Imagine being in that market of creative ingredients again. Let’s think about how to gather up what your creative project needs. Because we don’t want to encourage you to think outside any boxes, we will refer instead to a ‘crate’ that you might carry – a crate to carry our ingredients. To achieve Margaret Boden’s creative transformation, we need to push against the boundaries of what we might fill our crate with if we were following the status quo, and extend its edges and your possibilities. Pushing at the sides of the creativity crate can inspire us in four directions:

1. Outwards: incorporating different ingredients; ingredient sourcing for change; looking to do different with diversity.
2. Rightwards: gathering additional or excessive ingredients; going beyond what is expected.
3. Inwards: exploring traditional/authentic approaches but in new ways; reinventing traditions, with a twist.
4. Leftwards: embracing frugality and using fewer ingredients; using less to do different.

We’ll explore what it means to push things creatively in each of these directions below, and provide six recipes to inspire you to think differently about how you might go to the market to gather your ingredients for creativity.
1.1  PUSHING OUT: GATHERING DIFFERENT

As described in our introduction to Creativities, creativity bridges between different, apparently contradictory frames of reference and thinking. In order to make these creative connections, we need a broad enough range of ideas and thinking styles in the first place. In an organization or team, this variety also requires including different types of people with different experiences and perspectives.

Browsing the market of ideas requires curiosity and tolerance. The creative cook’s curiosity is piqued by ideas or individuals which challenge expectations and stereotypes. Not only are these unexpected and unfamiliar flavours tolerated; they are sought out and relished.

Creativity thrives on contradictions: the logical, incremental thinker and the intuitive lateral thinker; the solution that perfectly fits the problem like the final piece in a jigsaw, and the solution that breaks the pattern and opens a whole new set of questions; an immersion in craft, skill and tradition and a willingness to experiment; a moment’s inspiration and 10,000 hours of perspiration.

Many creative processes and creatives fail because they lack this variety. Perhaps they have not devoted enough time and attention to gather a range of different elements in the first place. Perhaps they have forgotten how to use the variety they have, or allowed one set of ingredients to swamp the rest. Our first recipe illustrates the importance of bringing a variety of ingredients and creative forces to the table at the start of the creative process, rather than relying on just one individual or perspective and hoping for a single lightning strike.

RECIPE 1. LEWIS LATIMER: LOOKING BEYOND THE ‘LIGHT BULB MOMENT’
(MENLO PARK)

INGREDIENTS:

- One celebrity inventor–entrepreneur (Thomas Edison)
- One African-American draughtsman
- A carbonized bamboo light bulb filament which burns out after a few days
- An interest in how inventions are used, not just how they are discovered

All of Latimer’s inventions, patented and unpatented, relate to improving the quality of life.

Bayla Singer, The Edison Papers

On 8 July 2020, former West Indian cricketer and commentator Michael Holding asked British TV viewers, ‘Who invented the light bulb?’ Most people know that the inventor of the light bulb was Thomas Edison. But Holding explained that the carbon filament in the light bulb, essential to the successful development of the light bulb, was the invention of a black American, Lewis Latimer. Latimer worked for Edison’s rival, Hiram Maxim, at the US Electric Light Company. Latimer patented his invention in 1881. In 1885 he left Maxim to work for Edison.

Holding’s argument was that most of us make assumptions about what an inventor

Chris Bilton, Stephen Cummings, and dt ogilvie - 9781788979481
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looks like – and that mental image does not include a black man, the son of runaway slaves, who had taught himself technical drawing and risen through the ranks.

More broadly, though, he was also pointing out that we assume that creativity involves a single moment of breakthrough thinking by a single person or unit – like Edison, or Watson and Crick discovering DNA – when in fact Edison was one of several individuals and corporations working in competition and together racing towards the goal of harnessing electrical power. The focus on a single, particular type of person is linked to the focus on a particular stage in the creative process, the moment of discovery. Metaphorically this is often represented as a spark, a flash, an instant: the ‘light bulb’ or eureka moment.

Much like Watson and Crick with their ‘discovery’ of DNA (which probably would not have happened but for the often overlooked Rosalind Franklin – look her up), Edison gets the creative credit for a collective effort with many elements. But without the successful adaptation of his invention by Latimer, Edison’s light bulb would have remained a practical and commercial failure. Without Latimer, Edison’s creative legacy may have been quite different.

Edison himself realized his own creative limitations and built research teams containing ingredients and personnel that complemented his strengths and weaknesses. For example, much is made of the competition between Edison and Nikola Tesla. But it was Edison who gave the Serbian his first break in America, hiring him to work at his Menlo Park research lab. Edison learned much from Tesla’s brilliance and ingenuity. And Edison’s own divergent inventiveness was complemented by more structured convergent thinkers like Englishman Charles Batchelor, whose task was often to try and make sense of Edison’s scattershot combinations of ideas. The two often used the same notebook, with Edison scribbling his thoughts on one page and Batchelor seeking to work them out on the opposing leaf. Such collaborative bi-sociation proved enormously effective.

Latimer was content to help improve others’ inventions rather than take the limelight
for himself – for example, he contributed to Alexander Graham Bell’s patent for the telephone (another invention which is credited to one man rather than to the several innovations which preceded it). There is a generosity and a modesty to Latimer’s approach, as well as a focus on practical outcomes rather than conceptual breakthroughs. He not only invented things; he was interested in how they would be used (later he would play a pioneering role in the installation of street lighting systems in cities like New York, Philadelphia, Montreal and London). Yet these contributions – the adaptation of an idea, the technical drawings which make an idea understandable (and subject to a legal patent) – are surely no less important.

The bias towards a singular type of thinking and a particular type of creative person or group underpins the ‘myth of genius’ in the arts and creative industries too. Picasso denied the influence of African art during his ‘African period’, notably in his 1909 painting, Les Demoiselles d’Avignon – maintaining the apparent purity of European modernist painting and his own role as a visionary artist. In our own times, black artists (actors, directors and writers) have been similarly marginalized, perhaps because, like Lewis Latimer, they don’t conform to the conventional notion of what a successful creator in those fields looks like.

Illumination of the genius individual and the light bulb moment of discovery casts a long shadow. Hidden from view, outside the spotlight, it is possible to identify a range of roles, people and contributions waiting in the wings, all playing their part in the creative process. The problem identified by Michael Holding is that by occluding these other people and other types of thinking from our mental picture of creativity, we not only blank out the multiple stages in the creative process; we also discourage other people like Latimer from coming forward. Latimer was himself a victim of this selective focus, both in his own lifetime, forced by his colour to accept a secondary, supporting role in the biographies of Edison and Bell, and in his legacy, depriving other black inventors, technicians and scientists of a potential role model for the future.

Creativities argues for a diversity of thought in the creative process – recognizing its multiplicity, sometimes even its apparent contradictions (like Batchelor’s combination with Edison). Diversity of thought is not necessarily correlated to diversity of personnel – but it is surely made more likely. Recognizing the diversity of contributions – by the likes of Latimer, or Tesla or Batchelor or Rosalind Franklin – challenges our perceptions of creativity as the preserve of a particular type of person or people, or one type of thinking.

It should also encourage you to consider whether you have the ingredients necessary on your own to achieve your creative goals; or if you should be looking to push up and out and seek to bring other elements to your creative table, as did Edison the creative force (rather than Edison the celebrity/myth).

RESOURCES


1.2 PUSHING RIGHT: USING ABUNDANCE

As with any recipe, too much of a good thing results in one flavour drowning out the rest. As we will discuss in the next part of the book, once we start blending ingredients together, excess can be the enemy of creativity – excessive reliance on one person or type of thinking can result in over-elaboration and overproduction. Abundance can be useful; the trick is not to produce more, but to produce better. Excess means repeating and amassing more of the same; abundance means using what we have to change expectations and perceptions of what we think we need or want.

The Covid-19 outbreak of 2020 provided many people with an excess of that precious commodity, time. Given that many of us complain about deadlines and not having enough time and space to be truly creative, this might have seemed like a rare silver lining amid the outbreak. But for most of us, promises to write novels, learn languages and take up yoga collapsed in the vacuum of an excess of time and too little structure. For professional artists, abundance of time combined with scarcity of paid work. Rather than using that additional time to produce more (with limited possibility for selling or disseminating the resulting content), many experimented with doing things differently (new modes of online collaboration, developing new skills).

When IKEA’s Chief Sustainability Officer spoke of reaching ‘peak stuff’, he described another form of excess. The generation of novel ideas and products without apparent purpose or value is not creativity; it amounts to what Boden calls ‘mere novelty’. In the context of global sustainability, this proliferation is not just unnecessary; it becomes an existential threat. How many more updates for our mobile phone do we actually want or need? How many new devices can we use? How much media content can we absorb? The generation of new ideas without apparent uses or audiences produces the intellectual equivalent of landfill when we should be recycling.

Abundance requires a different mindset, using our resources to create value, not change for change’s sake. Instead of exceeding people’s needs, abundance exceeds their expectations and perceptions, providing them with what they did not know they needed. We will say more about excess later. But in this part of Creativities we want to make a positive case for abundance. Using what we have in abundance allows us to stretch and challenge expectations, boundaries and perceptions.

The problems confronting arts professionals in 2020 were accompanied by an accumulation of amateur, everyday creativity – ordinary people exercising their creative abilities, sometimes for the first time. The destruction of the economy and livelihoods at the same time released an abundance of amateur, home-grown creative content. Poems and photographs appeared on social media timelines. Memes and videos were exchanged on WhatsApp.

Digital technology has made possible a new sharing economy. Clay Shirky has described the ‘cognitive surplus’ resulting from individuals creating new forms of content online. He suggests that this is exemplified by YouTube and Wikipedia, where an individual ‘gift economy’ driven by a desire to create and share content online, accumulates into a massive online resource available to all. We will revisit this hi-tech gift economy in Part IV when we consider the expanding circles of creative participation and amateur creativity, especially online.
The longer history of this everyday creative abundance can be found in the participatory arts movement, known in the 1970s and 1980s as ‘community arts’ in the UK and US, or ‘socioculture’ in Europe. Participatory arts uses the abundance of creative possibilities, skills and impulses among a large group of participants and weaves these together into an artefact – a festival, a community performance or exhibition, a quilt or mural.

Everyday participation needs to be channelled or curated. With a collective focus, individual creative acts accumulate into something larger and more meaningful. During the 1980s, this was the job of the community arts worker or ‘sociocultural animateur’ – to stimulate and guide the creative efforts of communities, using professional expertise and experience to build and connect their creativities, not to suffocate their enthusiasms under professional expectations and standards. This requires, in turn, a certain kind of transformational leadership, ‘leading from below’ without ego or agenda. This is not easy, and there have been plenty of participatory arts projects which have simply served the vision and will of the supervising artist, or conversely, where the self-effacing light touch of leadership has resulted in chaos and confusion. But at its best, participatory arts, like the ‘cognitive surplus’ described by Shirky, makes possible something extraordinary – using the abundance of everyday imaginations not just to do more but to produce something different from professional creative practice.

The affordances of digital technologies open up new possibilities for participatory arts, allowing multiple stories and ideas to be integrated across platforms and enabling new forms of interactivity. This ‘transmedia’ approach to storytelling has been deployed to mobilize previously unheard stories, from immigrant communities to elderly people in care homes and children. Not only are different voices amplified, the participants take over the story, taking it in unexpected directions. Our next recipe illustrates the cumulative effect of utilizing an abundance of participatory storytelling.

**RECIPE 2. ROYAL SHAKESPEARE COMPANY I: SUCH TWEET SORROW (STRATFORD-UPON-AVON)**

**INGREDIENTS:**

- Six actors, two writers, a network of fans
- A classical play
- An unfamiliar tech platform
- 140 characters per tweet

In 2010, the Royal Shakespeare Company collaborated with Mudlark and Channel 4’s digital investment division in an experimental reimagining of *Romeo and Juliet* told through the medium of Twitter, using the hashtag #suchtweet or ‘Such Tweet Sorrow’.

Spread over three weeks (the duration of the play), a group of six actors improvised around a framework devised by writers Tim Wright and Bethany Marlow. Each day the actors were given certain actions or plot points they needed to cover – crucially they were also briefed on information they should not say or know until later in the story. Otherwise, they were free to improvise within the limits of Twitter’s 140-character limit. The actors were in effect co-opted as co-writers.

With each character tweeting throughout the day, it was difficult for audiences to keep...
across all of the material being produced. Many would choose to follow one or two characters. Indeed, one of the pleasures of the project was seeing the drama through the eyes of one character, with imperfect knowledge of the wider context; this was something the RSC would pick up in a follow-up project telling the story of *Midsummer Night’s Dream* from the perspective of minor characters (Rude Mechanicals, Fairies) rather than protagonists. Some committed #suchtweet fans would gather at the end of the day to compare notes from different parts of the story. Much of the plot played out as rumours and hearsay – nobody seemed quite sure what was happening. Some of the more improbable elements in Shakespeare’s story (inexplicable delays to crucial letters, thinking somebody is dead when they are still alive) were well suited to this social media web of gossip and intrigue.

As the story unfolded, audiences started to become more involved. They began to create memes and pictures, even writing themselves into the story in supporting roles. One group of mostly female fans began tweeting under the hashtag #SaveMercutio, following the fight with Tybalt. As Tim Wright notes, their involvement in the story superseded their knowledge of the plot. Wright’s own background in digital storytelling helped him to orchestrate this co-creativity – he began to write in new characters on other platforms to weave together some of the threads – Mrs Capulet mysteriously emerged on a Tumblr account; another character, Jago (loosely based on *Othello’s* Iago), also began to provide a misanthropic commentary on the action. Meanwhile, Romeo spent the first week playing an immersive roleplay game ‘Medal of Honour’ and some audience members had the serendipitous pleasure of discovering him and chatting with him ‘offstage’ on Xbox Live before he made his entrance to the main action in week 2.

At the same time, Wright acted as a showrunner for the beleaguered actors. Alongside the daily call sheets, a back-channel ‘Campfire’ was established through which Wright briefed actors having to deal with excited or hostile audience members. A decision was made not to block users, but sometimes silence was the best policy. The actors themselves, like the audience, began to run away with the story. Tybalt became increasingly fiery, and Wright had to occasionally intervene to moderate offensive language in consideration of younger audience members. Romeo, perhaps reacting to negative critical reviews of the lack of ‘poetry’, became increasingly flowery in his language. Actors had to be reminded of individual and collective timelines, briefed on latest audience behaviour and supported through key plot points (the first meeting of Romeo and Juliet, the knife fight).

Critical responses to #suchtweet were almost entirely negative, even outright hostile. This was not Shakespeare. There was no poetry in the language. The characters were not Shakespeare’s. The story didn’t make sense. There was too much material. Actors were overtelling the story. The independent theatre community was similarly negative – the money could have been better spent doing something else. This was not a promising direction for digital theatre. Negative blog posts proliferated, many using the #suchtweet hashtag to drive up traffic on their own accounts. The RSC itself seemed ill-prepared to deal with the interactive elements of the story, unsure whether to rein in Twitter users or let the user-generated content take centre stage. One ill-judged piece of product placement by the sponsorship and fundraising department (a branded mobile phone) provoked an audience backlash, highlighting the importance of trust and transparency in a collaborative project. The RSC Education department was perhaps the main beneficiary of the project – for all its faults, #suchtweet did provide a useful way into the play (a set text in English schools at the time) for young people.

And yet, in other ways, as an experiment in transmedia storytelling, fandom and
user-generated content, Such Tweet Sorrow was a pioneering project. At the time, Twitter was in its infancy – indeed one negative criticism was the unimaginable absurdity of young people sharing teenage gossip on a platform populated by geeks and journalists. The RSC, under the tutelage of the head of digital development Sarah Ellis, continued to push the digital envelope. Three years later, *A Midsummer Night’s Dreaming* was a collaboration with Google Creative Lab, playing out over three nights on a variety of platforms with a focus on user-generated content. The attempt to open out the minor characters and subplots behind the main action built on #suchtweet’s model, but this time with closer attention to Shakespeare’s original play. Again ‘education’ was not only directed to schools and young people but to the RSC itself, learning the strengths and limitations of diverse digital platforms and tools.

As a rendition of a Shakespeare play then, Such Tweet Sorrow can be considered a failure. But as an example of cumulative creativity – providing a framework for collective storytelling by a diverse audience – it was undoubtedly successful. The enormous volume of material, which from a conventional storytelling perspective was bewildering and overwhelming, allowed users to interact as both readers and writers in unexpected ways.

Tim Wright, one of the two writers initially commissioned and subsequently involved in project-managing the production, reflects on the shift from analogue culture to ‘stream culture’. Audiences dip into the stream, they encounter one piece of content, they miss thousands of others. FOMO, ‘fear of missing out’, is part of this experience, but there is also an opportunity to immerse oneself in the stream, to interact, to swim with or against the current, encountering unexpected and unique discoveries along the way. Such abundance is unfamiliar to the professional creative artist (or indeed a traditional theatre audience), disciplined to structure, contain and edit rather than to release and tolerate random connections.

Above all, as with the ‘cognitive surplus’ of any participatory project, #suchtweet offers an abundance of everyday creativity, user-generated content and co-creation. Creativity extends beyond the creative professional to a groundswell of abundant, excessive, collective creativity. The traditional position of the professional artist is displaced but not erased. One final lesson of #suchtweet is that collective creativity needs to be not only released but also orchestrated, channelled and sustained – and this requires a new type of creative facilitation by a new generation of digitally savvy, open-minded, collaborative storytellers.

How might you bring to the table a new abundance of energy or another new ingredient to add to your, or your team’s, creativity?

**RESOURCES**

https://twitter.com/such_tweet
www.theguardian.com/culture/2010/apr/12/shakespeare-twitter-such-tweet-sorrow

The Such Tweet Sorrow recipe shows how abundance can lead to unexpected creative outcomes by enabling user participation – a theme we will revisit in Part IV. In a stream culture, abundance accumulates multiple options and experiences, which can expand creative possibilities. Recipe 3 demonstrates how abundance can be utilized in a more deliberate, purposeful
way: not opening out to a wider world but drawing together creative contributions around a single goal. We call this networked creativity.

Whereas *cumulative creativity*, of the kind we saw in Such Tweet Sorrow, works through volume, networked creativity works through concentration: the different participants may spread outwards, but the shared purpose draws them together. The approach has some similarities with crowdsourcing, where idea generation is outsourced to the 'wisdom of the crowd'. But crowdsourcing is usually selective. By casting the net widely, an organization initiates a broad, randomized search, hoping to find the one transformative idea which will then be adopted and applied. Networked creativity is not aiming to identify one good idea, but to connect together multiple good ideas in order to achieve a common goal.

**RECIPE 3. THE YOUNG VIC: NETWORKING CREATIVITY (LONDON)**

**INGREDIENTS:**
- A global emergency
- A national theatre
- A local network
- Wooden tickets, a pile of sand, a can of beer

Climate change and environmental protection require creative solutions. One set of solutions involves technological innovation, for example changing the materials used in construction, or finding alternative energy sources. Yet some of these technological innovations carry an environmental cost, either at the point of production (use of resources, rare minerals) or consumption (passing on the environmental costs to individual consumers at home, increased carbon emissions). Measuring environmental impacts requires a wide-angle view as well as a long-term vision; one-off technological innovations ripple outwards into a wider set of changes in production and consumption.

Accordingly, the biggest challenge posed by climate change is not technological but behavioural: how can consumers be encouraged to consume less? Can creative thinking be applied to reduce the carbon footprint of consumption as well as production? A secondary challenge is to change the way we evaluate innovation and change, looking beyond the immediate solution to its secondary impacts.

In 2012, the Young Vic Theatre in London set out to reduce the carbon footprint of its productions by 60%. The initiative was supported by Julie’s Bicycle, a non-profit organization which promotes environmental sustainability in the creative industries. The initiative was applied to a series of shows called ‘Classics for a New Climate’, beginning with *After Miss Julie* (adapted from Strindberg’s play) and followed by *La Musica*.

The company began by changing its production processes, for example by bringing forward rehearsal times to make better use of daylight hours. Other innovations included relaxing the ‘optimum’ temperature for the venue from a fixed 22 degrees to a range of 18–24 degrees. The theatre introduced reusable wooden tokens instead of tickets. The marketing team moved towards a paperless publicity campaign; with the exception of some posters at the front of the venue, all publicity materials were issued electronically, resulting in a 99% reduction in emissions from paper use for *After Miss Julie*. Actors and other staff, and audiences, were encouraged to use public transport or bicycles; transport...
All of these innovations contributed to the overall target of reducing emissions. Yet each was a self-contained initiative; some may have carried a deferred environmental cost (for example, users choosing to print off electronic publicity materials, the emissions from public transport).

The most far-reaching and wide-ranging innovations came through the production design. Here the show’s designer deliberately chose to work with recycled materials, giving a broad specification. A stage manager was engaged for an additional three weeks to help source props and costumes locally. This reduced the production costs of the play (which typically account for 5% of a theatre’s total carbon footprint). It also helped to create a network of local resources and partners, all of whom were made aware of the Young Vic’s initiative. The second play in the series, *La Musica*, directly benefited from this legacy, with 35% of its costumes, props and set coming from within a 0.4-mile radius of the venue, significantly reducing transport costs. *La Musica* went a step further by recycling part of its set from another Young Vic production. Some of the set materials were recycled within the theatre, turned into furniture for audiences; others were recycled through Scenery Salvage and Set Exchange, joining the Young Vic into a network of environmentally conscious theatres across the country.

These innovations had a network effect beyond a single production or series, and beyond the theatre itself. The restaurant and bar cooperated with local suppliers; one local brewery supplied beer in cans which could be taken into the venue, avoiding the ban on glasses and bottles which in return required drinks to be poured into plastic cups. Playscripts were recycled to local secondary schools. Local schools and clubs were given free tickets, meaning that 10% of audiences were within walking distance of the venue. The sand used in one production was donated to a local nursery’s play area.

As well as networking with other neighbourhood organizations and community groups, the Young Vic worked with its audiences. The wooden tickets were cumbersome to use, but this difficulty may well have made audiences more aware of the theatre’s environmental sustainability project. Audiences for *After Miss Julie* could hire a programme instead of buying it; the programme itself was peppered with information on the show’s environmental initiatives, and the actors’ biographies mentioned the biggest environmental challenges they had faced during the production. *La Musica* took this a stage further and painted the production information on the wall, negating the need for programmes. At the end of the show, audiences exited through a ‘green walkway’ featuring a mural describing the production’s environmental actions.

As with the scientific discoveries featured in Recipe 1, creativity is often associated with singular inventions – a one-off piece of breakthrough thinking, often by a single individual. However, the value component in creativity depends on a wider perspective – what have been the consequences of the creative act, beyond the moment and place of action? This broader perspective is particularly resonant in the context of sustainability – measuring environmental impacts requires a longitudinal, big-picture approach which accounts for multiple users and multiple stages.

The impact of ‘Classics for a New Climate’ spread beyond one set of initiatives by one venue. Local partners joined in to support the project, leaving a legacy of relationships with local suppliers which could provide resources and partners for future sustainability work. Audiences took the principles of sustainability home with them. One of the surprising metrics in the Julie’s Bicycle audit of the project revealed audience individual energy
consumption to be lower in the theatre than at home; any changes in behaviour resulting from the show could accordingly have an even greater impact in the aftermath.

Rippling outwards from the Young Vic Theatre, these secondary impacts reflect a systems model of creativity in which individual creative acts are embedded in a field (the network of local businesses around the theatre) and a domain (the various stakeholders involved beyond the cast and crew, in particular the audience). The approach of opening up the project through local partnerships and audience engagement to tap into a surplus of energy in the community for sustainability and give people something tangible to put their energies towards in this regard also describes a democratizing approach to creativity. Here the creative work is shared and collective action continues to stoke a cognitive surplus beyond one individual attacking a problem alone.

As an approach to sustainability in the creative industries, Classics for a New Climate broke new ground – it also introduced a distinctive type of creativity, based on participation, networks and collective value creation. Perhaps it can inspire others to tap into an abundance of passion for other causes in their communities.

RESOURCES

www.juliesbicycle.com/latest/case-studies/11381-youngvicla-musica/
www.juliesbicycle.com/resources/sustainable-production-guide

1.3 PUSHING IN: TRADITION WITH A TWIST AND EVOLVING AUTHENTICITY

We began Part I of Creativities by pushing out, seeking out difference and diversity in order to challenge conventional definitions and assumptions regarding creativity. Now we consider the bi-sociative opposite move: pushing in, in pursuit of authenticity and integrity.

The pursuit of difference is equated with ‘mere novelty’ – and novelty without value is not creativity. The counterbalance to novelty in theories of creativity is value. What is valuable is sometimes reduced to ‘fitness for purpose’, or, more crudely, ‘what works’. Here we argue that ‘pushing in’ also requires a certain integrity to our own intrinsic values and beliefs, rather than chasing after the unfamiliar and exotic.

While ‘pushing out’ is important to engage with new and unfamiliar ideas, these novel ideas need to be integrated with the familiar. ‘Pushing in’ encourages us to embed new discoveries with our pre-existing experiences, traditions and resources. In culinary terms, this is the difference between attempting to replicate a recipe from a different culture, and trying to adapt that recipe to fit with some of our own ingredients, methods and tastes.

Definitions and ‘recipes’ for creativity are themselves highly variable, based on different cultures, politics, philosophies, religions or anthropological traditions. Importing a recipe from another creative culture requires some ‘pushing in’ to connect with our own creative resources and needs.

The Western recipe for creativity has its roots in 16th-century humanism, when European philosophers rebuilt their worldview around human endeavour instead of an all-powerful God. But the word ‘creativity’ only became popularized in the 19th century with the rise of
Romanticism, which amplified an individual vision capable of transcending everyday collective norms and tradition. Eastern cultures, including Buddhism and Confucianism, have placed much greater emphasis on those collective traditions. Some Eastern religious traditions view the artist as a shaman, a vessel through which a greater creative power flows. To this day, many indigenous cultural traditions (for example, Aboriginal Australians or African tribes) eschew the idea of individual authorship, relying instead on traditional knowledge and wisdom which are shared by the tribe. When these other traditions confront the Western recipe for creativity, the ingredients do not mix. For example, Western intellectual property law is framed by the concept of the individual author or inventor who originates a new idea. Tribal artefacts do not conform to this model, leaving them with little protection against predatory Western entrepreneurs and importers. Confucianism emphasizes imitation over originality, and China too has struggled to conform with Western conventions on copyright in the creative industries. When we mix up the different regional traditions, recipes have to be adapted or even abandoned altogether.

Pushing in requires us to adapt, based on an understanding of our own values and traditions. Recipes from other cultures can provide inspiration, but will need to be adapted to incorporate locally available ingredients. This is the essence of regional flavours or ‘terroir’. Just as Chinese food will taste different in London or San Francisco from Guangzhou, and a pizza in Brooklyn will taste different from one in Naples, so Wallas’ recipe for creativity (preparation, incubation, illumination, verification) will need to be remixed – not only for different geographical territories, but for different organizational cultures, even for different individuals.

Good examples of this can be seen in television series like David Chang’s *Ugly Delicious*, which explores the delicate balance required to at once honour and tweak or twist food classics with long traditions like tacos, fried rice or fried chicken; or Frank Pinello’s *The Pizza Show*, which similarly looks at the respect, knowledge and love required to take that most basic and revered fast food and continue to serve it up in creative ways.

Pushing in recognizes that ‘authentic’ creativity is rooted in a shared ethos or culture. Grabbing ingredients off the shelf in pursuit of a magical formula might be a way of shaking up our creative practice, but it is unlikely to be sustainable unless it can be connected into existing skills, ideas and traditions. The market’s cornucopia of ideas and practices can dazzle and seduce us away from what we really need. We should be especially wary of attempting to replicate ‘authentic’ ideas and methods from other cultures which we don’t fully understand. Authenticity requires us to remake the foreign and the exotic in our own image: repetition with a twist.

Sometimes creative ideas come not from pushing out to the unfamiliar, but pushing in to discover our own capabilities or even our limitations. A tennis backhand may not be the most exciting recipe for creativity. But the way most people hit that shot today is completely different from the way it was played just a few decades ago. The creative twist that gave rise to the modern backhand came from two teenage girls: Chrissie Evert and Peaches Bartkowicz. And rather than trying to copy somebody else, it started with doing what came naturally.
INGREDIENTS:

- 1 Peaches
- 1 concrete wall
- Mentors who backed a unique individual to keep doing it her way
- A ground-breaking professional league (mixed with an atmosphere of women’s liberation)
- Two hands (not one)

One of the most breath-taking aspects of Roger Federer’s tennis is his backhand: modern observers stand in awe of it, often marvelling that he only uses one hand!

While this shot may seem remarkable in a world where only two of the top-100 women pros and a dozen of the men hit the shot with one hand (down from 28 in 2010 and 43 in 2000), it was only 50 years ago that everybody hit the backhand this way. Even Federer thinks kids should learn the two-handed version now. Why? ‘It’s easier’, he says (www.atptour.com/en/news/federer-tsitsipas-future-one-handed-backhand-2019). But it is also because it enables a shot that traditionally was largely a defensive one to become, for many players, an attacking weapon hit with greater spin and at greater angles.

So, where did the modern two-handed backhand come from? Did it coincide with advances in sports science? The application of ergonomics? Or the use of computer-aided design and simulations? No. It came from a girl named Peaches who shouldn’t even have been playing tennis and her competitor Chrissie Evert.

The United States was the world’s tennis mecca in the late 1960s (another historical fact that seems hard to fathom now), but it was a sport generally enjoyed by the well-to-do men and their wives in the traditional country-club set.

In the mid-1960s, Jean (known as Peaches) Bartkowicz from the little town of Hamtramack, Michigan, was not particularly well-to-do. One summer, late in the 1950s, she found an old, discarded racquet in the bushes behind the tennis courts. With little to entertain herself, she mended the racquet, started hitting a ball against a concrete backboard and kept at it. The racquet was so heavy that she hit a backhand with it the only way she could as it accelerated off the concrete wall: with two hands.

Today’s two-handed players were fortunate that Hamtramack was also the home of dynamic husband and wife tennis coaching duo Jean and Jerry Hoxie. The couple ran a unique public camp for kids at the same municipal courts where Peaches found her racquet. Jean in particular – the first woman in Michigan to coach a boy’s high school tennis team – was something of a local personality. Peaches saw the Hoxies’ camp and joined in.

Peaches, not knowing that she shouldn’t, put everything – both hands – into her double-handed backhand. And it was consistent. She could hit 1,000 in a row against the wall. But that wasn’t how tennis was played: one hand was the proper, proven, and most efficient way. But the Hoxies, unlike any other coach of the time, didn’t seek to change Peaches’ approach. Instead, admiring her moxie, they helped her make it better. And while their relationship became complicated as Jean became more overbearing, when
Peaches began to rise through the ranks the Hoxies gave her cover when people questioned or made fun of Peaches’ swing.

The Hoxies were mavericks too and the kind that you didn’t mess with. And Jean in particular knew that tennis conventions were based on the way men traditionally played, not women. If a girl’s physique led her to find that playing a backhand with two hands was more suited, then so long as that girl could win, she saw no good reason why that shouldn’t trump tradition.

While she may not be that well known now, Peaches was a phenomenon in the 1960s, with a US junior record that has never been beaten to this day. She reached the pinnacle of junior tennis, winning the junior Wimbledon title in 1964 and the junior US title in 1965 before joining the world circuit.

Peaches’ rise coincided with that of women’s tennis. A tight-knit group of trailblazers demanded that their game should be taken more seriously by the mainstream and the traditionalists. It is an era depicted well in the movie *Battle of the Sexes*, about Billie Jean King’s match with self-described ‘male chauvinist pig’ Bobby Riggs.

King was one of nine members who joined the new ground-breaking Virginia Slims Circuit in 1970 when it split from the established circuit. Peaches was another. The VS Circuit wanted and promoted engaging personalities and interesting stories to drive sponsorship and television ratings. Peaches was a key member of that original group (and is played by Martha MacIsaac in *Battle of the Sexes*).

But the big breakthrough in terms of public awareness that a backhand could be hit with two hands on the racquet came a few years later when the trail blazed by King, Bartkowicz and Company was followed by Chris Evert. Evert, described by the press as ‘America’s Darling’, became one of the most popular and most watched celebrities in the world. She also hit the backhand with more than one hand.

Just one generation later, the centuries-old approach that Bartkowicz and Evert challenged is in danger of becoming extinct, put to the sword by an approach so natural to young women left to their own devices, but one that almost nobody involved in the game 50 years ago could have imagined.

It’s a story that should make us all think twice about telling a young talent that the way they are doing it is too overwrought, too much, or just plain wrong. And, it might cause us to think about working differently with what we’ve got – instead of adding new ingredients to our creativities crate, looking inside for ingredients that we might serve up at new angles.

RESOURCES

fivethirtyeight.com/features/how-two-grade-schoolers-set-off-a-tennis-revolution/

1.4 PUSHING LEFT: EMBRACING SCARCITY

While the market can offer unexpected bounty, more often we return to our kitchen with some ingredients missing. These absences force us to improvise, substituting other ingredients, changing the recipe or making do with what we have. Scarcity necessitates changes, and these
changes challenge best practice models and expectations. ‘Pushing in’, working with what we have, takes us towards the next stage in our creative journey, working with what we don’t have.

Earlier we considered how abundance of one kind of creative ingredient (human capital, time) is often used to compensate for scarcity of another (economic capital, technology or equipment), sparking creative solutions. Our final stop in the market of creative ideas takes us to somewhere far removed from the indulgences and excesses of Western societies, to less developed parts of the world where a lack of resources is the mother of invention. It’s time to push the envelope left.

In commercial settings we all know that creativity is constrained by resources, deadlines and market effects. Even when these external constraints are removed, for example in the creative practice of some artists and writers, personal circumstances (family, income, social situation) still frame creative possibilities, and many artists supplement these limitations by self-imposed routines and structures of their own. More broadly, creative work is funnelled through a range of constraints – domain-specific expertise, ethics, critique, confidence, motivation. Blocks and frustration help trigger creativity; resource constraints help to shape it.

Biographical studies of Shakespeare or Charles Dickens remind us of the extent to which their work was shaped by external constraints, from the context of Elizabethan staging and audiences to 19th-century serial publication. At the internal level, Jonah Lehrer’s now-discredited discussion of Bob Dylan’s song-writing makes a convincing case for the importance of ‘blocks’ in the creative process; when one neural pathway is blocked, the brain activates another, and Dylan’s period of peak productivity was preceded by a period of desperate inability to produce anything. That experience has been borne out by our own interviews with writers, as well as prominent novelists like Jonathan Franzen speaking in praise of writer’s block, frustration and despair as necessary components in the creative process.

Sometimes these absences and barriers are characterized as ‘uncreative’. ‘Uncreativity’ describes the ballast within the creative process. It also describes a lack of apparently essential ingredients in the creative process – lack of confidence, freedom, time, or self-belief. These limitations can manifest as apparently uncreative behaviours which nevertheless underpin the creative process – diligent, laborious practice, expertise within a discipline, an understanding and respect for traditions. And in a creative team, these behaviours are sometimes personified as the ‘uncreative’ person – the one who gets in the way and slows us down.

The ‘person from Porlock’, who famously interrupted Coleridge in his composition of *Kubla Khan*, is perhaps the best-known example of this ‘uncreative person’. Yet we know now that Coleridge was not really interrupted, or rather that he had already written and rewritten his poem several times over. The person from Porlock can better be seen as representing a part of the poet’s consciousness, the wakeful self commenting on a poetic (and perhaps opium-infected) dream. The knocks on the door are the interruptions we all need to transform mere novelty into something substantial and valuable.

When scarcity (e.g., deficit of imagination, loss of a budget, lack of time) is projected onto a supposedly uncreative individual, we are reminded again of the need for diversity and tolerance in the creative process – whether we are the poet or the person knocking on the poet’s door. And what appears to ‘block’ our creativity may in fact be the trigger for a new creative approach.
INGREDIENTS*:

- Wood and nails (left over from another job)
- A pressing local need
- Lack of resources, a pinch of frugality, a dash of improvisation
- *If you don’t have all the ingredients, just use whatever you can find

In June 2020, a nine-year-old Kenyan boy was awarded a Presidential Order of Service for his invention of a hand-washing machine. Stephen Wamukota had learned about the dangers of Covid-19 on TV. His machine allowed users to pour water and soap using a foot pedal in order to avoid touching surfaces with their hands. Stephen’s father James explained that while he was out at work, his son had constructed the machine from some wood obtained to make a window frame, some nails and a plastic container. The machine was a little unsteady, so James tightened up the construction. He also posted pictures of the machine on Facebook, where it was picked up by news agencies including CNN and the BBC.

Stephen may be continuing a Kenyan tradition of improvised innovation called jua kali. Jua kali (‘hot sun’) refers to the fixers and repairmen who work by roadides in some of the poor districts of Nairobi in the open (hence ‘hot sun’). Using whatever materials are to hand, they provide quick, cheap solutions to everyday problems – an empty petrol can pressed into an oil lamp, a cocoa tin used to repair a car exhaust. Since their emergence in the 1960s, jua kali associations have become part of Kenya’s entrepreneurial economy, registered and supported by the government. Much of their work recycles old material, especially scrap metal, and patches up or customizes existing products.

Jua kali is part of a global movement towards ‘frugal innovation’, making use of available resources to solve immediate problems, especially among people who cannot afford to buy ready-made solutions. In India, jugaad is a Hindu word which can be translated as ‘an improvised fix using simple means’ or, more colloquially, ‘a hack’. In their book Jugaad Innovation, Radjou and Prabhu give the example of the ‘Mitticool’, a fridge made of clay which uses the condensation and evaporation of water in the upper chamber to cool the contents of the lower chamber. The ‘fridge’ is in essence a clay pot, inspired by a newspaper caption describing a broken clay pot as a ‘poor man’s fridge’.

Jugaad starts at the point of use, taking into account practical applications, resource constraints and local needs. This is a reversal of the Western innovation model, which starts with ideation before moving on to application. Jugaad also places a higher premium on ‘value’ over ‘novelty’ than in many Western models of creativity – jugaad innovations are typically reworkings or reinventions of existing technologies, not radically new ‘breakthroughs’. Finally, jugaad pursues a ‘good enough’ solution to a pressing problem – there is a ‘making do’ attitude which focuses on an immediate social context and need.

These three principles of jugaad can be summarized as:

- Frugality: user-driven not producer-driven, working within constraints of locally
available resources and technologies;
• Flexibility: adaptive innovation, not radical innovation;
• Inclusivity: value-based innovation which measures quality locally not globally.

Jugaad and jua kali challenge many of the principles of Western creativity and innovation. Western approaches typically value people over processes (producer-led, ‘genius’ thinking), seek radical or ‘breakthrough’ solutions by ‘thinking outside the box’, and see value in terms of transformative potential for the wider sector or market, not local needs.

The Hindu word jugaad contains an implication of criminality, bypassing rules and conventions in pursuit of a quick fix. In Kenya too, jua kali has some negative connotations – the improvised repair may not last long, and the term is often synonymous with low quality and unreliability. Stephen’s machine had to be ‘tightened’ by his father. There may be cases where jugaad is not fit for purpose – we might not expect or desire ad hoc improvisation to feature in aeronautical engineering or pharmaceuticals.

Global companies like Procter & Gamble in the US and Tata in India have attempted to apply jugaad thinking to product development and manufacturing respectively. Western business media (Business Insider, Harvard Business Review, Financial Times) and think tanks (the UK’s innovation agency NESTA) have explored its implications. Applying jugaad in a Western cultural context might require some decentralization and distribution of innovation processes away from specialized innovation units or R&D departments into frontline operational teams. There are similarities here with ‘lean’ or ‘agile’ processes in software development – but these tend to work best with small creative teams, not corporate mass production.

Jugaad and jua kali shift creative power downwards towards local and operational activities, subverting the conventional producer-driven model of Western innovation and creativity. In a global context where creativity is often wasteful, reinventing or ‘updating’ products we do not really need and using up scarce resources, jugaad and jua kali may offer more sustainable alternatives. Perhaps your creativity might be similarly enhanced by taking ingredients out of your crate, and seeking to do more with less.

RESOURCES


www.bbc.co.uk/news/world-africa-52898797

One of the principles of the approach referred to as design thinking, which has become increasingly popular in business in recent years, is to ‘embrace constraints’ and have them inspire rather than frustrate the creative process. This thinking regarding scarcity as a creative spur can be seen in stories like:

• The increasing number of cookbooks with titles like Perfect Plates in 5 Ingredients or Hugh’s Three Good Things. As the author of the former explains, ‘I’m stepping back from the [overly] complicated to let the ingredients do the talking.’
• The team marketing the BMW-owned MINI reboot in the UK in the 1990s, finding their budget slashed, had to engage in guerrilla marketing that proved far more effective than a conventional campaign.
IKEA’s requirement for furniture that had to be flat-packed (leaving with furniture in the boot of one’s car diminishes the likelihood of changing one’s mind when compared with waiting for it to be delivered at a later date) led to many design innovations.

How the first place in the world to roll out electronic payments is not where we might expect it to be – Japan, China, Germany, the US, or Europe – but in East Africa, where the technical and financial constraints encouraged breakthrough risk-taking and creativity (check out the story of M-Pesa in Kenya and Tanzania). Jua kali!

The tale about Coco Chanel’s fashion advice: before you leave home you should remove one item of clothing.

Or in the words of the author of The Little Prince, Antoine de Saint-Exupéry, ‘It seems that perfection is attained not when there is nothing more to add, but when there is nothing more to remove.’

So, what if a group of university students in China tried to solve the problem they and their fellow students had of being late to class with a very traditional Chinese form of transport, developing a business model constrained by the smallest amount of capital possible? It might lead to one of the world’s fastest-growing new industries.

**RECIPE 6. OFO BIKES: CHEAP OLD BIKES, WITH A HIGH-TECH TWIST (BEIJING)**

**INGREDIENTS:**

- Five friends always late for class
- Bikes left behind
- Everyone on WeChat
- Walled, flat campuses

Recently, a *Harvard Business Review* article titled ‘Why Can’t China Innovate?’ explored the perception that China ‘doesn’t do innovation’:

‘The Chinese invented gunpowder, the compass, the waterwheel, paper money, long-distance banking, the civil service, and merit promotion’, it began, and, ‘Until the early 19th century, China’s economy was more open and market driven than the economies of Europe.’ But, the authors explained, today most ‘believe that the West is home to creative business thinkers and innovators, and that China is largely a land of rule-bound rote learners—a place where R&D is diligently pursued but breakthroughs are rare’.

The article outlined a number of reasons provided for this:

- Most Chinese start-ups are founded by engineers, not designers or artists;
- The scale of government, its influence on business activity and its failure to protect intellectual property rights;
- The Chinese education system, with its brutal regime of exams and focus on rewarding high test scores rather than creative thinking.

But despite these reasons (or perhaps because of them), China’s governments, universities and businesses are embarking on a major innovation drive, determined to become a world
leader in what they describe as mass innovation and mass entrepreneurship. Massive incubators are being built and subsidized and new policies implemented: such as that announced in 2016 that will allow students to break their university studies at any point in their degree programme and start a business, with the understanding that their university must take them back at the point where they left – either if the venture has failed or has been so successful that the entrepreneur has sold it and wants to return to their studies.

Certainly there is no lack of confidence among young Chinese people that they can lead the world in innovation. A couple of years ago, we asked an audience made up of academics from all over the world to fill in a questionnaire, including the question: what is the world’s most creative country? Over 50% wrote the United States. Nobody wrote China. When we asked the same question in Beijing, nearly 80% of Chinese students answered ‘China’.

Unquestionably if you spend time in China, you see innovative start-ups popping up everywhere. One such is Ofo Bikes, which has been labelled China’s Uber for bicycles, but this is a label that likely undersells what Ofo does.

Ofo was started at Peking University in Beijing by a group of that university’s students and graduates that belonged to the university bicycle club. The idea was to enable students to use a WeChat app to rent a bike to race across their typically massive campuses between their classes or social engagements in an environment where the sheer scale of people made it hard to park and then find your own bike quickly.

Ofo had a ready supply of low-tech bikes to recycle as they began to roll out their business model. Every year Chinese students leave their bikes behind them, as they are cheap and difficult to take on public transport. These are then gathered into university bicycle graveyards, where they will eventually become landfill.

Refurbishing such bikes and then spraying them the distinctive Ofo yellow, the company amped up the low-tech. Short rides over generally flat Chinese university campuses mean no need for gears or comfy seats. You could hear the distinctive rattle of an Ofo bike as they came up behind you on PKU’s shared pedestrian and cycle pathways.

Much of the cost of running a rental bike service used to come in maintaining the docks the earlier sharing bikes were slotted into – so Ofo reduced the tech further and did without docks, favouring instead simple combination locks. Send the code of the bike you want to rent and a Qcode key is sent back immediately. Your Ofo account on WeChat is then deducted a few yuan and away you go.

Another major cost of rental bikes is gathering up and returning bikes back to key locations. Because Ofo bikes can only be used on the campus they are designated to, the bikes don’t go wandering and can be redistributed and otherwise maintained by Ofo’s little three-wheeler motorcycles. Keeping the bikes on campus is helped by the fact that China’s large urban universities are mini walled cities with only a few gates manned by security guards who ask for ID – anybody seeking to make a break on a canary yellow bike is going to stand out! And while campuses are walled and flat, they are massive (PKU has over 50,000 students; Tsinghua University next door has 75,000), university timetables are tight, and the time between classes short – being able to grab a bike directly outside a lecture (no docks remember) and ride it to the next lecture theatre on your schedule is well worth the few yuan and a bone-shaking ride.

Ofo had other competitors, higher-tech, sleeker bikes like Mobike, but Ofo’s rattlers were by far the cheapest – and, subsequently, the most popular. But Ofo has been taken under the wing of Chinese ride-sharing giant Didi (which has recently defeated
Uber to dominate the Chinese car-sharing industry). Didi saw the potential in the Ofo model, and investment and expansion plans were quickly developed. The first targeted overseas beachhead for Ofo is the British university and science-park-dominated city of Cambridge, and then some of Australia’s major cities. Some of the West’s most creative minds are now travelling via an innovative business model developed by some of the East’s, and the growth in bike and e-scooter providers in the last ten years can be traced back to those students at the PKU bicycle club.

Source: Photo by Stephen Cummings

Figure 1.3 Dump at Peking University for bikes left behind by students going home for summer

NB. We finish this first part of *Creativities* by reproducing the key What elements of the Ofo case on a Creativity Canvas in Figure 1.4 on page 24 (we do likewise with the last recipe from each of the subsequent parts of the book).

**RESOURCES**

https://hbr.org/2014/03/why-china-cant-innovate

In this part of the book we have illustrated some of the choices available to you as you assemble the ingredients you need to fashion your own creativities. You might need to discover a more diverse range of possibilities and people (push out), or you might need to reconnect with your own authentic values (push in). You might find yourself dealing with an abundance of people, time or resources allowing you to ‘use more to create differently’ (push right), or you might prefer to strip down and simplify, using scarcity to improvise a solution which matches
the present need (push left). Whichever direction you choose, it’s worth remembering that no single direction is inherently superior to the others, and in many cases they overlap. And whatever ingredients you assemble, these are only the start of the creative journey – as we will discuss in Part II, the next step is deciding how to combine them.

**SOURCES AND FURTHER READING FOR PART I**

The framework for Part I draws upon Boden’s definition of creativity as taking place within a ‘bounded conceptual space’ (Boden 1994, 79–84). The discussion of ‘pushing out’ suggests a correlation between diversity of personnel and diversity of thought. The lack of cultural diversity in the creative industries workforce and the consequences for creative output have been the ongoing subject of excellent research by Dave O’Brien, among others. ‘Pushing right’ or ‘abundance’ relates to Shirky’s model of ‘cognitive surplus’ – it also draws upon the idea of ‘affordances’, the resources available which shape creative options. The latter is relevant also to ‘pushing out’ and scarcity. Here ‘jugaad’ and ‘frugal innovation’ have attracted much interest in the management literature.


Figure 1.4 Creativities canvas example 1: Ofo and the What of creativity