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Cultures of creativity. Nurturing creative mindsets across cultures

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David Gauntlett & Bo Stjerne Thomsen

CULTURES OF CREATIVITY

Nurturing creative mindsets across cultures

Main report

ABOUT THE AUTHORS

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ABOUT THE LEGO FOUNDATION

Founded in 1986, the LEGO Foundation's efforts revolve around the belief that every child should be able to reveal and realize its learning and creative potential. We believe in the transformative power of play and work to support children's ability to become active self-directed learners.

The LEGO Foundation is built on the enduring values of the founding family behind the LEGO Group. Our aim is to raise awareness of the role of play for creativity, learning and development and to build and share knowledge about how to engage children in learning-rich play activities. We develop and support research and collaborate with leading academic institutions to cultivate and spread this knowledge, and we strive to equip and empower children to build a better future for themselves and their societies.

ACKNOWLEDGEMENT

We are grateful to all our essay contributors, who were willing to challenge us on the notions of play and creativity, and to condense their ideas into the brief essay format.

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The **LEGO** Foundation 

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PREFACE

One of the great dilemmas of human life concerns how to flourish as an individual, while existing as part of a society. Our societies have developed incredibly powerful cultures by combining the creative competences of the individual human being, with ways of making things and the creation of meaning together.

Cultures are shaped by the things that we make and share. Our hopes and ideals are embodied in meaningful words, images, objects, and tools that we create. These things build, challenge, and develop a culture, and are essential ingredients in the human ability to learn, adapt, and innovate. In this respect, cultures are made by humans, but culture also significantly shapes young children, because the human race is amazingly adaptive, especially in the critical young years.

Across cultures and backgrounds, children are born with a natural urge to be playful, to take risks, and to create their own worlds. While different cultures begin to recognize that creativity should be one of the most important priorities for a society, we unfortunately still lack an understanding of how to support it.

We can all play a role in nurturing creative mindsets;

‘Creativity can be supported by *parents, teachers, businesses, and even communities*. As a matter of fact, it is very important that support is offered by everyone involved. A child growing up in a family that **encourages creativity**, in a culture that values creativity, with teachers who support creativity, has excellent chances of **fulfilling** his or her **creative potentials**’.

Runco, 2013

For more than a decade, the LEGO Foundation has been driven by the purpose to reveal and realize every child’s potential, and to empower children to create a better future, based on their natural creativity, curiosity, and playfulness. Creativity speaks to a child’s natural urge to give form, or expression, to the products of her imagination, and it involves bringing inner feelings and ideas into being (Ackermann, 2004).

The motivation for *Cultures of Creativity* came out of a desire to understand how creativity is nurtured across cultures, at a time where creativity is one of the most sought-after competences. At the same time, creativity in children appears to be declining as they grow older, and teachers, parents, and educational and governmental institutions struggle to support it.

This report describes how human cultures can be characterized by their similarities rather than their differences, and emphasizes the importance of recognizing playfulness and creativity to develop a sustainable society prepared to accommodate the rapid changes associated with technology and globalization.

We are exploring the role of playing, making, and sharing throughout childhood in different cultures, the strategies which can foster a creative mindset across a range of cultural backgrounds, and the role that creativity can play in the development of global cultures, now and in the future.

For this purpose, we approached a range of leading academic researchers across different disciplines, to help us understand this mission, and we developed this report which describes the relationships between a creative mindset and a thriving and vibrant culture.

We hope that this report will inspire a new dialogue on the role of play and creativity in developing an inclusive and dynamic society, which recognizes the potential of the creative mindset embedded in every child.

The LEGO Foundation
June 2013

EXECUTIVE SUMMARY

This report argues that societies often fail to properly nurture and sustain the cultures of creativity which are vital to their future. Young children arrive at school with a creative mindset, but this is often eroded or even erased by conventional educational practices. We are failing our children if we do not recognise the crucial role of playing, making and sharing in the development of both the individual human being, and the innovative society.

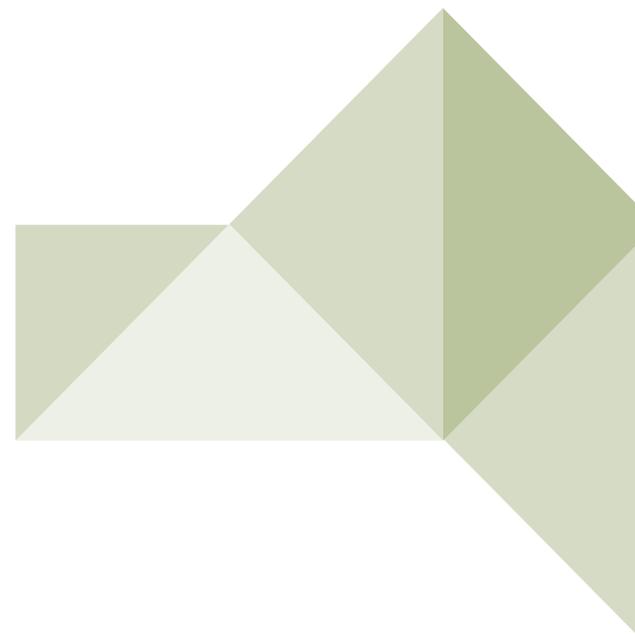
Cultures do not emerge passively, or at random. Cultures develop out of a practice of people doing things together, because of a collective need or a shared passion. It is common to think of culture as something abstract, perhaps created through initiatives at a national or international level. But cultures really develop through the opposite kind of process – when people find ways to play, make, and share together, and to negotiate differences to create shared meanings.

This Executive Summary covers four key themes: cultures of creativity; a model of culture; the creative mindset; and bridging cultures.

CULTURES OF CREATIVITY

- Cultures are the context in which creativity occurs. They give shape to creative activity, and the expectations of those who encounter it. Cultures can be very different – they are the diverse colours and flavours of human life which make our existence so interesting.
- Cultures are a shared set of understandings, meanings and values. They come in different forms and sizes. It is common to speak of cultures within national borders. But cultures can also describe groupings of people with – for example – a shared religion, or generation, or workplace, or enthusiasm. Cultures are not separate islands – we might be members of several, and they often overlap.
- This study finds that although it is common to speak of ‘cultural differences’, human cultures are more characterised by their similarities than their differences. We have seen that creativity is generally considered to be of high value in all cultures – even those which, because of conflicting pressures, do not always support its development in practice.

- Humans gained a huge evolutionary advantage when we developed ‘cultural memory systems’ such as writing and drawing, giving us a way to record, share, and manipulate ideas. Cultures can be seen as huge networks of individuals drawing upon and interacting with the vast amount of material in these ‘external storage systems’ of books, films, and archives.
- The internet is the most extraordinary of these external storage systems, offering access to a vast array of information, text and audio-visual material, and giving people a platform to share and exchange ideas, and to collaborate on projects together.
- Creativity arises not exclusively in individuals, or in culture, but in the interaction between the two. Both sides are important: the imaginative individual, who originates new ideas, and the stimulating, supportive culture which both inspires those ideas and helps them to flourish.
- Culture can act as a kind of ‘scaffolding’ for ideas, making them stable and manipulable, and tying them down in a shared language so that other people can appreciate, use or change them.



A MODEL OF CULTURE

- As a tool for understanding creative cultures, we present a model adapted from one by Anne Scott Sørensen et al (2010). The model shows culture both as the already-existing site within which people are creative, and simultaneously as the ‘live’ space which influences, and is influenced by, their creativity.
- The model reminds us that culture is not (only) about heritage, but is about the lived here-and-now, which we continually make and remake, together.

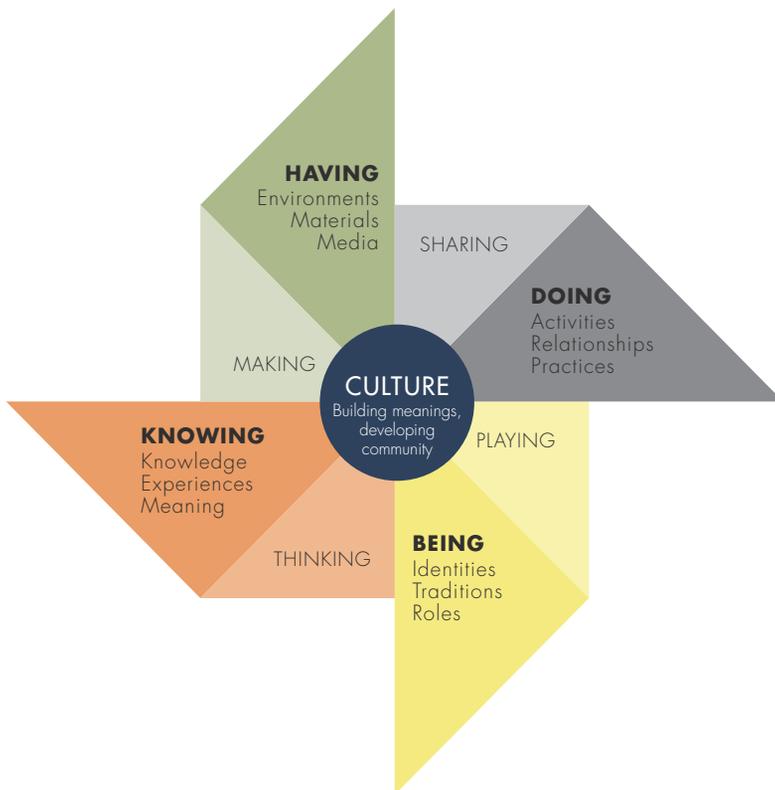


Fig. 1: A model of culture (adapted from Sørensen et al., 2010)

- Culture is therefore a system through which people build meanings, and develop community, through the dimensions of having, doing, being and knowing. The model shows that the creative mindset is supported when there are stimulating environments and resources (*having*), when there is a lot of inspirational activity and the engaging support of peers and mentors (*doing*), when there is an ethos which supports the passions of makers (*being*), and where there is a solid body of expertise and knowledge, and support for learning (*knowing*).

- These four dimensions are driven by playing, sharing, making and thinking – the active processes through which people learn and form meanings together.
- The model draws our attention to the key aspects of a thriving creative culture, and so can be used to organise ideas and plans for developing that culture.

THE CREATIVE MINDSET

- The *creative mindset* is an attitude to the world characterised by curiosity, questions, and a desire to play, make and share, which children possess in their early years, but which is often tragically lost in the cultures of schools and workplaces. *Sustaining* this delicate creative mindset is a considerable challenge in any culture.
- Creativity should be actively encouraged, praised and rewarded, in homes and schools. Adults can play a key role in modelling everyday creative behaviour – the particular activity is not as important as the fact that an adult can be seen engaged in a creative enterprise. Modelling of *playful* behaviour is also very important.
- Experts can play a useful role, but expertise is less powerful than a learner’s own desire to learn. When a child is curious and motivated, with a strong sense of self-efficacy – the belief in their own ability to succeed in difficult circumstances – they can learn from peers, and from experience.
- There is one place of learning which does foster creative, risk-taking, collaborative activities: kindergarten. The notion of the ‘lifelong kindergarten’ offers the possibility of a space where everyone can tinker, experiment, and play. Whilst doing so, they learn about collaboration, and the creative process.
- Therefore, in order to develop as creative thinkers, children – and adults – need opportunities to make things. They also need stimulating environments to do this in, and engaging tools and materials to do this with. Because older children and adults generally do not want to use the same materials as young children, there is a challenge to produce fruitful tools and materials for older people which still embody the values of playing, making and sharing.

- To sustain the creative mindset, within any culture, we need a ‘lifelong kindergarten’ spirit, characterised by as many opportunities as possible for playing, making and sharing. This must involve stimulating environments, and support from leaders, role models, and peers.
- We must preserve the delightful diversity of cultures in our world, of course, but infuse them more with the experimental, risk-taking spirit, and the values of playing, making and sharing. It must embrace platforms and languages that enable sharing and exchange. These are crucial because they are the crucibles for new understanding and co-created meaning.

BRIDGING CULTURES

- To build bridges between cultures, people need a common language through which they can develop shared meanings. The bridge-building process is not about ignoring differences, but is more about channelling and supporting *conversations*.
- To have fruitful conversations, a common language is needed. As well as spoken languages and their written counterparts, there are non-verbal systems which offer a kind of internationally shareable language, such as musical notation, maps, and the LEGO System.
- Connected cultures may only have certain things in common, but these shared elements of resources, activities, identity or knowledge – in other words, ‘having’, ‘doing’, ‘being’ or ‘knowing’ – can be used to ignite a creative conversation.
- Through the processes of playing, making and sharing, we explore the limits of our own existence. We are able to make our individual private worlds public, and by exchanging ideas and meanings, we create the fuel for social innovation.



1: INTRODUCTION

This chapter discusses the relationship between *individual* creativity and creative *cultures*.

Creativity is often thought of in individual terms. We can think of particular figures, such as Leonardo da Vinci, Virginia Woolf, Ai Weiwei, or Steve Jobs, who are thought to have possessed so much creativity that they were able to transform the world around them. And we can buy books which tell us how to become 'more creative' and therefore change our own lives. Certainly, individual creativity can be nurtured, supported, and developed, as we have seen in previous reports from the LEGO Learning Institute. But we can be equally sure that creativity does not flourish in a vacuum.

Culture is the soil in which the flowers of creativity grow; and on top of that, conversations, collaborations and networks are the fertiliser which gives a great boost to creative processes. Even apparently single-authored ideas and innovations are typically built on principles established by others, and are then sharpened and improved through sharing and dialogue.

A striking example is presented by Mihaly Csikszentmihalyi (1997: 32-36), who notes that during a short period of time, 1400–1425, in Florence, Italy – a thriving but (in today’s terms) reasonably small town – a number of art works and buildings were produced which not only seemed impressive at the time, but which are still regarded as some of the finest and most influential achievements of Western art and architecture, ever, 600 years later. These include the Branacci Chapel fresco cycle by Masaccio, sculptures by Donatello, the enormous dome of the cathedral Santa Maria del Fiore engineered by Filippo Brunelleschi, and many others. However you look at it, the range and number of these masterpieces, produced over a couple of decades in one small place, is astonishing. But if we think of creativity only in individual terms, it is really inexplicable. Was there something in the water? Or one inspirational leader whose charismatic creativity was so incredibly powerful that it could somehow be beamed into everyone else?

CREATIVITY: BETWEEN INDIVIDUALS AND CULTURES

Although talented and imaginative individuals were central to the Florentine achievement, the explanation of why there was such an incredible flourishing of creativity in this one place, in a short space of time, is unsurprisingly broader and more cultural. Csikszentmihalyi suggests that a combination of social, cultural and economic factors came together in a ‘perfect storm’ of innovative potential. This involved a new-found prosperity; plus leadership from authorities who made a decision to make the city beautiful and distinctive; plus knowledge – new

Cultures themselves are made, by definition. Any culture is the product of human creativity, of one sort or another. So then, any new creative act is built and appears within the context of a particular culture.

and rediscovered techniques; plus support and encouragement of the artists and architects, who were not micro-managed, but knew that the city leaders were behind them, and were watchfully interested, and wanted them to do great things. These cultural forces combined to create a very powerful environment in which creativity could grow. Of course, it took brilliant individuals. But many brilliant individuals, in the wrong places at the wrong times, have not achieved the same results. It was the combination of individual imagination and skill, plus the several dimensions of the highly fertile environment, which enabled such memorable results. As Csikszentmihalyi says: ‘It is because of this inseparable connection that creativity must, in the last analysis, be seen not as something happening within a person but in the relationships within a system’ (1997: 36).

THE EVOLUTION OF CREATIVE HUMANS AND HUMAN CULTURES

Cultures themselves are *made*, by definition. Any culture is the product of human creativity, of one sort or another. So then, any new creative act is built and appears within the context of a particular culture (or perhaps a fusion of cultures). The ingredients for creativity include materials, tools, ideas from a culture, and a creative mindset. This is not new. The neuroscientist and anthropologist Merlin Donald has shown that humans developed the ability to make tools almost two million years ago. In particular, they worked out that what you really needed was the ‘master toolkit’ – tools that can make other tools. (As he explains in his essay, this meant using the sharpest and hardest materials, flint and obsidian, to make other tools from materials such as wood, hide, and bone: ‘diggers, spears, tethers, simple clothing, and eventually, shelters and boats’ (Donald, 2013). The idea of the ‘master toolkit’ remains attractive today – as seen, for instance, in the excitement about a 3D printer which can ‘print itself’).

The ability to make things is central to human development. Donald states that ‘the most ancient defining characteristic of the human mind is the ability to make things with other made things’, and this forms the basis

of our ability to create meanings, communicate, and build bridges. This continues to be true: creative human thought producing things is still central to our lives and cultures, whether the ‘things’ are trains, clothing, power stations, meals, cities, music, writing, or software. Use of tools led to the development of the ‘mimetic imagination’ – the unique human ability to rehearse and refine skills. We can imagine an ideal outcome, and then develop our performance over multiple attempts. This, Donald notes, is the basis of fantasy play, ‘which entails imagining a virtual world, and acting out various roles in it’.

Donald’s unique contribution, however, has been the emphasis on the fundamental role of *culture* in human development. Evolutionary psychologists had previously tended to emphasise the features of human physical and cognitive development, including skills and abilities; but Donald emphasises that the human mind is a ‘hybrid’ product of biology and culture: ‘The human mind is unlike any other on this planet, not because of its biology, which is not qualitatively unique, but because of its ability to generate and assimilate culture’ (Donald, 2001: xiii). This culture provides the framework in which the individual develops, and is thus a wonderful set of resources as well as forming a kind of envelope around that which can be imagined:

The word ‘culture’ usually connotes something other than its cognitive aspect. It usually refers to a set of shared habits, languages or customs that define a population of people. It may be those things, but on a deeper level, any given culture is a gigantic cognitive web, defining and constraining the parameters of memory, knowledge, and thought in its members, both as individuals and as a group.

(Donald, 2001: xiv)

This ‘cognitive web’ is not simply a mass of thoughts or learned, shared meanings. Crucially, it is the human ability to communicate and store thoughts – through innovations such as drawing and writing – which has really enabled us to evolve. The individual human brain is an incredible thing, but can become immeasurably more powerful through the use of tools which enable us to set out and review ideas. As Donald suggests, we typically cannot hold all the parts of a complex argument in mind at once, and do not tend to have extensive and precise mental reference libraries ready for instant consultation. But we *do*

have pens, and books, and the internet. The individual working memory may be relatively weak, but our cultural symbolic storage systems are strong. Once thoughts are put into ‘external storage’ (such as writing, a diagram, or a model) they can be shared, developed and worked on.

We can arrange ideas in the external memory field, where they can be examined and subjected to classification, comparison, and experimentation, just as physical objects can in a laboratory. In this way, externally displayed thoughts can be assembled into complex arguments much more easily than they can in biological memory. Images displayed in this field are vivid and enduring, unlike the fleeting ghosts of imagination. This enables us to see them clearly, play with them, and craft them into finished products, to a level of refinement that is impossible for an unaided brain. Thus the display characteristics of the external memory field expand the range of mental operations available to a conscious mind.

(Donald, 2001:309)

Making our thoughts and ideas external, through shareable symbols – drawing, writing or objects – was therefore an extraordinary evolutionary strategy, which means that we are able to ‘off-load’ vital survival information, as well as important aesthetic, ethical and cultural matter, into what Donald calls our ‘cultural memory systems’ (2001: 12). These systems take on a certain life of their own, and mean that the human mind has evolved into a ‘hybrid’ form which depends, to a significant extent, upon these ‘collective storage systems’ which now contain so much of our everyday reality. This argument takes on a heightened significance in the digital age, of course, as we increasingly ‘off-load’ our thoughts, and their representations as images and texts, into online networks – the ‘upload’ side of the equation – and we expect that we don’t need to carry so much general knowledge in our heads because – on the ‘download’ side – such know-how is always accessible on Wikipedia, or helpfully indexed by Google. Donald’s notion of a shared storage system prefigures the technological notion of ‘the cloud’, of course, but they refer to something similar, although the latter tends to be massive but individualised, and often owned by corporations – a significant shift from the cultural cloud-commons that Donald presents.

FROM THE ESSAYS:



'Cultures of creativity thrive wherever there is respect and space for multiple styles to flourish and play together, where novices can construct their own expertise by building from their own experiences and knowledge-base, and where "experts" remain open to learning.'

(Wesch, 2013)



One thing that Donald's work makes clear is that human life is crucially collaborative and based on shared cultures. It is not that individuals go about their business, and that collaboration and culture are perhaps pleasant layers on top, adding character and sociability to everyday life; rather, our everyday life would not exist without that collaboration and shared culture. As Donald explains: 'We may have the feeling that we do our cognitive work in isolation, [but] we do our most important work as connected members of cultural networks' (2001: 298).

DEFINING CULTURE

Culture, then, is a necessary context for creativity. We have seen Merlin Donald's suggestion that culture is 'a gigantic cognitive web' which relies on networks of individuals drawing upon and interacting with the vast amount of material in 'external storage' – books, films, archives, exhibitions, the internet, and many other places. In a similar way, but with more emphasis on culture as a shared mindset, Geert Hofstede et al (2010) define culture as 'the collective programming of the mind, distinguishing the members of one group or category of people from others'. This does not mean that cultures are exclusive and wholly different, but indicates that they are at least *distinctive*, with particular flavours and tones which mean that one culture is not the same as another. This would include an orientation to learning and knowledge, which may be more 'top down' (we must learn from respected experts) or more 'bottom up' (I can work things out for myself, and by asking or collaborating with my peers).

Hofstede's notion of 'mental programming' can seem overly deterministic – we might instead say 'conscious or unconscious cultural identification,' to leave more room for individual flexibility. These identifications occur at different levels (Hofstede et al., 2010: 18), such as national, regional, generation, class, workplace or school, and lifestyle. On the other hand, modern societies are often characterised by disruption to the former stabilities of national or class identities, with globalisation and a less constrained attitude to lifestyle choices meaning that particular identifications based on such classifications can no longer be taken for granted (Giddens, 1991).

Nevertheless, Hofstede offers a valuable model for thinking about the composition of cultures, with the manifestations of culture at different levels of depth.

At the centre of a culture are *values*, a core set of beliefs and preferences. These values are implicitly learned by children from an early age. Moving out from the centre are three kinds of 'practices' – ways in which a culture is manifested (Hofstede et al, 2010: 7-9)

RITUALS: Collective activities, carried out for social rather than functional purposes, such as polite greetings, social and religious ceremonies

HEROES: Role models (real or fictional, alive or dead) who are seen to possess aspirational characteristics

SYMBOLS: Words, gestures, and things that carry a particular meaning within a culture

This way of breaking down the elements of culture can provide a useful way of describing what is important within a culture; and it can be used to flesh out the detail of what a culture is most concerned with when considering cultures at the level of class and regional identities, or different generations, each of which will have its own values, rituals, heroes and symbols.

Culture plays a fundamental role in shaping the development of young children, especially since the human child is born so relatively unformed. As Hayes (2000: 660) puts it, 'Human infants are born at an earlier stage of development than other animals, and have to spend a longer period dependent on their caretakers. This means that they can learn more about their surroundings, and are therefore better equipped to adapt to a wide range of environments' – and that culture will make a huge impression.

In terms of the relationship between culture and creativity, Lubart and Sternberg (1998: 69) posit that ‘Creativity is not in the person, or in the culture, but in the interaction between the two’. This mirrors the ‘relationships within a system’ approach highlighted by Csikszentmihalyi above. Rather than suggesting that creativity is ‘nowhere’, it should be taken to indicate the crucial importance of the imaginative individual, but also the inescapable influence of culture(s) on that individual, meaning that creativity can be said to arise from the interaction of both.

CULTURES ARE NOT ISLANDS

There is no obvious way to draw a line around human life in order to say ‘here is one culture’ and ‘here is a different culture’. We can pull the lens to its widest, and say that all human life is a culture, or focus in very closely, and talk about the ‘culture’ of a particular classroom, or a family.

Most simply, ‘culture’ refers to a shared layer of understanding, and despite the common focus on ‘cultural differences’, human beings around the world have much in common. Research supporting this view is cited in several of the commissioned essays. For instance, David Whitebread and Marisol Basilio offer this summary of how play is manifested around the world:

The study of play through time and across cultures has consistently demonstrated two characteristic features of play in human societies. First, it is clear that play is ubiquitous among humans, both as children and as adults, and that children’s play is consistently supported by adults in all societies and cultures, most clearly in the manufacture of play equipment and toys. Second, it emerges that play is a multi-faceted phenomenon, with a variety of types that appear in all societies, but that there are variations in the prevalence and forms that the various types of play take in different societies.

(Whitebread & Basilio, 2013)

Here, as in other cases, we find that the general experience is common to diverse cultures and places, but that in each of those different cultures it is infused with a very distinctive character and flavour. So the main message is about commonalities, rather than differences, between people – but at the same time, we can celebrate the incredible ability of humans to do things in different ways.

We began this study by posing questions such as ‘How are creativity, play, and making valued differently in different cultures?’. Perhaps inevitably, questions of that kind can appear to set up cultures like islands (‘between cultures’, ‘different cultures’), but this was not the intention. Cultures are important, and exist, in the blurry world of human creativity and relationships. To separate out ‘different’ cultures, in a scientific manner, is both impossible and undesirable. Rather, we aim to explore the relationships between creativity and culture in a way which is rigorous but sensitive, and which accepts the delightful complexity and interconnectedness of human life.



2: THE CREATIVE MINDSET

This chapter discusses the creative mindset, and the ways in which different cultures manage to support or erode that potential.

We see that the creative mindset is delicate and rather too easily damaged, and consider the mindfulness necessary to keep it alive.

THE CREATIVE MINDSET AND THE UNIVERSAL POTENTIAL OF CHILDREN

Every child begins their journey through life with an incredible potential: a creative mindset which approaches the world with curiosity, with questions, and with a desire to play, make and share. The creative mindset is summed up by Beth Hennessey, in her essay, as ‘a playful attitude and a willingness to take risks’ (Hennessey, 2013).

A creative mindset is about playing, making and sharing. As Mitch Resnick suggests in his essay, these three concepts are not just forms of activity, they are stances for engaging with the world (Resnick, 2013).

Play is not simply a particular activity which occurs within a specific bit of time during the day, but can describe a playful attitude towards the world, which will infuse relationships, judgements, and willingness to take risks. Similarly, ‘making’ is not just about the activity of creating and building, but refers to an attitude that the world is constantly being built and rebuilt, and that there is an active role to be played in that building and rebuilding. Sharing is about a capacity for connection and collaboration – to do the playing and making with others, to build on other people’s ideas and to offer up one’s own work in the same spirit.

The creative mindset, then, is a universal starting point, but is easily lost. This observation has been memorably made by Ken Robinson, in his 2007 TED talk which has been viewed millions of times online, in which he argues that schools typically ‘squander’ children’s creativity and talents, ‘pretty ruthlessly’ (Robinson, 2007). Children begin school unafraid to experiment, to tinker, to get things wrong; but over time, they learn that mistakes are highly stigmatised, and often associated with a kind of humiliation that every child would want to avoid. A strikingly similar point is made by Beth Hennessey:

I began my career as a primary school teacher and immediately began to worry that our schools were

... killing children’s motivation and creativity. Almost without exception, the five-year-olds in my mixed-age classroom began their educational journey wide-eyed and excited about everything put in front of them. They took risks and were blissfully unconcerned about what might happen if they made a mistake or got a wrong answer. [...] Yet by the time these same students had reached the age of 8 or 9, far too many of them had become rule-bound and self-conscious. (Hennessey, 2013)

There is much agreement in the research literature that the creative mindset is all too easily closed down by the apparent demands of the education system. At the same time it is clear that a creative mindset can be nourished and sustained, if we are especially mindful of its supreme importance.

THE CREATIVE MINDSET IS NECESSARY

The creative mindset is not a luxury. And the creative mindset is not a new requirement of the modern world – although it can be especially valuable in our complex, interconnected existence. It is this creative mindset which has enabled the human race to survive over thousands of

years – both on a day to day level, through imaginative approaches to providing food and shelter, and at a broader level, through necessary solutions to dire threats affecting the whole population.

So the creative mindset has always been necessary. But today, more than ever, we have the opportunity to choose ways to develop and support this mindset depending on the future we envision. That we should ‘choose’ to do this seems so obvious that it might barely be worth mentioning – but in fact, we often do things to support one favoured outcome which do damage to another outcome. For instance, being able to assess and compare the performance of schools appears to be a desirable goal: the sense of competition should drive teachers and pupils to do better, and parents should be able to make informed choices about schools. However, assessment of schools

As life goes on, if this creative mindset can be sustained, it enables a person to confidently get to grips with challenges in memorable ways, rich with ingenuity or self-expression. Although the creative mindset resides within an individual, it can be seen as one of the most crucial building blocks for a vibrant and developing culture.

typically means repeatedly testing the performance of pupils; and the importance of the ‘league tables’ that result is likely to mean that teachers devote time to preparing their pupils to do well in specific tests, rather than focusing on nurturing particular creative talents, or iconoclastic thinking. The rational intention of helping the children do better in these important, consequential tests, is at odds with the rational intention of supporting creative thinking.

So the *choice* to nurture creative mindsets remains meaningful, and uncertain. Government representatives from the US to Scandinavia to China speak passionately about the importance of creativity and the creative economy, but education systems often fail to support the flourishing of a really creative mindset.

CREATIVE MINDSETS WITHIN CULTURES

The individual person’s creative mindset develops, inevitably, within culture; but of course this culture was built through the collective efforts of individual people, and so this system is in a permanent loop. People shape culture, and culture shapes people.

Although cultures and approaches to child development may vary considerably, the creative mindset that children begin with appears to be much the same around the world. Every child has the *potential* to flourish, to be inventive, to make great new things. Conversely, the power of social norms and cultural values is strong – and the influence of parental preferences and choices cannot be overstated. As Eduardo Chaves notes in his essay – and as noted above – human children ‘are all born, as it were, prematurely and ill-equipped to live’, lacking the most basic skills for survival (Chaves, 2013). We depend on those around us, and so the universal potential of the human child is almost immediately, from birth, led down a path shaped by culture.

We have a capacity and desire to learn, and so the young child hungrily absorbs all of these cultural inputs, alongside the more general skills such as how to walk. As the child gets older, as Chaves suggests, the creative mindset develops within their whole-body experience of the world. We are not merely ‘thinking machines’, but have the pleasure and joy of running, dancing and making things within

a purposeful body. Although Western education over the past 200 years has tended to see learners in terms of their brain-based skills and experience alone, there is a much longer story of learners as people with skilled bodies and minds in combination.

Chaves suggests, in common with other contributors, that the creative mindset develops from exploration – not just of ideas but of physical things and environments – or rather, as is often the case, exploration of ideas *through* the exploration and use of materials. And we need space to play, to experiment, to be disorderly. His view from Brazil is that learning in the 21st century ‘needs what we used to find in football in Brazil: creative improvisation, freedom, challenge, the union of passion and talent, [and] fun’. This is echoed by accounts from elsewhere.

From the US, Beth Hennessey sets out the challenges of preserving a creative mindset in the face of classroom factors which tend to destroy this kind of intrinsic motivation: ‘expected reward, expected evaluation, competition, surveillance and time limits’ (Hennessey, 2013). Central to this is her idea that students should feel like ‘agents’ rather than ‘pawns’ – determining their own activities and learning, rather than having learning ‘done to’ them. This is not – or at least, not *simply* – ‘do whatever you want’, but a process where learners are supported to reflect upon their learning, and to monitor their own progress. This therefore encourages a thoughtful, creative approach to fostering one’s own creativity.

From China, Keang-ieng Vong records that Chinese schools often see creativity as being primarily of significance in relation to children’s artwork, rather than across the curriculum (Vong, 2013). Creative play is not perceived as being central to learning, and the Chinese noun meaning play, *you xi*, describes activity which for adults would be the *opposite* of learning (a situation not especially different to that in many Western schools, of course, for children above kindergarten age, or in adult business life, which is rarely truly playful). Nonetheless, Vong notes a changing emphasis which might support the development of creative mindsets, based in an approach to creativity as ‘novel ideas to solve everyday problems’, and building on the Chinese definition of creativity which we can paraphrase as ‘the power to infuse any event or object with new ideas’.

We might also expect to see, over time, a trickle-down effect from China's booming creative industries. In the 2011 book *How Creativity is Changing China*, Li Wuwei writes:

By developing creative industries, individual creativity is nurtured. Moreover, creative industries are beneficial in maintaining and protecting historical and cultural heritage, improving cultural capital, and fostering communities. This leads to the improvement of the cultural assets of cities, the establishment of city brands and identity, the promotion of the creative economy, and overall economic and social development. It is in this context that creativity is changing China.
(Wuwei, 2011)

Here the individual creative mindset is seen as the root of a broader cultural transformation, with – interestingly – the creative industries identified as a driving force, both in terms of what they can give (inspiration to a creative society) and what they will require (employees adept at creative thinking).

Alongside the formally supported creative industries, China has seen the rise of 'maker culture', as outlined by Francois Grey in his essay (Grey, 2013). Here we see a flourishing of hacker spaces in major cities – just the kind of experimental, tinkering environment that is likely to nourish creative mindsets. Indeed, Grey's evidence suggests that the government is shifting some focus away from the more top-down 'creative industries' approach – a kind of 'push' approach to innovation, where the government hopes that sheer investment will lead to some returns – and is putting money also into the more participatory hacker spaces, representing more of a 'pull' approach, where enthusiasts and resources are brought into a convivial environment and encouraged to experiment.

BEING MINDFUL

This self-aware approach to one's own development, which can be called 'mindfulness', is also the ultimate point of Mark Runco's contribution (Runco, 2013). The creative mindset, he suggests, is likely to flourish when *individuality* is strongly supported – which can be a particular challenge in cultures where collective values are stronger than individual ones (and is, he says, always a challenge in the upper primary school years, around which

time children are so devoted to fitting in with their friends that individual ideas are rarely expressed). The importance of individuality does not mean that more collectivist cultures cannot foster creativity, Runco notes: after all, the most collectivist society still needs imaginative solutions to social problems, and new ways to promote harmony. He also notes that individualistic cultures are often quick to relegate play after children have passed a certain age. Strong individualism can tend to drive out the laid-back atmosphere which can make everyday life more playful.

Mindfulness is also very important for those parents and teachers who wish to encourage creativity. Although it sounds 'obvious' that original thinking should be embraced and encouraged, creativity is often – by definition – unexpected, and so can be casually put down by adults because it happens to be surprising or inconvenient at the moment when it is manifested. Adults should also be mindful of the ways in which they 'model' creative activity – which is important not simply as a way of demonstrating creative techniques, but more generally to highlight the values and pleasures of creativity within everyday life.

As HB Ebrahim notes in her contribution from South Africa, play is the starting-point for children in developing skills of exploring, thinking, and making (Ebrahim, 2013). Through play activities which they have initiated themselves, children 'become powerful and take control of the situations [that] they have prioritised'. In particular, though, she highlights the social dimension of play:

Play fosters creativity in an *ubuntu* sense [to do with relationships and interconnectedness], and promotes the idea of *umuntu ngumuntu ngabantu* (a person is only a person through other people). These African concepts of human solidarity afford opportunities for children to act as a collective to promote or disrupt ideas and/or use objects in meaningful and novel ways.
(Ebrahim, 2013)

The creative mindset is cultivated through playing, making and sharing, which brings us from the individual to the group level – the focus of chapter three.

PLAYING

Playing, making and sharing are, of course, interconnected, and are often dimensions of the same activity, but here we will briefly consider each in turn. As Merlin Donald explains in his essay, play has its roots way back in human evolution, as an important dimension of the way in which humans have rehearsed, and thereby honed, their creative skills (Donald, 2013). ‘This is what our distant ancestors had to do to master tools. [...] This same basic mental apparatus is the foundation of fantasy play, which entails imagining a virtual world, and acting out various roles in it’. Play is therefore about developing vital capacities, serving a serious function, but of course the activity does not seem dull or serious to the player. As Phillippe Rochat says in his contribution, play is always about ‘gratuitous exploration and representation’ and involves ‘the freedom to explore and to deviate, the freedom to test possibilities’ (Rochat, 2013). Unlike the ‘ordinary awareness’ of everyday life, play concerns ‘the need to explore the limits of our own existence: the limits of our strength, courage, adversity, destiny, production, and agency’. The notion of play creates a space for extraordinary activity:

Through play, we do feel alive in a way that is different from the feeling of being alive in ordinary life. It is a feeling that is open ended. It is a creative mindset by definition, because it is awareness of possibilities and of surprise outcomes: winning, losing, succeeding, resolving, affecting, surviving or failing to achieve. [...] This is a source of an intrinsic pleasure, the pleasure of feeling more intensely alive than in ordinary life. It is driven by the deep pleasure of discovering new limits and new possibilities for self or for the group of affiliates.
(Rochat, 2013)

Play is necessary for the development of imagination and agency in all children, then, but also is at the base of the highest of human achievements. Merlin Donald asserts that fantasy play ‘is at the root of both art and science’ (Donald, 2013). The ability to put together sounds and melodies to make a symphony – or to attack traditional approaches to sound and melody to make a revolutionary new form of symphony – or to imagine the thousands of complex processes required to get a human onto the moon – or to think about the nature of matter and reality to develop advances in quantum physics – all have their roots in the fantasy play of childhood. Children’s early, more

individualistic play leads, of course, into more social and collaborative play, and again this can develop into the kinds of adult creativity that culture requires for its own evolution. Of those children who ‘learn how to cooperate with and organize others to carry out projects together,’ Merlin Donald says, some ‘will progress to the more abstract and socially connected stage that we know as entrepreneurship’. But it all begins with early childhood play: ‘The germ of creativity must be stimulated early, so that the imagination is given full rein to grow to its full potential, especially in those crucial preschool years’.

MAKING

Playing is strongly associated with making, and again we can see the roots of this in Merlin Donald’s evolutionary account, which shows that making things is a central part of the universal interest of children in playing. Creative play is enjoyable, and intrinsically motivated – done for its own sake, without need for incentive or instruction – but serves a serious purpose.

Human beings have existed in a complex creative relationship with tools for millions of years. [...] When viewed in this broad historical framework, it is obviously the most natural thing in the world for human children to play with simple tools to make things. In doing so, they are engaging the most ancient and unique features of our special human mentality.
(Donald, 2013)

When making things, whether playful scenarios or cardboard spaceships, children are at the same time ‘engaging in the serious business of building the cognitive platform for their future skills’:

They are not only assembling essential neural architectures in their young brains, but also encouraging the development of their creative capacities, as well as their proficiency at constructive self-criticism. These abilities are essential, and their future as learners depends upon it.
(Donald, 2013)

This view is supported by the principle of constructionism, developed by Seymour Papert. This is the idea that we build knowledge through making things, or ‘learning by making’. It is based, in turn, on the notion of constructivism, from

Jean Piaget, which suggests that the world we engage with is actively constructed in our minds, and so knowledge is always a *reconstruction* of reality, rather than a copy or a mirror. Constructionism takes this a step further by highlighting the power of really making things, as a way of both clarifying and communicating ideas (Papert & Harel, 1991). As Mitch Resnick puts it in his essay:

Papert argued that the activity of making things provides a rich context for learning. It doesn't really matter what you are making; you might be building a sand castle, writing a poem, cooking a new recipe, or programming an interactive robot. What's important is that you are making something that is meaningful to yourself or others around you.

(Resnick, 2013)

Indeed, making can be a process which 'grounds' a person in the world as an active participant. As David Gauntlett argues in *Making is Connecting* (2011), the practice of making things enhances people's sense of engagement with their culture, their environment, and other people. Gauntlett's research suggests that this applies equally to online and offline creativity. Where the available tools and resources enable people to give shape to their own realities, and meaning to their own environments, then they are likely to be happier, healthier, and feel more empowered to take control in other aspects of their lives.

SHARING

As we have said, playing, making and sharing are all intertwined. The playing and making activities discussed above are frequently social, and so involve the sharing of materials, ideas, and a sense of human connection.

But sharing is significant in its own right – because sharing is the act of building personal connections with others through what is essentially personal disclosure, whether of ideas, experiences or preferences. Sharing is meaningful because I share not just a song or model or story, but something of myself. This is why platforms for sharing and exchange are important, because they are places where human thoughts become intertwined.

An awareness of the shared nature of cultural endeavours is the special feature identified by Yoshiro Miyata in his discussion of a visit to a community in northern Thailand, where the way of life was primarily local and self-sufficient:

They are well aware that their lives are supported by the community that they are contributing to, based on the shared meaning that they have created, based on the relationships that they have created, based on the products they have created.

(Miyata, 2013)

Throughout human history, life has been characterised by this kind of direct sharing within communities, Miyata notes, but the impact of globalisation in recent decades means that many goods and services which we consume are produced in far away places.

We have designed our technology so that we can live a comfortable and convenient life, but in the process we have lost the real sense of community in which we all support ourselves creatively.

(Miyata, 2013)

Whilst it might be difficult or undesirable to turn back the clock on these kinds of globalisation, we may need to find other opportunities for sharing, to increase meaningful person-to-person exchange and human connection. An example cited by Miyata is the World Museum Project, an online network where children can connect and collaborate.

They started to create meanings that they could share, based on their relationship. Thus, the act of creating *community* is grounded on the act of creating *meaning*, which in turn is grounded on the act of creating *relationships*, which in turn is grounded on the act of creating *products*.

(Miyata, 2013)

Doing things together is good because it can lead to better outputs, but just as importantly because it builds meaningful social relationships. Returning to the notion of constructionism, mentioned above, Gerhard Fischer writes in his contribution:

Constructionism [...] asserts that working and learning is an active process. Providing all citizens with the means to become co-creators of new ideas, knowledge, and products in personally meaningful activities presents one of the most exciting innovations and transformations with profound implications for fostering and nurturing cultures of creativity.

(Fischer, 2013)



'To foster, nurture, and support creative designer mindsets, learning cannot be restricted to finding knowledge that is "out there". [...] socio-technical environments are needed that cultivate the development of a "designer mindset" by creating habits and tools that help people become empowered and willing to actively contribute to the design of their lives and communities.'

(Fischer, 2013)



He suggests that this can be done with physical construction systems, such as LEGO, or digital platforms where creators can provide feedback on each others' work, leading to 'distributed constructionism', where the pleasure, speed and diversity of making-together activities is enhanced by broad, accessible networks.

THE COLLECTIVE CONTEXT

As we shift our focus from the individual level to the group level, it is worth noting that this takes different forms. On the one hand there is the *collective activity* itself – the thing that you are doing. But also, and perhaps more importantly, there is the collective context – the platform or space within which the activity occurs, which is likely to include a mix of supportive, neutral, and not-supportive elements. Many of our expert contributors highlighted the crucial importance of this context. Michael Wesch, for instance, concludes that:

Cultures of creativity thrive wherever there is respect and space for multiple styles to flourish and play together, where novices can construct their own expertise by building from their own experiences and knowledge-base, and where “experts” remain open to learning. (Wesch, 2013)

In the previous chapter we saw that HB Ebrahim cited the South African concept, *umuntu ngumuntu ngabantu* (a person is only a person through other people) (Ebrahim, 2013). She illustrates this with an example where older and younger children collaborate – a situation where the 'experts' remain open to learning:

In my work in rural KwaZulu-Natal, young children in open-air preschools were afforded opportunities for play with older children (buddies). This kind of support allowed for apprenticeship behaviour and social learning from a grouping other than their peers and adults... When young children play in a group they have opportunities to develop scripts to suit specific aims, become aware of different perspectives, allocate or be allocated resources and deal with multiple demands. (Ebrahim, 2013)

But 'a person is only a person through other people' is double-edged, because the important community of 'other people' can be conservative and suppress development.

In the South African case outlined by Ebrahim – and no doubt elsewhere – this is often children's parents, who may expect education to have an 'instructional' approach, even though evidence suggests that young children should be seen as 'people getting to know their world in the here and now of childhood', and that adults should 'make efforts to learn from them and support them in their meaning making'. This approach emphasises the need for children to explore, experiment, and 'share possibilities', in a safe and relaxed environment.

MAKING PLAY, MAKING CULTURE

The ways in which children are able to collectively produce shared play activities, without formal leadership, instructions or agenda, is perhaps a metaphor for the process through which 'culture' in general is produced.

In his contribution, Artin Göncü discusses his thesis that children's social imaginative play stems from their desire to make sense of experiences in collaboration with others (Göncü, 2013). His research has documented the process through which this occurs:

When children come together, they first begin to identify a play idea that is meaningful for all the children involved. Proposals made for joint play that are found idiosyncratic are often given up. Once children agree on a play proposal, they then engage in negotiations attempting to discover the commonalities amongst their experiences. These negotiations occur in a free-flowing manner, allowing children to agree on the general script of their play... Identification of a shared play script allows the flexible negotiation of differences and even to tolerate them for as long as the desire to hold the ensemble together remains intact. (Göncü, 2013)

In effect, children manage to find a way to 'muddle through' and to produce a shared experience which makes sense to the participants, even though they are drawing upon different sets of experiences and understandings. When I say "let's play space monsters!", your half-dozen ideas about what space monsters are like, what they do, and why they are exciting or scary, might be completely different from my set of space monster ideas, but as long as we can find a space of mutual compatibility, even with the odd clash, we can keep going.

Göncü notes that what is striking here is that this social play process conveys the child's imaginative world from private to public, and it becomes part of a shared construction – a collaborative project to build meaning and understanding (Göncü, 2013). Of course, there is no formal process through which this delicate negotiation occurs – it is never discussed, never taught: it just happens. It is an *improvised* process, where children try to find what works, and what is acceptable, without wholly disrupting the ongoing play experience. The play proceeds with implicit, more often than explicit, indications of agreement or disagreement with each other's ideas, and with the continuous possibility of revision and change 'on the fly'. Göncü says:

Based on these findings, I am claiming that imaginative play is a spontaneous activity through which children express to the world of peers (and sometimes to [adults]) those topics that they want to work on. In this sense, imaginative play can be seen as a curriculum that children offer for collaboration. Also, children offer their curriculum using a flexible language that allows its creative transformations in order for it to become communicable, fun, and shared.

(Göncü, 2013)

This is a fascinating insight into how play works, but it also offers a model for how culture is created and developed: willing parties offer sets of 'topics that they want to work on' – a 'curriculum' for collaboration – and then an improvised process of muddling-through and tacit agreements develops into a kind of consensus regarding the typical content of the system, its boundaries, and its tolerance to challenges.

This can explain how something we call 'culture' is put together and recognised: any number of cultural artefacts and ideas are proposed by actors within the system (innovators, artists, critics, or anyone with something to contribute), but it is through an improvised process of muddling-through and tacit agreements that we eventually reach some kind of consensus about the core and marginal elements of the culture. This conversation about the nature and content of culture goes on, continuously, across time.

This model also allows for cultures to change over time, in ways that are shaped and constrained by their norms and ethos. Some cultures, for instance, might take it for granted that from time to time they can be disrupted by radical new ideas, and that this is part of the culture's natural development; other cultures may be more closed, and would implicitly assume that such disruptive moves would naturally be blocked. In times of transition, it is less clear what is or is not acceptable, and there is no clear way to 'decide' upon the 'correct' answer: think, for example, of China's response to the artist Ai Weiwei, who is both celebrated as a symbol of Chinese innovation and creativity, and harassed and suppressed as an intolerable critical force.

CULTURES ARE SYSTEMS

Cultures can be understood as systems. This does not mean that they can be reduced to simple sets of rules, or understood in simple terms. The point of systems theory is that systems are complex, and a reductionist approach – focusing on parts of the system separately, rather than looking at the whole – merely leads to lack of understanding. The idea of using a simple lens to understand one 'bit' of the system can be attractive, but ultimately comes at the expense of a broader understanding.

Cultures are systems through which we create shared meanings. This sounds like a pleasant process, but has substantial implications. Merlin Donald (2001) notes that a culture is a system which frames how we see *everything*, so some things are rendered thinkable and may become more central, whilst other things become more or less invisible or literally inconceivable to us. So at the broad level, culture is the terrain in which we operate, and at the close-up level is the knitting together of ideas, knowledge, feelings and insights, to remake part of the terrain.

If we think about cultures of *creativity*, then creativity within a culture means creativity within a kind of system. What this means for creativity is that it necessarily responds to, and is framed by, elements of the system. So creativity within a culture is likely to convey or be shaped by the values of that culture (such as emphasis on individual or collective priorities), approaches to learning and sharing (more public or more private), aesthetic expectations (such as use of space and materials), and other factors.

The systems view of culture has its roots in – amongst other places – the work of Emile Durkheim (1858–1917), one of the ‘founding fathers’ of sociology. Durkheim saw that cultures established sets of expectations, and frames of understanding, which took on a stable existence of their own, separate from individual moods or preferences (Durkheim, 1938 [1895], 2002 [1897]). Although created through the collective will of individuals, cultures come to be relatively independent of individual desires, and yet still describe the envelope of reality for the population.

This model presented a problem in that social change would not appear to be possible, except perhaps at a very slow, evolutionary pace. The sociologist Anthony Giddens solved this (most notably in *The Constitution of Society*, 1984) with his model of ‘structuration’, which suggests that the macro level of culture and social structure does exist, but is only reproduced through repetition of acts and expectations at the micro level, by individual people, and therefore can change when people choose to disregard the established order and do things differently. This model offers, in system terms, a kind of feedback loop, enabling cultures to develop, change and adapt.

Then we can recall the model of creativity as a system offered by Mihaly Csikszentmihalyi (see Chapter 1), where the contribution of a creative individual must be understood in relation to the broader culture, and the specific supports and networks which that contribution benefits from. The feedback loop described above means also that the individual contribution feeds, eventually and incrementally, back into the whole.

A DYNAMIC MODEL FOR CULTURES OF CREATIVITY

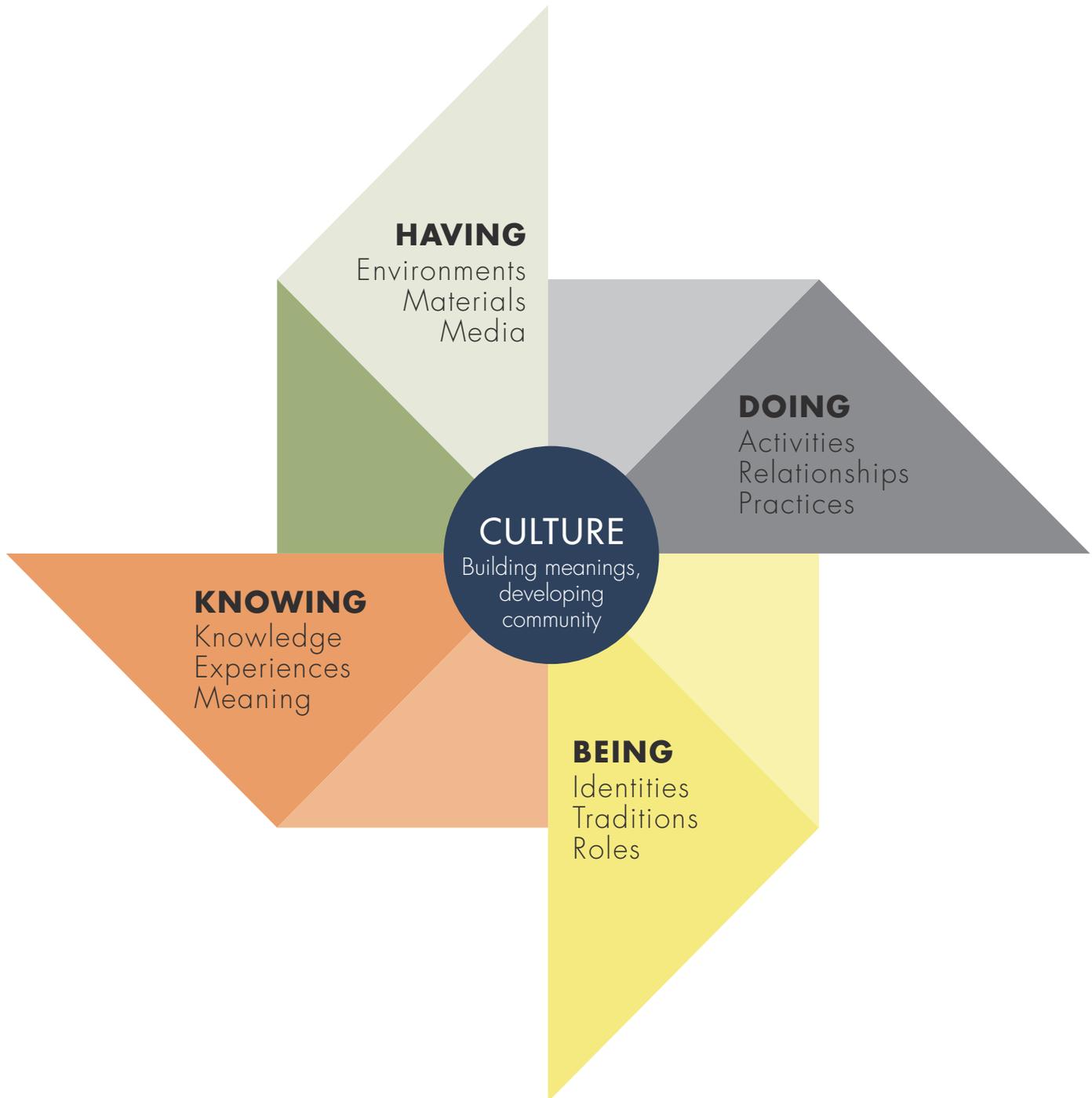
To better understand cultures of creativity, and as a tool for thinking about creative cultures, we have adapted a model of culture which was proposed by Anne Scott Sørensen et al (2010), which itself drew upon a number of previous models or perspectives on culture. The model recognises that culture always signifies both a *context* for experiences, and actual experiences. So on the one hand, culture is a given – the culture, largely made by others, which you inhabit – and on the other hand, culture is being created and recreated, right now, through individual and social meaning-making and experiences, including your own.

The model suggests that culture has four essential dimensions, ‘having’, ‘doing’, ‘being’, and ‘knowing’. These are all parts of culture, continuously in play together, and should not be considered separately. ‘Having’ and ‘knowing’ could be seen more as the bedrock of a culture, with ‘doing’ and ‘being’ representing the dynamic human engagements that give it life – although really, ‘having’ and ‘knowing’ are active processes too, and ‘doing’ and ‘being’ have some relatively steady bedrock aspects.

- **HAVING** is about the resources which a culture presents us with, including artefacts, materials, tools, media, and environments. Where we have access and permission to engage with or inhabit these things, we can experience and develop culture. This typically involves some form of appropriation – taking things and re-using or re-thinking them for new purposes.
- **DOING** is about the activities, relationships and practices which bring a culture to life. These activities can be physical, social, or symbolic. They may be mediated through tool-use (as when making a cake, or building a tower), or take the form of enactments (such as pretend or role play). Without this continuous flow of ‘doing’ – human activity and meaning-making – any culture would collapse.
- **BEING** is about the identities of individuals and groups, and their shared traditions, habits and states of mind. It is therefore about both collective identity and collective aspiration. It is the “defining” and emotional side of the continuity that binds a culture together.
- **KNOWING** is about the culture’s ways of making sense of things. It is the knowledge, experiences and meanings that undergird a culture – the ‘canon’ of recognised creations that form its basis – as well as the here-and-now consciousness and conversations that sustain a culture.

At the centre of the model we can see that culture is about building meanings, and developing community – which would include learning together. These are the central parts of culture which can only be understood through the combination of all four dimensions: having, doing, being and knowing.

FIG. 2: A MODEL OF CULTURE (ADAPTED FROM SØRENSEN ET AL., 2010)



As we have seen above, culture is a system which envelops both the ‘macro’ and ‘micro’ levels – it contains the shared knowledge and practices which make up the general sense of a ‘culture’, as well as the individual everyday activities which are both influenced by the culture and which can, in turn and over time, influence and shape its general character.

The having-doing-being-knowing model therefore applies to the general (macro) level of a culture, as well as to individual (micro) experience *within* a culture. Indeed, it shows the ways in which the two are connected – the general shape of a culture in terms of having, doing, being and knowing, influences how individuals live their lives in terms of having, doing, being and knowing. These everyday practices reproduce the values and practices of the general culture, but in turn – when done differently – may contribute to change within that culture.

FOUR KEY PROCESSES

The above model also includes four key processes which arise in the intersections of the having-doing-being-knowing dimensions. (These do not appear in the model by Sørensen et al, 2010; we have added them).

- **PLAYING** – which connects being (identity and selfhood) with doing (creative action)
- **MAKING** – which connects doing (creative action) with having (available materials)
- **SHARING** – which connects having (things to share) with knowing (knowledge and experience)
- **THINKING** – which connects knowing (knowledge and experience) with being (identity and selfhood)

Of course, a representational diagram of this kind should not be read too strictly; for instance, sharing and thinking are clearly active processes, and so are part of ‘doing’, even though they do not seem to be part of ‘doing’ in the diagram. This is because, as noted above, all these dimensions of culture are overlapping and simultaneous, and are only pulled out as distinct aspects here so that we can discuss them in a structured manner.

We outlined playing, making and sharing earlier in this chapter. The additional process here is ‘thinking’. Now,

first of all we must acknowledge that thinking is clearly a part of playing, making and sharing. But its particular meaning here is in the link between knowing (knowledge and experience) and being (identity and selfhood): it is about the judgements made about how creativity finds its place in a culture, and how to present playing, making and sharing within a cultural context. The experience of being within a culture leads to different ways of evaluating ideas, experiences and creative products. For instance, Thomas Wolbers in his essay writes:

There is quite some evidence that Chinese culture values usefulness more than novelty, whereas Western culture values novelty more than usefulness. To the extent that culturally divergent social norms are salient, individuals with an Eastern background may be more concerned with usefulness than originality and engage different implicit or explicit standards to downplay or elaborate ideas and insights than their counterparts with a Western background.
(Wolbers, 2013)

It is the thinking about presentation, modification and judgement which play a significant role in how the processes of playing, making and sharing are manifested in a culture.

USING THE MODEL

The model is powerful as it helps us to focus on ways to maximise creative opportunities within a culture, both at the level of what individuals can do, and at the broader level of what schools, government, businesses and other organisations can do. It draws our attention to the key aspects of a thriving creative community, and so can be used to organise ideas and plans for developing that culture, and the creative mindsets that will build the culture. Each of the dimensions is fuel for the fire of creative culture in the centre, and the playing, making, sharing and thinking which brings that to life. If we consider each in turn:

- The **HAVING** dimension leads us to consider the quality of the materials and environments that we use or in-habit. We might ask: are these open and inspiring, or do they close down or suppress creative ideas?
- The **DOING** dimension indicates the vitality of the relationships and practices which are the lifeblood of

FIG 3: A MODEL OF CULTURE, WITH FOUR KEY PROCESSES (ADAPTED FROM SØRENSEN ET AL., 2010)



a culture, and the importance of communication and networks. Are people active in the culture, eager to interact, and support each other?

- The **BEING** dimension brings into focus the rituals, sentimental practices, and group characteristics and identifiers which play an important role in the binding of a culture, but are easily overlooked. Is the culture integrated through shared feelings and collective processes?
- The **KNOWING** dimension highlights the tacit and recorded knowledge that supports a culture, and the willingness of people to share knowledge and expertise with their peers. Is this a culture with a rich and accessible store of knowledge and shared understanding?

It is also worth attending to the four key processes that stem from these dimensions:

- **PLAYING** – is it a culture which encourages play and playfulness in children, and in adults? Do adults model a risk-taking and adventurous attitude, where failure is accepted as part of the learning journey?
- **MAKING** – is it a culture where people feel encouraged and motivated to make things together? Is individual creativity celebrated, or seen as the poor relation of consumerism?
- **SHARING** – is it a culture where people are eager to share their learning, ideas and wisdom? Are there suitable tools to enable exchange and collaboration?
- **THINKING** – is it a culture which encourages reflection on the processes of playing, making, sharing, and learning? Are there visible role models of thoughtful and reflective practitioners?

Asking these kinds of questions means that the model can be used to assess the strengths and weaknesses of one's own current position (or the position of a group that one cares about), and therefore areas of possible improvement.

THE MODEL AND THE CREATIVE MINDSET

In the previous chapter we discussed the creative mindset, characterised by playing, making and sharing. This is the exploratory, relatively fearless approach to the world which children have in early years but which is so easily lost. This is the creative mindset at the individual level. In terms of the more 'overview' model of culture introduced above, the creative mindset is best supported when there are stimulating environments and resources (*having*), when there is a lot of inspirational activity and the engaging support of peers and mentors (*doing*), when there is an ethos which supports the passions of makers (*being*), and where there is a solid body of expertise and knowledge, and support for learning (*knowing*). The processes of playing, making, sharing and thinking are already on the model, of course, and they are what propel the culture forward. When a culture is strong in its support of creative mindsets, it tends to be a growth culture, with an exciting sense of aspiration, and willing to take risks in order to achieve innovative ends.

FROM THE ESSAYS:

'...through play, we do feel alive in a way that is different from the feeling of being alive in ordinary life. It is a feeling that is open ended. It is a creative mindset by definition because it is awareness of possibilities and of surprise outcomes: **winning, losing, succeeding, resolving, affecting, surviving** or **failing** to achieve.'

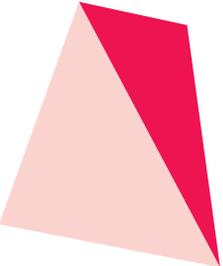
(Rochat, 2013)

'Learning, in the context of the twenty-first century, needs what we used to find in football in Brazil: **creative improvisation, freedom, challenge**, the union of passion and talent, *fun — pure, natural, unfabricated, unadulterated joy.*'

(Chaves, 2013)

'Play also fosters creativity in an ubuntu sense and promotes the idea of **umuntu ngumuntu ngabantu** (a person is only a person through other people). These African concepts of human solidarity afford opportunities for children to act as a collective to promote or disrupt ideas and/or use objects in meaningful and novel ways.'
([Ebrahim, 2013](#))

'Evolution [...] throws light on why *fantasy play is so much fun*. There are no motivational problems here, unlike many other aspects of education and development. It is natural to engage in fantasy play, precisely because it is such an ancient, adaptive, and necessary activity. Moreover, it is **inherently creative**.'
([Donald, 2013](#))



EXAMPLES ON HOW HAVING, DOING, BEING AND KNOWING APPEAR IN DIFFERENT CULTURES

1 In his essay ‘Nurturing creative mindsets in the global community’, **Yoshiro Miyata** describes his visit to the Baan Samkha community in northern **THAILAND**. He observed that ‘the children have been involved in the construction of hundreds of small dams in the river running through the village, and facilities that produce water and electricity for the village using the river water’ (Miyata, 2013)

By *doing* the activity of building the dams together the children had a shared *knowledge* of how to build dams and a sense of shared ownership of *resources* that included dams, water and the facilities that produce water and electricity.

He noted that the children were ‘...well aware that their life is supported by the community that they are contributing to, based on the shared *meaning* that they have created, based on the *relationships* that they have created, based on the *products* they have created’ and argues that the loss of important elements of culture through globalisation have resulted in a crisis of the creative mindset.

2 **Eduardo Chaves** uses football to illustrate the importance of ‘creative improvisation’ in **BRAZIL**, a culture he states that ‘love[s] to live dangerously and face challenges’ in his essay ‘Play and learning: One Brazilian’s view’ (Chaves, 2013).

By *doing* the shared activity of playing football, which has its own *traditions*, i.e. the rules, and using the few resources that the culture had presented (a ball and a field)

relationships were forged and *knowledge* shared; ‘the ones with more talent helped the ones with less’. This culture enabled the Brazilians to be very creative and thus successful at the game.

As Eduardo Chaves explains, ‘It was a paradigmatic case of learning by doing’, and argues that in recent times ‘learning to play football has become more like regimented work than spontaneous play. I am convinced that this change is largely responsible for our steady decline in professional football. [...] Learning, in the context of the 21st century, needs what we used to find in football in Brazil’.

3 The importance of the *being* dimension in the culture model is one that should not be underestimated. It refers to identities of individuals and groups, and their shared *traditions*, habits and rituals, which is the human and emotional side of the continuity that binds a culture together.

In **Michael Wesch’s** essay ‘Building cultures of creativity in the age of the Knowledge Machine’ we learn that the Nekalimin in **NEW GUINEA** have a certain set of ritual procedures and taboos that surround the creation of houseboards (‘large planks of wood standing about 6 to 8 feet high decorated with geometric patterns of diamonds and triangles in red, black, and white’) and that ‘the knowledge required to design one was reserved only for those who had been properly initiated. Houseboards are not just symbols of power, they are power’ (Wesch, 2013).

He warns that ‘Such rituals and taboos have led many people to report that cultures such as the Nekalimin lack a culture of innovation and creativity, but this is not true’ and that ‘some cultures have been misunderstood as placing less value on creativity simply because the domain where we might expect creativity (namely “art” which in the Western conception includes paintings, sculpture, and music) is heavily regulated and ritualized due to the power inherent in the created objects’.



4 Museums are institutes that serve communities and are an active medium where *meaning*, and thus *knowledge*, is communicated to individuals through the creation of *experiences*. In her essay ‘Cultural assumptions and social interactions in museums’, **Sally Duensing** notes that learning is increasingly being viewed from a sociocultural perspective that recognises the impact of others on the way learners construct meaning and that museum exhibit design may reflect cultural norms with respect to social *relationships* between and among visitors (Duensing, 2013). She provides examples from museum exhibits around the world and observes that U.S. and Europe exhibits tend to be less orientated towards social group interactions compared to countries such as **BRAZIL, MEXICO and TRINIDAD and TOBAGO**.

5 Hasina B. Ebrahim’s essay ‘The role of play in fostering a creative culture: A **SOUTH AFRICAN** perspective’ highlights the entwined dimensions of *being* and *doing* (Ebrahim, 2013). Ebrahim points out that the identity of children and the role they are expected to fulfill in a society, as perceived by adults, is crucial to nurturing a creative culture and that this may involve a shift in the relationship that adults in a society build with their children. For example, ‘...teachers in centre-based provision in the Free State noted how Sesotho speaking parents were concerned about an active learning approach which encouraged their children to ask questions. Teachers noted how parents complained about their children being disrespectful and challenging adult authority’.

Ebrahim comments that ‘emergent possibilities for creativity of young children will only flourish if adults around them are sensitive to their needs and interests. This requires a new mindset on how young children are viewed. If they are seen as people getting to know their world in the here and now of childhood and in terms of their future roles then adults could make efforts to learn from them and support them in their meaning making.’

6 In his essay, ‘Making and learning in CHINA’, Francois Grey describes the being and doing dimensions of the model at a different cultural level to Hasina B. Ebrahim (Grey, 2013). He explores the identity of the maker movement and how society perceives it.

The relationship between the maker movement and Chinese authorities has changed; previously seen as the ‘disruptive child’, disrespectful and challenging authority, the maker movement’s creativity is now supported by some arms of the Chinese government and academia by the provision of hacker spaces. Grey notes that this ‘suggests a belief at the highest levels that the maker movement may help China face the urgent challenge of moving from low-cost production economics to high-value creative industries’.



4: BRIDGING CULTURES

In this chapter we discuss building bridges between cultures.

As noted at the start of this report, however, cultures are not like islands, with sea between them. Individuals can be members of several cultures; they may inhabit different cultures to greater or lesser degrees; and some cultures sit within other cultures, or overlap within more than one. Also, unlike islands, their edges can be extremely fuzzy.

Nevertheless, despite the vagueness necessarily inherent in the boundaries of cultures, we know in a common-sense way that we can talk of cultures, and different kinds of culture, and ways of linking them up and fostering conversations between cultures, which can be especially fruitful.

FROM THE INDIVIDUAL TO CULTURE TO CONNECTED CULTURES

The bridging process necessarily begins with individuals (or individuals in groups) and works outwards. In his essay, Gerhard Fischer offers a nice model for thinking about this (Fischer, 2013). His starting point connects with that made by Merlin Donald (see chapter 1), that the human ability to work together using symbolic systems (writing, drawing, making) – and therefore to make culture together – has been absolutely fundamental to human progress. As Fischer puts it:

Our focus on *social creativity* is grounded in the basic observation that the power of the unaided individual mind is highly overrated. Although society often thinks of creative individuals as working in isolation, intelligence and creativity result in large part from interaction and collaboration with other individuals.
(Fischer, 2013)

Fischer's whole methodology is about providing platforms (specifically, digital environments) which enable and support people to come together to work on things.

Our work is grounded in the basic belief that there is an “and” and not a “versus” relationship between individual and social creativity.
(Fischer, 2013)

Whilst Etienne Wenger's (1998) notion of 'communities of practice' emphasises the strengths of like-minded groups working together on a shared interest, Fischer's broader concept of 'communities of interest' (Fischer, 2013) potentially describes any number of individuals and communities of practice who work on a particular 'interest'. This approach is less concerned with what such enthusiasts and groups have in common – rather, their divergent perspectives on a topic of common interest are to be valued:

Communities of interest have a greater creativity potential by exploiting *diversity* not as a constraint to deal with but an opportunity to generate new ideas, new insights, and new environments. The challenge to foster and nurture cultures of creativity is often not to reduce heterogeneity and specialization, but to support it, manage it, and integrate it by finding ways to build bridges between local knowledge and by exploiting conceptual collisions and breakdowns as sources for innovation.
(Fischer, 2013)

Bridges, therefore, do not need to smooth over, ignore, or obliterate differences, but are more about channelling and supporting conversations. To have fruitful *conversations*, what is needed is a *common language*.

The common language does not have to be a spoken or written language, like English or Japanese. Fans of vintage clothing, or Scandinavian interior design, are able to share and exchange elements of their passions internationally, even if they speak a different language, because of their collective understanding of certain ideas and tropes. People who are passionate about coffee can exchange ideas and enthusiasm, with gestures and sounds and laughter – and taste – when they meet in a cafe. But these examples are, of course, limited, because clothing or interior design or coffee are not really intended to be complex tools for the expression of ideas beyond their natural range. However there are some organised non-verbal systems which offer a kind of internationally shareable language. These include musical notation, maps, Scratch (the tile-based visual programming environment), and the LEGO System.

Languages are crucial to culture and cultural evolution. Luigi Luca Cavalli-Sforza defines cultures as 'the ensemble of customs and technologies that played and continue to play an essential role in the evolution of our behavior' (2001: 173), and it is *language* which really enabled the learning and sharing of this cultural ensemble and so made a huge contribution to human development. Humans were able to migrate out of sub-Saharan Africa around 50,000 years ago because, in part, of the development of language. 'This formidable instrument of communication helped humans explore and establish small societies in distant lands, adapt to new ecological conditions, and rapidly absorb technological developments' (2001: 93).

As language and communication are so important to the development of creative cultures, as Cavalli-Sforza has demonstrated in his work, and because human evolution has benefited so much from the ‘external storage systems’ described by Merlin Donald in chapter one, we are bound to consider where we stand today, with the great potential of the internet to connect people around the world, and the opportunity to develop new ways of communicating to build shared understandings. In the previous reports from the LEGO Learning Institute, in particular *Defining Systematic Creativity in the Digital Realm* (Ackermann et al., 2010), *The Future of Play* (Gauntlett et al., 2011), and *The Future of Learning* (Gauntlett et al., 2012), we discussed online platforms for collaboration, play and learning in some depth. In *The Future of Learning*, for instance, we found that online platforms could support self-efficacy beliefs – people’s faith in their own abilities – in particular by providing opportunities for mastery experiences where they were able to recognise their own agency and ability in the world. We found considerable evidence that peers online could be a great source of support and inspiration, and enabled learners to experiment, tinker, and explore, following their own curiosity – a powerful mode of learning.

There are some increasingly popular, and powerful, critiques of the ways in which the companies behind major online services and platforms, such as Google, store data, and may leverage that position to extract value or only show us a filtered version of the online world (Fuchs, 2013; Lanier, 2013). But there is no necessary reason why things should be this way, and many of the online DIY communities such as Instructables, Dorkbot, Craftster, Ravelry, Etsy, and Adafruit, sit outside of this more corporate data-harvesting system. The potential of the internet remains undiminished, even if it is sometimes somewhat subverted.

Therefore we can use existing or new kinds of ‘language’, face to face or via the internet – or a combination of the two – to share new ways of seeing the world, and therefore help to foster creative mindsets and build a collective vision of cultures of creativity. These cross-cultural bridges might not just be connecting different places, but could be across generations, or across time, and can link up local with global cultures.

As mentioned in the previous chapter, Yoshiro Miyata in his essay discusses collaborative online projects in which ‘children’s creative mindsets expanded from creating products, to creating relationships, to creating shared meaning, and finally to creating a community (Miyata, 2013). In other words, bridges are built from playing and making, to a culture of collaboration. Each of these steps is linked to the next – for instance, they developed good relationships through conversation and feedback about the things that they had made; and they were able to develop a sense of shared meaning and community from this, because they had already established good relationships.

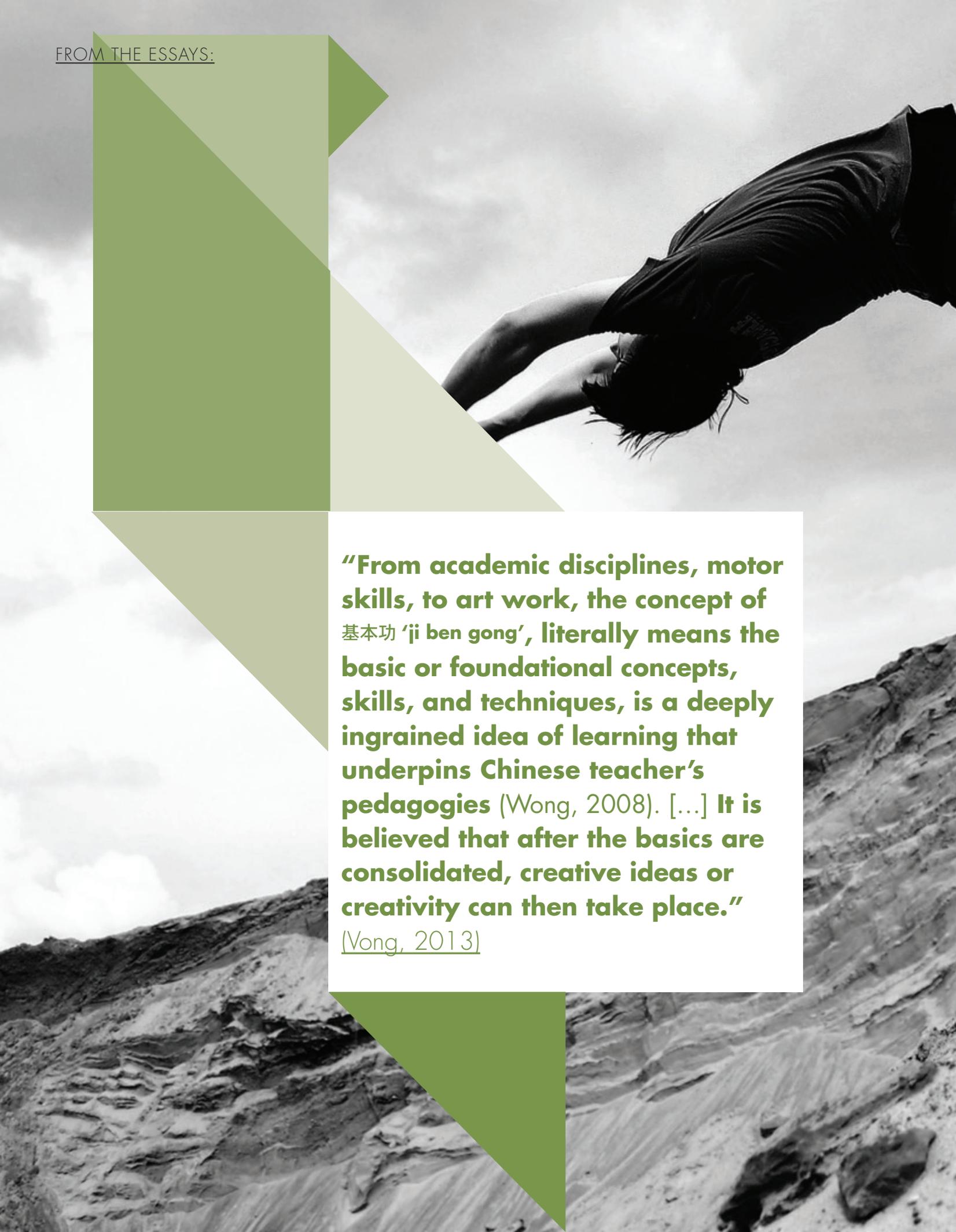
Miyata argues that to support and expand creative mindsets, tools, platforms and activities should be designed to foster two states, the ‘playful mode’ and the ‘mindful mode’. In the playful mode, the person should use familiar materials, freely and without interruption, to make new things. In the mindful mode, they should expand their focus to include things made by others, and their makers. He explains that these two modes often overlap:

For example, as good relations are created with others through a mindful understanding, another playful mode starts: people begin interacting with each other playfully but when they try to collaborate, they need more and more mindfulness in order to discover new meanings that they can share.

(Miyata, 2013)

This model potentially creates a positive spiral of activity, where playful creativity prompts a mindful engagement with the creativity of others, which expands the perceived possibilities of one’s own playful creativity, or leads to a playfully creative collaboration; which in turn will prompt new ideas and mindful engagement; and so on. This leads Miyata to propose a ‘create – connect – open’ model, showing how creative mindsets can be fostered:

- **CREATE** – in which something is playfully created at the local level;
- **CONNECT** – in which the creations enter into a broader context, with those of others, bringing surprises and expanding the sense of possibilities;

A black and white photograph of a person performing a handstand on a rocky, uneven surface. The person is wearing a dark t-shirt and shorts. The background is a cloudy sky. The image is partially obscured by green geometric shapes on the left and bottom edges.

“From academic disciplines, motor skills, to art work, the concept of 基本功 ‘ji ben gong’, literally means the basic or foundational concepts, skills, and techniques, is a deeply ingrained idea of learning that underpins Chinese teacher’s pedagogies (Wong, 2008). [...] It is believed that after the basics are consolidated, creative ideas or creativity can then take place.”

(Vong, 2013)

- **OPEN** – in which the experience of the wider field feeds back into local understanding, bringing new insights to previously familiar things and relationships. These insights loop back into new activity at the ‘create’ and ‘connect’ levels.

Miyata’s approach links back to Gerhard Fischer’s argument that creative tools should move people from the role of ‘consumer’ to that of ‘designer’ – facilitated by ‘a shift from consumer cultures (specialized in producing finished artifacts to be consumed passively) to cultures of participation (in which all people are provided with the means to participate and to contribute actively in personally meaningful problems)’ (Fischer, 2013; Miyata, 2013).

BRIDGING CULTURES WITH THE DYNAMIC MODEL

In the previous chapter we introduced a model of culture with four key dimensions, ‘having’, ‘doing’, ‘being’, and ‘knowing’. To recap: *having* is about the resources which a culture presents us with; *doing* is about the activities, relationships and practices which bring a culture to life; *being* is about the identities of individuals and groups, and their shared traditions and states of mind; and *knowing* is about the culture’s ways of making sense of things.

This model can be used to understand the ways in which bridges can be built between cultures. Connections are likely to be made, of course, where people have things in common. So for example, where there are some shared practices, there can be a connection like this, where ‘doing’ enables the making of shared meanings (see Fig. 4).

In fact, as we have seen, people are likely to be part of more than one or two cultures. Some will be broader cultural identities (for example, Brazilians, or Christians) whilst some will be more specific microcultures (for example, architects, or *Star Wars* fans). So there might be multiple bridges of shared meaning, as in the example in Fig. 5.

This illustration incorporates the previous example, with connection made on the ‘doing’ and ‘being’ elements, and includes another, where the connection is made on the basis of ‘having’ similar habitats or tools. Even if

everything else seems dissimilar, some meaning-making can begin from that point. An obvious example here involves the Adult Fans of LEGO (AFOLs) – discussed in the essay by Marie Taillard and Yun Mi Antorini – whose lowest common denominator is their love of a particular toy construction system (Taillard & Antorini, 2013). What they ‘have’ at first is simply LEGO, the physical bricks; although this can quickly escalate into a complex web of shared understandings around the common meanings that they associate with the LEGO Group and its products (knowing and being), and knowledge about materials and building techniques (knowing and doing).

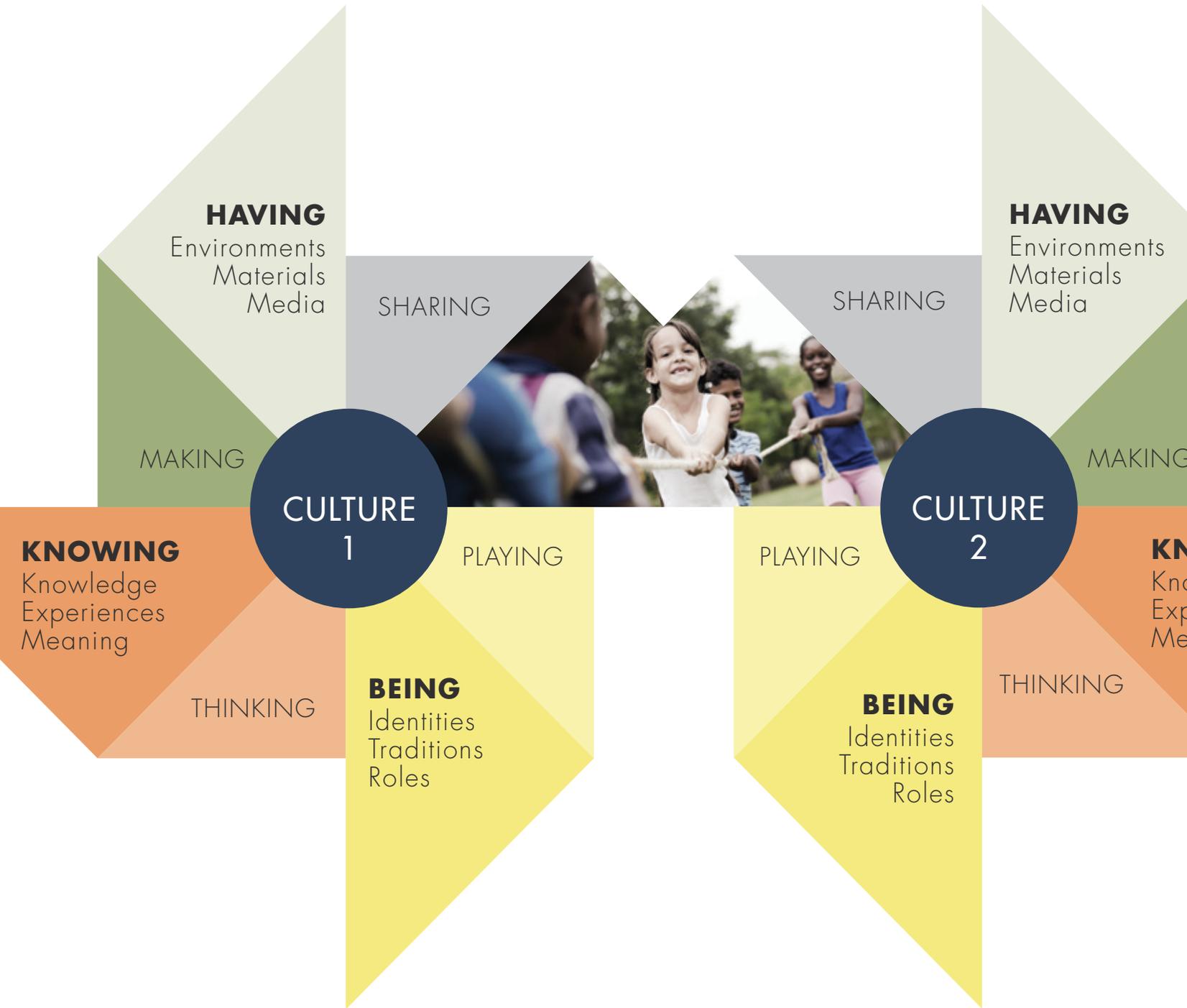
The bridges themselves can be formed by the processes which arise from the interaction of having, doing, being and knowing: these processes are playing, making, sharing and thinking. By playing together, or making things together, or by sharing meaningful things, or by making collective judgements, we offer a part of ourselves into the process of making new meanings – and so collaboratively develop a new space of shared culture. The collective activity leads to new identifications and new knowledge, binding the cultures together.

GLOBAL AND LOCAL CULTURES

The fuzziness of cultures, mentioned at the start of this chapter, is of course exacerbated by globalisation and our networked world, and the rich blend of microcultures and subcultures that we inhabit, sample, or shift between. As Edith Ackermann observes in her essay:

One of the particularities of today’s “cultures of creativity” is that they are neither local (typical of a region) nor global (common among citizens of the world). Instead, they cut across generations, social groups, and territorial borders (geographic, national, ethnic), resembling what some refer to as “glocal” . [...] Examples of glocalization include the blending of local cuisines (global slow-food, local-fast food), the hybridization of styles and genres (fashion, status symbols), and the creolization in music (remix culture, word music). In addition, we are also witnessing a “glocalization” of displaced folks’ own sense of who they are (identity), what they wish for themselves and loved ones (dreams) and where they feel they belong (home).
(Ackermann, 2013)

FIG. 4: TWO CULTURES, CONNECTED ON THE DIMENSIONS OF 'DOING'



As people identify with ‘multiple tribes’ and have a more fluid sense of belonging, we lose the sense in which ‘a culture’ is a body of people who are fully and exclusively its members. The internet, in particular, enables people to become simultaneously ‘global’ citizens – as they can exchange ideas, information and personal expressions with people from around the world – and more ‘local’ as they personalise their online experience, communicate in an individualised way, and find ways to engage with physically local people and events which only become visible online. Ackermann quotes from *Cultures and Globalization: The Cultural Economy* by Helmut Anheier and Yudhishtir Raj Isar, where it is noted:

From the personal computer and digital camera to the cell phone, humankind inhabits an increasingly networked world in which communication and personal expression and development reign supreme. (Anheier & Raj Isar, 2008: 436)

In this world, an increasing number of people are making and sharing things, both online and offline, and they work together in new ways, as Ackermann says, characterised more by an ‘open source’ ethos of learning from each other, rather than competition.

Michael Wesch tells the story of Peni, his friend in New Guinea, who had been taught nothing about radios, and yet, through tinkering, had worked out ‘a repertoire of techniques’ which made him an improvisational kind of radio expert. Wesch reflects:

Throughout our schooling, which is largely based on “instructionism,” we have been taught that knowledge comes from the expert. Peni’s knowledge of the radio developed because there was no expert. Unschoolled, he was not limited to the solutions that might be taught by the expert, and so his axe was as likely to be used for a tool as a soldering iron. He mixed and melded the knowledge from many domains of his life to become a master radio technician unlike any in the Western world. (Wesch, 2013)

We might say that this is like when people learn together online – often with no formal training, they embark on projects of shared interest (such as family trees, or photo-

graphy of garden birds, or crafts, or robotics) and share bits of acquired knowledge in discussion forums, blogs or videos. Wesch goes on:

This is not to say that he would not benefit from learning from others with expert knowledge of this domain. The example portrays a peculiar and very subtle double-aspect of expertise. On the one hand, we have all experienced the power of learning from a skilled master who can guide us beyond our current capacities. But if, on the other hand, that guidance becomes authoritarian prescription, such expertise will come at the cost of autonomy and self-efficacy. (Wesch, 2013)

This perhaps explains why new online communities of learning work rather well, because people can opt to learn from a master, but are not compelled to do so. Because people can choose what to learn, and who to learn it with, based on their own personal passions and preferences, they are able to enjoy the powerful sense of the self-directed journey.



Fig. 5: Three cultures, connected on different dimensions.

ON CULTURES

To begin with a general observation: it is easy and common to think of cultures in terms of ‘cultural differences’ – my people are like *this*, your people are like *that*. In this report and the accompanying essays, however, the clear message is that cultural differences can be significant, but overall, human cultures are more characterised by their similarities than their differences. We have seen that creativity is generally considered to be of high value in *all* cultures – even those which, because of conflicting pressures, do not always support its development in practice.

Whilst culture is sometimes thought of as a pleasant gloss of activity, which may add richness to our spare time but is not really essential – as in the ‘Culture’ section in a newspaper, reviewing the latest film or opera production – we have seen in this report that culture is more like a hard-working machine, storing, assimilating and deploying knowledge so that humankind can develop and flourish.

We have seen how the development of ‘cultural memory systems’ – as Merlin Donald called them – such as writing, drawing, and the internet, offered ‘an extraordinary evolutionary strategy’, giving us a way to record, share, and manipulate ideas. In this way, culture is not only the storehouse, but is also the central processing unit, of collective human life.

In *The Future of Learning* (Gauntlett et al., 2012), one of the central concepts that we highlighted was ‘scaffolding’ – the ways in which human beings can ‘scaffold’ learning for each other, by acting as a supportive peer with high expectations. In the present study, we see that culture can ‘scaffold’ human development in a similar way, by providing a platform upon which ideas can be visualised, shared and collectively worked on, so that further development can be built on top of that. The scaffold of culture makes ideas stable and manipulable, and it ties them down in a shared language so that other people can appreciate, use or change them.

We also saw that Artin Göncü’s model of how children manage to collaborate in play could also be used to understand how something as abstract as a ‘culture’ could be assembled, negotiated and changed (Göncü, 2013). The process is a sort of ragged improvisation which, over time, becomes a kind of consensus about what a culture

is, what its values are, and whether it is willing to evolve. It is a never-ending conversation which is both risk-taking and defensive when new elements come along – as they do all the time.

In terms of ‘cultural differences’, we find that different cultures come with different sets of values, rituals, heroes and symbols. Therefore a culture is not about everyone thinking alike, but within a culture, people are likely to share a number of basic assumptions and orientations. It is this distinctive way of thinking, with its particular tones and flavours, which makes members of one culture somewhat (but not totally) different from members of other cultures.

Finally, as a tool for thinking about creative cultures, we presented a model adapted from one by Anne Scott Sørensen et al (2010). The model shows culture both as the already-existing site within which people are creative, and simultaneously as the ‘live’ space which influences, and is influenced by, their creativity. It picks out four dimensions, ‘having’, ‘doing’, ‘being’, and ‘knowing’, although it should be noted that these overlap and are continuously in play together – not separately. The model is described more fully in chapter 3.



Fig. 6: A model of culture (adapted from Sørensen et al., 2010)

Culture is therefore a system through which people build meanings, and develop community, through the dimensions of having, doing, being and knowing. These are driven by playing, sharing, making and thinking – the active processes through which people learn and form meanings together.

We hope that the model is useful as it helps us to focus on ways to maximise creative opportunities within a culture. It draws our attention to the key aspects of a thriving creative community, and so can be used to organise ideas and plans for developing that culture, and the creative mindsets that will build the culture.

SUSTAINING THE CREATIVE MINDSET

In chapter 2, we introduced the *creative mindset* – an attitude to the world characterised by curiosity, questions, and a desire to play, make and share – which children possess in their early years. We saw that different cultures are bound to have different takes on the creative mindset, and that it is often – tragically – suppressed or destroyed by adults and schooling. *Sustaining* this delicate creative mindset is a considerable challenge in any culture.

Cultural ingredients and creative mindsets combine to give us the innovative edge of any given culture. To get the best of this combination, we should value the distinctive aspects of a culture, whilst being mindful of the need to nurture and sustain the creative mindset.

The creative mindset is supported by ensuring that citizens have a strong sense of agency in both play and learning. In previous chapters, we saw Ebrahim's point that self-initiated play enables children to 'become powerful and take control of the situations [that] they have prioritised', and Hennessey's argument that students should feel like 'agents' rather than 'pawns' (Ebrahim, 2013; Hennessey, 2013). Making things offers the discovery and confidence that comes from introducing new things into the world; and sharing is the act of building connections with others through personal disclosure. By sharing ideas, experiences or preferences, people develop relationships and build pathways towards new insights together. Platforms and languages that enable sharing and exchange are therefore crucial because they are the crucibles for new understanding and co-created meaning.

Mitch Resnick, in his essay, pulls together some of these ideas and offers a powerful solution to sustain creative mindsets (Resnick, 2013). He observes that schools are generally poor at encouraging creative, risk-taking, collaborative activities. It is in schools that the creative mindset is broken amidst fear of giving the 'wrong answer' in class. As in several of the essays, the current school system is seen as generally uninspiring, and indeed damaging. 'But there is an important exception,' Resnick says: 'Kindergarten'.

In kindergarten, children make things, and they collaborate. In doing so, they come to learn about materials, colours, and how things fit together; and about their environment, and relationships. But that's not all:

Even more important, the kindergarten students are starting to develop as creative thinkers. As they playfully work together, they learn about the creative process: how to imagine new ideas, try them out, test the boundaries, experiment with alternatives, get feedback from others, and generate new ideas based on their experiences.

(Resnick, 2013)

So in order to develop as creative thinkers, children – and adults – need opportunities to make things. They also need stimulating environments to do this in, and interesting materials to do this with. (See Resnick's essay for the story about 'Froebel's Gifts'). Creating things is all about learning through making, working with others and building meanings. From a school perspective, much of the playing, making and sharing that happens in kindergarten is 'just mucking about'; the apparent irrationality of this situation is only explained by the fact that the children are too young for 'proper' learning. And yet the learning that happens in kindergarten is just the kind of hands-on, collaborative, experimental, experiential learning that we need much more of, at all levels of education and beyond.

As Resnick explains, playing, making and sharing are vital elements of learning. When we take the time to *play* – adopting an exploratory, experimental stance where we are free of most banal constraints and consequences – and so *make* things which put our ideas into the world in physical form, then we have something to tinker with, think more about, and to *share* with others so that they

may do the same. The sharing also means that we can think about what the thing might mean to others, and can build new meanings for it, together.

As Resnick says:

There is a constant interplay between making new things in the world and making new ideas in your head. As you make new things, and get feedback from others (and from yourself), you can revise, modify, and improve your ideas. And based on these new ideas, you are inspired to make new things. The process goes on and on, with making and learning reinforcing one another in a never-ending spiral.

(Resnick, 2013)

This spiral, which is at the heart of the kindergarten approach to learning, develops the ability to make interesting things, but also sharpens thinking and the ability to select and refine good ideas. At the same time, it builds an understanding of the creative process itself.

So the message is clear: to sustain the creative mindset, within any culture, we need a ‘lifelong kindergarten’ spirit, characterised by as many opportunities as possible for playing, making and sharing. We need environments that will encourage playful experimentation, and we need resources and tools that will bring out the creative passion in children and adults. As Resnick acknowledges, older children and adults may not want to be associated with the ‘childish’ toys of the kindergarten, and so they need more appropriate resources which can achieve the same effect: these would include electronic systems and online platforms, as well as non-digital everyday tools, such as pens and paper, construction materials, and anything else that comes to hand.

The lifelong kindergarten-style culture is not just about what you ‘have’, of course; as we have seen, a culture is about four dimensions, ‘having’, ‘doing’, ‘being’ and ‘knowing’. ‘Having’ is about the resources which a culture presents us with. ‘Doing’ is about the activities, relationships and practices which bring a culture to life. ‘Being’ is about the identities, traditions and rituals that bind a culture together. ‘Knowing’ is about knowledge, experiences and meanings, both historic and current. So the activities, ethos and shared knowledge of the kindergarten are just as important as the environment and resources.

The argument here is not that all cultures should become the same, or sign up to an identical prescription, of course. At present, the situation is that all cultures have new-born children with enormous creative potential, and then those cultures each, very often, erode and negate that potential. This occurs in some similar and some different ways, but is often through an emphasis in school on learning facts and strict processes, rather than learning to be creative and experimental; and a general devaluation of really meaningful playing, making and sharing in everyday adult life.

So the point is to preserve the delightful diversity of cultures in our world, of course, but to infuse them more with the lifelong kindergarten spirit, and the values of playing, making and sharing. This will foster the creative mindset, encourage people to take interesting risks, and drive innovation and the desire to make a difference. These things are the lifeblood of any culture.

BUILDING BRIDGES BETWEEN CULTURES

When considering how bridges can be built between cultures – in chapter 4 – we argued that bridges between cultures do not need to ignore or obliterate differences, but are more about channelling and supporting *conversations*. (It should be remembered here that bridging cultures might mean developing conversations across generations, or different lifestyles or kinds of enthusiasts, or between ethnic, religious, or other cultural backgrounds).

To have fruitful conversations, a common language is needed. Therefore language is crucially important to creative cultures. As well as spoken languages and their written counterparts, there are non-verbal systems which offer a kind of internationally shareable language, such as musical notation, maps, Scratch, and the LEGO System.

Artin Göncü’s model, which as we saw above can be used to understand the process of negotiation by which the content and ethos of a culture is formed, can be especially useful for understanding how cultures are bridged (Göncü, 2013). Just as children playing together offer each other a ‘curriculum’ for collaboration, and set about seeing what spontaneous connections can be made to work, so too do people trying to connect across cultures. They may only have certain things in common, but these shared elements of resources, activities, identity or knowledge – in other

words, ‘having’, ‘doing’, ‘being’ or ‘knowing’ – can be used to ignite a conversation. This is the process which we illustrated in chapter 4.

The ideas of Yoshiro Miyata draw together both the question of how we support the creative mindset, and how we build bridges between cultures (Miyata, 2013). As we saw in chapter 4, Miyata shows what creative mindsets can be supported by building bridges from making things, to making relationships, to making shared meanings, to making a community. His ‘create – connect – open’ model shows how creative mindsets can be fostered by connecting local, playful creativity with a broader context, and then feeding insights from the wider field back into local understanding.

The notion of ‘bridging cultures’ is easier to picture in a diagram than in real life, of course. In a globalised, networked world, individuals may identify with multiple cultures and ‘tribes,’ which may have no connection with regional or national identities. They are also more likely to prefer to connect and learn from each other online, rather than receiving instruction from a teacher. Furthermore, this learning is likely to be embedded within everyday life – which is the best place for it. As Gerhard Fischer writes in his essay, ‘Learning should not take place in a separate phase and in a separate place, but should be integrated into people’s lives, allowing them to construct solutions to their own problems’ (Fischer, 2013).

IN CONCLUSION

At the beginning of this study we noted the example of Florence, Italy, at the start of the 15th century. In less than three decades, the people of this town produced a considerable number of artistic and architectural masterpieces, which are still treasured 600 years later. We saw that this could not be explained in terms of ‘genius’ individuals, but rather was because of a deliberate co-ordination of elements of the culture. There were potent resources, enabling makers to manifest their dreams; there was an inspirational flurry of creative activity and encouraging relationships; there was a collective ideology of doing something fantastic together for the city; and there was a rich fund of ideas, techniques and knowledge to draw upon. In other words, there were strong things happening in each of ‘having’, ‘doing’, ‘being’ and ‘knowing’ dimensions of the culture.

Such achievements are only possible when the creative mindset is fostered, when risk-taking is encouraged, and when a playing, making, sharing ethos flows around a culture. In today’s terms, it means we need inspirational environments, and well-designed, easy to use online platforms – as well as physical hands-on tools of a pleasing quality – which we can use to develop and shape ideas (*having*). It means we need inspiring relationships with people we can learn from as we create brilliant things together (*doing*). It means we need a supportive, creative ethos, which offers striking role models of people who have taken risks to produce great innovations (*being*). And it means we need access to stimulating examples and the support of knowledgeable peers and experts – online, offline, or both – so that we can benefit from existing ideas and wisdom (*knowing*). Finally, to increase the diversity of possibilities open to us, we need languages and platforms which enable us to build bridges of shared meaning between cultures.

If we can sustain the creative mindset, and maximise the creative potential and stimulus within our cultures, then we can play, make and share our way to a brighter and more connected future.

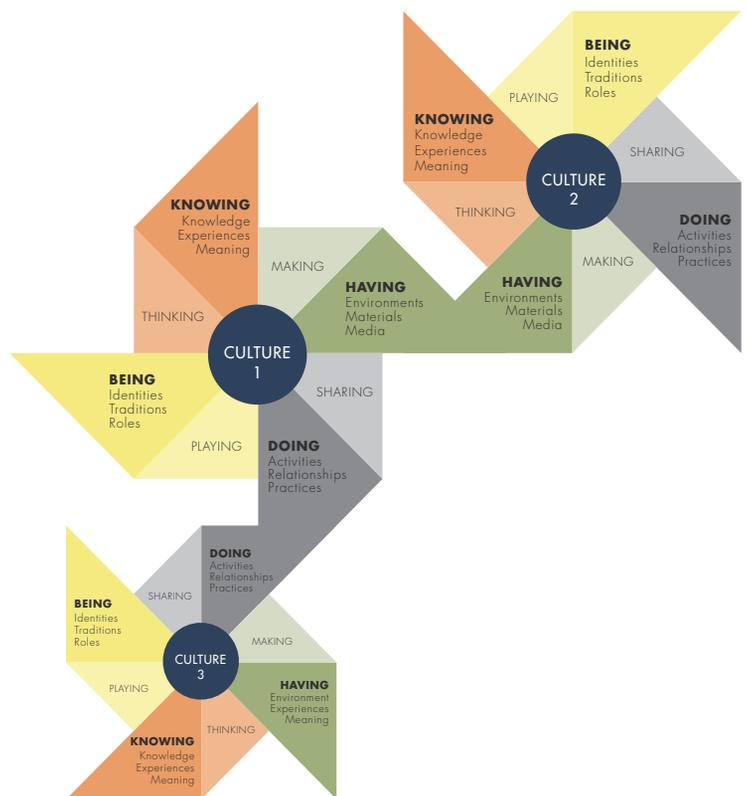
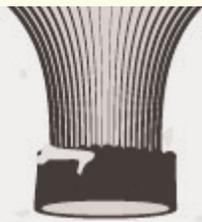


Fig. 7: A model of culture (adapted from Sørensen et al., 2010)

'If play of young children is truly to become the vehicle to nurture creativity in a diverse society like South Africa the way forward would be for adults to become highly aware of the critical role they play. Emergent possibilities for creativity of young children will only flourish if adults around them are sensitive to their needs and interests.' (Ebrahim, 2013)



Garnerin Descending



Charles and Roberts Ballon



創造力

The meaning of the term creativity is culture-specific; Keang-ieng (Peggy) Vong explains that in China 'the term creativity (創造力) appears in Shu's (1986) [dictionary] edition where it means the power/strength to make/produce any event or object with new idea (Vong, 2013). In Xia's (1999) edition, the term creativity implies the ability to rework and create upon accumulated knowledge and experiences scientifically *to produce new concepts, new knowledge, and new thinking*. In general, it is made up of four abilities: **the ability to perceive, memorise, think and imagine.** Vong, 2013

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