef who is creative.

Einstein often said 'imagination is more important than knowledge'. Nevertheless, he believed that it was critical, first, to grapple with a body of knowledge, to understand it in depth. This knowledge was not only the knowledge of physics 'for the critical thinking

of the physicist cannot possibly be restricted to the examination of the concepts in his own field', but a profound reflection on the whole of knowledge. The tension, between the constraints of knowledge and creative freedom is at the heart of the scientific process – and of all creativity. Richard Feynman put the same point differently. 'The whole question of imagination is misunderstood by people in other disciplines. They overlook the fact that whatever we are allowed to imagine in science must be consistent with everything else we know.' Scientific creativity, he said, 'is imagination in a straightjacket'. Confronted with an unyielding mass of marble, Michelangelo may well have though the same thing.

So what is creativity? I would suggest that the essence of creativity is the ability to innovate within constraints, and the ability to imagine ways in which constraints can be reduced, redefined, or eliminated to create solutions to user-defined problems – what Tom Bentley called desired outcomes. In effect, every creative act is a negotiation – with the physical world, the social world, and the world of ideas. Creativity – when seen as a property of human actors – is the way we describe the innovative negotiation between human desires and the constraints imposed by the environment. This environment includes the natural world, the social setting, and the legacy of past human activities we carry with us in the form of memory, culture and tradition. Creativity is masterful negotiation, and our goal as educators should be to support the acquisition of this mastery.

HOW CAN CREATIVITY BE POLITICAL?

If creativity can be defined, at least in part, as the innovative negotiation between human actors and the constraints they encounter, it means that both creativity (and interactivity) as human behaviour, should also serve human needs. Creativity itself need not be good or bad, but the uses to which creativity is put are human uses, and are therefore deeply political. To act politically means to act within a framework of values. Ideally creativity is innovation in service to a set of values – to the needs of society, to the well-being of

the environment, to the cause of peace. While creativity can be put to terrible uses – the invention of new weapons or new means of enslavement, creativity tends to be a positive characteristic. Creativity demands that one imagine the world other than it is, and inherently mitigates against dogmatism, fundamentalism and extremism, which all tend to constrain thinking. Creativity is unusual as it has no imperative form. Like the verbs 'learn' or 'play', it makes to sense to shout at someone 'create!' Creativity is instrumental – and inherently subversive – it does not accept the world the way it finds it. In his 1960s classic 'Teaching as a subversive activity' Neil Postman argued that each student should have an 'automatic, built-in bullshit detector'. The educator and computer scientist Seymour Papert writes,'as a political issue [creativity] has the potential to generate political conflict. Actions to promote creativity will have repercussions that will please some and displease others. For example, in some countries school policies are highly politicized with the consequence that attempts to modify school policies so as to give higher priority to the cultivation of creativity can run into conflict with partisan politics. It also runs into conflict with conservative ideas in education establishments about the relative importance and priority of issues, with the cultivation of creativity often being eclipsed by the teaching and testing of rote skills.'

There are many arguments in favour of supporting creativity in both children and adults.

The first and most common argument is that creativity represents a personal value. Individual creativity is without a doubt a source of fulfilment, pleasure and inspiration. Children encouraged to explore their creative skills, and undertake activities in which their creativity is valued, often develop to be healthier, well-adjusted and happier adults. Our world is enhanced by the output of creative individuals. Living in a world filled with the products of creative individuals – culture – is something most people enjoy.

The second argument, fashionable in the last decade of the 20th century, is that creativity is indispensable for the new economy. The argument runs as follows: With information – notably in the form of business-to-business 'e-commerce' – playing an increasingly important role in delivering products more effectively and more efficiently, we have seen

the European economy moving from a product-based economy towards a service-based economy – much as it earlier moved from an agrarian economy to an industrial one. In a sense we could describe this as a shift from a 'high-volume' economy, wherein industry makes a lot of products and sells them each at a profit – to a 'high-value' economy, wherein profit is made by being more flexible, more responsive, more creative. If we are to continue to justify our Euro-lifestyle - and pay our Euro-taxes - it is imperative that this shift towards a high-value economy be made as quickly as possible. It is now taught in management schools that, in the words of Arie de Geus, 'the only sustainable competitive advantage is to learn faster than the competition'. The market now clearly favours brains over brawn (as can be seen by the market value of a firm such as Microsoft) – and the skills needed by the new workforce are those of flexibility and the ability to respond to change, but above all, creativity.

A third, and in my opinion compelling, argument has gained in strength with rise of fundamentalism. Creativity by definition demands that the creative actor imagine the world other than it is. Even a musician preparing to deliver a faithful rendition of a Bach fugue must imagine it in myriad ways before choosing to play it in a particular way. Creativity mitigates against dogma. Creativity gives free rein to questions and questioning. Why can't a person fly? Why must grass always be coloured green? Why can't the world be other than it is? Creativity is the opposite of fundamentalism – it welcomes difference, it embraces change. Creative people can be very threatening. Educator Seymour Papert writes 'It cannot be over-emphasized that a society based on creativity may challenge fundamental educational concepts. In a slowly changing society schooling can be designed to provide youth with the skills they will need for the jobs they will do. *The goal could be to produce citizens who can do what they were taugh*t. In a rapidly changing society where most people are doing jobs that were not invented when they were young a different need may become decisive: *citizens who can do what they were NOT taught*.'

CAN CREATIVITY BE TAUGHT?

Almost certainly, creativity cannot be taught, at least in the sense that mathematics, geography or history can be taught. Nevertheless, if creativity is seen as a property of actors, then, like music or art, it can be encouraged. Settings can be designed that provide tangible rewards for seeking innovative solutions. Objects can be designed that encourage the development of the imagination. Opportunities can be constructed in which the barriers to imaginative play are lowered. I would like to briefly give a few examples of ways in which the skills of creativity can be encouraged in different contexts.

In 1990 the Canadian anthropologist Drew Ann Wake and I were invited to develop a new gallery on the earth sciences for Science World, a large science centre located in downtown Vancouver. It struck us that there were two clear alternatives to tackling the subject. On the one hand, the earth sciences could be treated as they have been in traditional science centres. Visitors would learn about geological time, the development of rocks, faulting and continental drift. Following the example of other science centres, we could link geological themes to newsworthy geological events that captured the public's interest - volcanoes and earthquakes. By treating the earth sciences as a subset of geophysics, we would follow a traditional path: separating scientific fact from social issues.

The alternative was clearly more challenging. Instead of an exhibition on the earth sciences, we proposed to look at how the geological sciences are applied in a political and economic context: in short, we suggested an exhibition on mining. This exhibition, entitled Mine Games, would deal with the issues surrounding the mining industry in our province, issues that have been increasingly the subject of heated debate in the press, on television, in parliament, and in the streets. This single change - from earth science to mining - entailed a complete re-examination of the way in which the exhibition would be planned and designed. With a mining exhibition, we could initiate a debate about the future of the province, teaching visitors to evaluate scientific positions arrayed in support of any number of competing positions. An exhibition on mining would call into question

the role the science centre should play in the life of the community, suggesting that the role of the science centre is to prepare visitors to participate in the social and political life of their community.

The exhibition was designed as a series of games to enable the visitor to advise a fictitious community on whether or not to allow a mine to proceed, and culminated in an interactive voting theatre called Hotseat! Visitors were given the opportunity to learn a wide range of scientific information, not all of it in agreement. They were invited to explore this information through debate and develop skills that would help them to understand, and to alter, the political process in the province. As a consequence, Science World became the focal point of a unique social experiment that lasted over three years.

In May 2000, the Museum for Applied Art in Frankfurt was 'relaunched ' as mak.frankfurt. As part of its Digital Craft program, mak.frankfurt developed the kids.in.motion project. The project had four phases in which the children worked with dancers of the celebrated Ballett Frankfurt, under the leadership of choreographer William Forsythe, and with digital artist and educator Paul Kaiser to explore the quality and nature of their own movements. At first they imagined all the different ways they could cross a room – they could squiggle, squirm, slither, skibble, skip or scoot, they could hop, hobble, harrumph or handspring. They then explored how to translate these movements into LOGO procedures – operations that can be performed by the LEGO Mindstorms building system (donated to the project by LEGO, which will also provide advanced programming assistance).

The children then constructed Mindstorms robots that combine these movements into sequences, exploiting the system's unique use of sensors to allow the robots to respond to touch, light, heat, and movement. The programme was so popular that it was invited to participate in dance expositions combining children and robot dancers, in particular the 3rd World Summit on Media for Children in Thessaloniki, Greece, in March 2001.

Let me give you a final example. In my office in Frankfurt was a vitrine, specially designed for the Richard Meier monument of which I was steward. In the vitrine was a selection of beautiful glasses, from a 16th century Venetian masterpiece to a set of Boris

Sipek glasses. I often use the vitrine to test new text panels – after all were not a hands-on centre! I had one text panel with the title 'Glasses through the centuries'. It is amusing, informative, and written in a popular style. Visitors to my office often stop to read it, and chuckle at the humour. I also had another text panel, with another title. This title read 'One of these glasses is a fake'. The difference in behaviour was striking – often visitors stood for ages closely inspecting the glasses. Nor is the question trivial– after all, what is a fake glass anyway? All that has changed is the direction of the learning process – from top-down, to bottom-up. It is important to emphasise that interactivity and creativity are in the mind – not just in the hands.

What the three examples above all have in common is that they deliberately created settings in which the creativity of the user was encouraged by posing challenges that were relevant, and their ability to innovate enhanced by recognising their capacity for independent action.

MAKING A MAP OF CREATIVITY

In 1998, the Next Generation Forum was formed by the LEGO Company and the House of Mandag Morgen with the "aim of creating among central decision makers in society, a new global commitment to children's learning, creativity and imagination." The purpose of this initiative was to explore the idea that children are a largely undiscovered human resource in modern society, that their potential must be set free, and that opportunities for children's learning and creativity must be expanded as the world enters the 21st century.

An international group of experts within the fields of child development and education, including Carla Rinaldi, Seymour Papert, Mitch Resnick and Dorothy Singer was formed to provide perspective and direction on Next Generation Forum's strategy and activities. Called the Next Generation Round Table its aim was to prepare and discuss the drafts for the first Next Generation Annual Report, to prepare an agenda for the first Next Generation Summit, and serve as the expert panel and advisory group for, the secretariat,

and the LEGO Group in the planning of the Next Generation Summit. In 2001, the Next Generation Roundtable proposed that an independent, non-profit foundation be established in order to better fulfil the mission of the NGf. This proposal was accepted and I was hired to establish and direct the NGf as a private initiative of Kjeld Kirk Kristiansen, LEGO's owner and CEO.

The NGf exists to promote a 'culture of creativity' by providing exceptional educators working in marginalised communities with opportunities to learn new skills, by supporting exemplary projects around the world, and by providing a platform for dialogue, debate and exchange of ideas. In concrete terms this means providing three-month Fellowships to exceptional educators, initiating and supporting best practice projects, and hosting discussions, debates, seminars and summits around the theme of creativity, informal learning and civil society.

One of the first projects of the NGf is to create an interactive, user-driven 'Map of Creativity'. Given the difficulties defining exactly what creativity is, it was decided to create a tool that would identify innovative projects on the basis of peer recommendation. If someone thought a project was innovative, and served the triple objectives of creativity, learning and play, then we would put it on the Map. At present, we have over 300 projects in four continents. The Map of Creativity will be launched next March, and once it is online, projects will be evaluated on a peer review basis. New projects can put themselves 'on the map', and the Map's users will continually vet and review the quality of projects. The fundamental goal of the Map of Creativity is to make the community of educational innovators visible to itself. My experience in UNESCO, UNICEF, universities and museums has shown amply that there is an enormous amount of innovation going on – but that the different educational 'tribes' – formal education, informal education, museums, science centres, children's museums, academic research, private research – not only don't talk to each other, they often don't even know of each other's existence. As a consequence, every day, the wheel is being re-invented. Imagine what would happen if we could take advantage of the opportunities latent in projects going on around the world.

A second consequence of making the community of learners visible is to create the possibility of co-ordinated action, desperately needed to combat the forces of educational conservatism, the armies of right-wing educators who insist that the only learning that matters is that which can be tested – and the earlier the better! It is against these forces, which now have the ear of many governments, that those of us who work in the field of educational innovation must work. But in order to engage effectively, we must realise that we are not alone. The NGf is an activist initiative, and the Map of Creativity is one small tool in the fight against the rising tide of educational fundamentalism.

It is the position of this paper that among the fundamental skills of a democratic society are creativity, flexibility, and the ability to innovate. Moreover, I believe that it is the responsibility of the community of educators to develop environments that allow the public to experience these creative forms of thought. Projects that have as their goal the communication not only of facts, but of skills, encourage new audiences – people often at the periphery of the museum culture due to the lack of confidence, background or skills. Projects that put the accent on creative skills especially encourage children, the ground in which every generation must plant the memory of its past for the future, in order that new ideas flourish. The NGf was founded to promote a 'creative society' and it is towards this end that its efforts will be directed.