

Innovation:

the
CULTURE
that
CREATES

Of course it's hard.

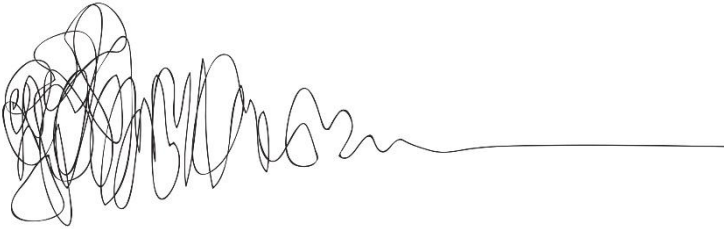
**It's supposed
to be hard.**

**If it was easy
everyone would
do it.**

FOREWORD: WHAT INNOVATION REALLY MEANS

to me

Innovation is messy.



Innovation is hard.

It involves getting your hands dirty, taking real risks, and doing things that probably won't work the first time. It means cutting materials, writing buggy code, building hardware that might fail, and then learning why it did. It's not a marketing campaign. It's not a policy theme. It's actual work.

I've spent the last fifteen years in and around startups, renewable energy, and subsea technologies, often trying to build something new with barely enough time or money to do it properly. I've written grant applications, designed prototypes, and stood knee-deep in salt water trying to make machines work. I've failed more times than I can count. I've also seen how the system consistently overlooks the people doing that work.

Writing this was triggered by a recent experience. I thought I had written a well-targeted application to a regional **'innovation'** grant, only to be told that it didn't fund actual innovation work. It **'supported innovation'** through workshops, mentoring and training. But I can't buy hardware or build systems with mentoring, no matter how valuable it is.



The author - *with hammer*,
10 miles to sea off the Cornish coast,
2014

We don't need more startup pitch nights or innovation engagement programmes. We need a focused strategy for closing a critical funding gap: the lack of support for people who are actually building things in their sheds. Yorkshire has a strong history of incredibly successful shed-born inventions. From the Davy lamp that safeguarded coal miners, to the invention of stainless steel in Sheffield, and the printing presses revolutionising 19th century knowledge exchange from Wharfedale and Halifax. This region has long punched above its weight in practical, hands-on innovation.

These were not polished university spinouts, they were scrappy, often solo efforts grounded in real problems, real materials, and relentless curiosity.

Too much public innovation support goes into awareness, events, or strategy exercises. Too little backs the work of those who are attempting the thing itself, be it a prototype, a platform, or a pilot deployment.

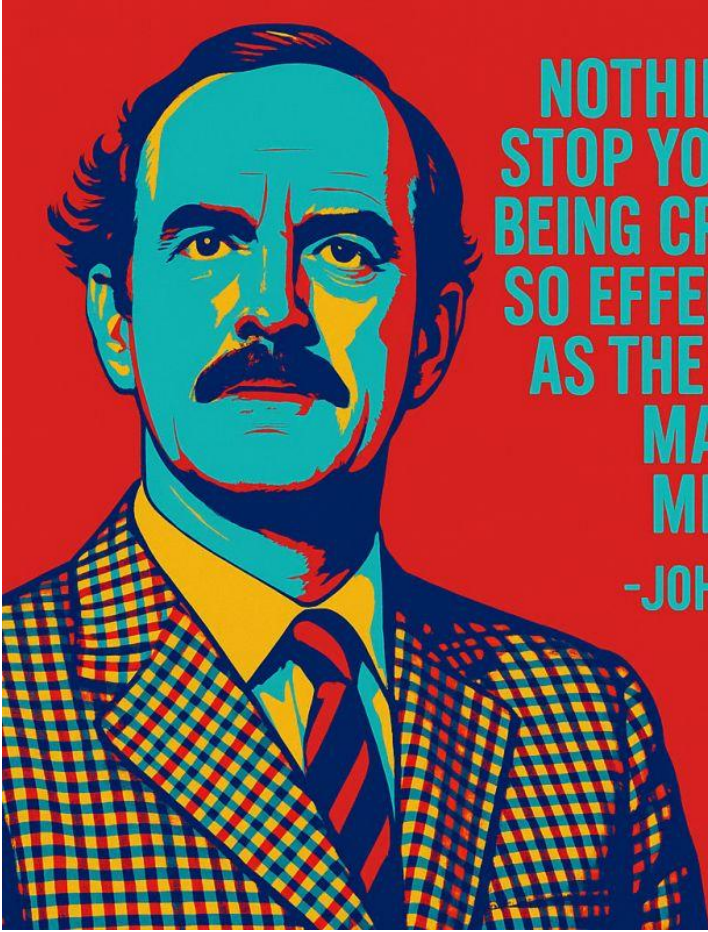
If West Yorkshire wants to support real innovation, it must find a way to really support and hopefully fund the work between the sketch and the term sheet.

The bit that doesn't fit in a form.

The bit where funding dries up.

The bit where things fail.

The bit that matters.



**NOTHING WILL
STOP YOU FROM
BEING CREATIVE
SO EFFECTIVELY
AS THE FEAR OF
MAKING A
MISTAKE.**

-JOHN CLEESE

THE CULTURE THAT CREATES

Funding matters. But without the right culture, it does not work. As SPRIND and ARIA have shown, innovation is not simply a process, it is a state of being, a mindset, a posture, a space in which people are allowed to take risks, try things, and fail without punishment.

Jon Cleese, in his reflections on creativity, argues that genuine creativity can only emerge when the mind is in what he calls the “*open mode*”, a mental state of playfulness, curiosity, and temporary suspension of judgment. He contrasts this with the “*closed mode*” of execution and evaluation, commonly referred to as executive function. “*Creativity, is not a talent. It is a way of operating*”. To innovate, you must spend time in open mode. But most organisations, especially large ones, foster a culture and surroundings that encourage staff to spend all of their time in closed mode. Deadlines, performance metrics, and cultural aversion to embarrassment shut down the very thinking that leads to breakthroughs. Cleese found that setting boundaries of time and space was essential to creating ideas. Creativity was not a random spark. It was the result of a protected time and process.

IDEO, one of the world’s most influential innovation firms, teaches the same principle. Innovation is not about brilliance, it is about iteration. It is about building rough prototypes early, testing ideas quickly, and allowing teams to fail in the open. The result is not just better ideas, but a culture of momentum. “*Fail faster to succeed sooner*”ⁱⁱⁱ as the firm famously puts it. Their work with companies like Apple, Ford, and P&G helped shift the idea of design from an aesthetic function to a problem-solving mindset. IDEO’s methodology is rooted in human-centred design, which requires a blend of technical and emotional insight, and the humility to get things wrong repeatedly before getting them right.

“There’s a temptation in our networked age to think that ideas can be developed by email and iChat. That’s crazy. Creativity comes from spontaneous meetings, from random discussions. You run into someone, you ask what they’re doing, you say ‘wow,’ and soon you’re cooking up all sorts of ideas.” Steve Jobs

These conditions are extremely rare in established institutions. Despite their resources, most large companies fail to innovate meaningfully because they cannot create the right environment. This is why they outsource innovation to consultants like Innovia, Frog Design, or IDEO itself. Alternatively, they attempt to acquire it by purchasing early-stage companies once products have been proven. The risk tolerance and ambiguity required to innovate is simply incompatible with how most large organisations are run. IDEO founder David Kelley notes that fear of judgement is the number one inhibitor of creativity in corporate settingsⁱⁱⁱ.

There are rare instances where large companies manage to encapsulate the culture that allowed creativity when they were startups, and perpetuate it as the organisation scales. Two that spring to mind are Pixar and Valve. Ed Catmull, a founder of Pixar, said: *“When it comes to creative endeavors, the concept of zero failures is worse than useless. It is counterproductive. Being too risk-averse causes many companies to stop innovating and to reject new ideas, which is the first step on the path to irrelevance^{iv}”*. Valve, by contrast, has maintained an almost anarchic flat structure where anyone can initiate projects. In their employee handbook they write: *“When you’re working in a rapidly changing environment or trying to discover new things, [hierarchies] are a terrible fit”*. It’s this combination of psychological safety and freedom from structural rigidity that allows new ideas to emerge and thrive.

Startups, by contrast, operate differently. They are born in open mode. They can iterate without permission. They can tolerate risk because failure is normal, not career-ending. This is why real innovation happens at the edge, in garages, workshops, coworking spaces, and back bedrooms. The environments themselves, cheap, messy, informal, promote failure and play.

“

PEOPLE WHO ARE
CRAZY ENOUGH
TO THINK THEY
CAN CHANGE THE
WORLD ARE THE
ONES WHO DO.

”

-ROB SILTANEN

The financial pressure is real, but the cultural pressure is minimal. There is freedom to explore.

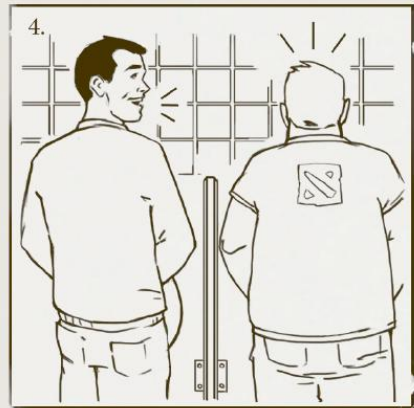
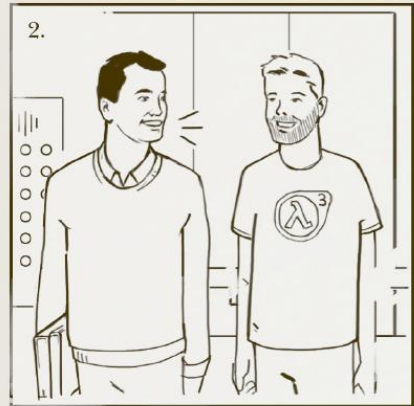
Simon Sinek echoes this in his work on leadership and team performance. *“A team is not a group of people who work together. A team is a group of people who trust each other”*^v Innovation flourishes where there is trust, not just between people, but between people and their environment.

Studies in environmental psychology have shown that the physical arrangement and psychological ownership of a workspace can have a powerful effect on performance and satisfaction. In one landmark study by Knight & Haslam, participants who were allowed to personalise and arrange their office space performed up to 32% better on cognitive tasks than those in sterile or pre-arranged environments. Empowered workspaces not only led to higher productivity but also improved well-being and focus^{vii}. Related research has shown that these gains stem from a stronger sense of identity, autonomy, and psychological investment, all known contributors to creative output^{viii}. In short, the office layout is not just an aesthetic decision^{ix}, it is a strategic lever in enabling innovation.

If founders feel they must succeed on the first try, they will never try anything risky, let alone **‘unreasonably ambitious’**. If they feel free to fail well, they may well eventually build something truly remarkable. If they do not, society will be better off regardless, and their learning will help countless others.

There is also a geographic as well as cultural dimension to this. Silicon Valley’s success was not due to superior ideas, it was due to tolerance of failure, a density of capital, and a cultural habit of experimentation. Israel’s startup ecosystem functions on similar principles: national service creates tight-knit teams,

Fig. 2-4 Methods to find out what's going on



- step 1. Talk to someone in a meeting
- step 2. Talk to someone in the elevator
- step 3. Talk to someone in the kitchen
- step 4. Talk to someone in the bathroom

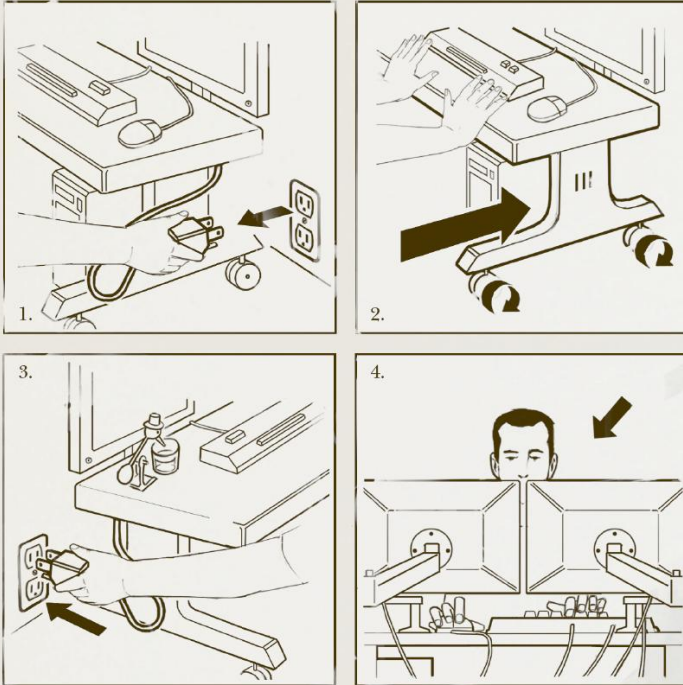
and the culture values boldness over polish. Neither environment is driven by grants or strategy papers. They are driven by the accumulation of risk-taking norms.

Closer to home, the Francis Crick Institute in London designed their entire building around cross-pollination^x. Labs are not siloed. Researchers from different disciplines literally bump into each other. Creativity is engineered into the architecture. These lessons are not expensive. They are about intention.

Steve Jobs famously placed utilities like mailboxes, conference rooms, cafés and even toilets, in the central atrium of Pixar's studio^{xi} to encourage spontaneous interactions. *“to force people to go there”* so that *“when people run into each other, when they make eye contact, things happen”*^{xii}. He saw physical serendipity, the chance collisions in daily routines, as essential to innovation.

The structure of a workspace can profoundly influence the creative performance of its occupants. A series of experimental studies over the past two decades has shown that employees who are empowered to shape their physical environment demonstrate higher satisfaction, better information retention, and improved productivity compared to those who are not. In one of the most striking experiments, researchers tested three office layouts: one where employees were allowed to freely personalise and rearrange the space, a second where they were allowed to do so within limits, and a third where no modification was permitted. Knight & Haslam found the group with full control over their workspace reported the highest levels of well-being and creative engagement^{vii}. These findings were supported by earlier work by Haynes^{viii}, and by Brill et al.^{xiii} who found that workspace design could account for up to 25% of variation in individual performance.

Fig. 2-2 Method to move your desk



- step 1. Unplug cords from wall
- step 2. Move your desk
- step 3. Plug cords back into wall
- step 4. Get back to work

* See Page 18, Fig 2-2

Why does your desk have wheels? Think of those wheels as a symbolic reminder that you should always be considering where you could move yourself to be more valuable. But also think of those wheels as literal wheels, because that's what they are, and you'll be able to actually move your desk with them.

You'll notice people moving frequently; often whole teams will move their desks to be closer to each other. There is no organizational structure keeping you from being in close proximity to the people who you'd help or be helped by most.

The fact that everyone is always moving around within the company makes people hard to find. That's why we have <http://user>—check it out. We know where you are based on where your machine is plugged in, so use this site to see a map of where everyone is right now.

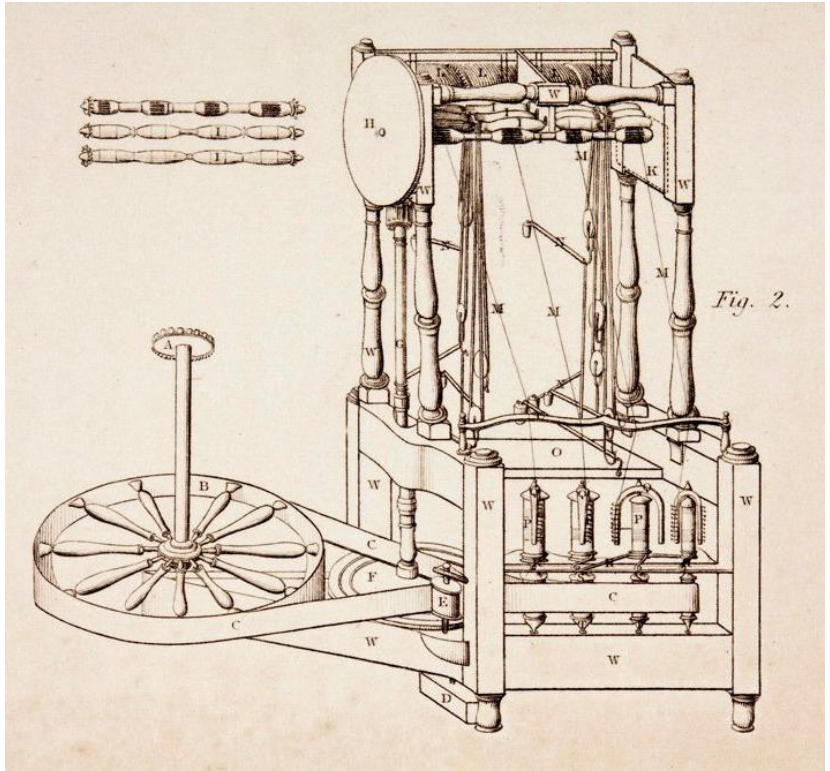
This demonstrates a strong correlation between perceived control over environmental conditions and job satisfaction.

This control over environment is taken to the extreme by Valve, where employees are encouraged to self organise into project teams, and reflect that physically by rearranging the position of their desks in the building. Valve even provides desks with wheels to facilitate easy and frequent changes of location, along with helpful if slightly tongue in cheek instruction cartoon in their **New Employee Handbook**^v.

The key insight is that physical autonomy feeds psychological autonomy and security. When people feel trusted to shape their surroundings, they are more likely to approach problems with ownership and creativity. This has important implications for startup environments, where budget constraints may be high but the need for innovation is higher still. Creating spaces that invite experimentation, even what would in polite society would be considered messiness, can be a competitive advantage.

Overall, both anecdotal evidence and research point to a consistent theme: creative work often benefits from a loosely structured, even messy physical environment. Design firms like IDEO cultivate a playful clutter to keep ideas flowing. Figures like Adrian Newey famously railed against the culture established by Ron Dennis at McLaren and it's overly regimented workplace, which mandated clear desks and sparse personalisation. Whether he directly attributes it or not, it is clear that Newey left McLaren partly because he felt such constraints stifled innovation.

While extreme disorder would clearly become counterproductive, a balance favouring creative messiness, what one IDEO designer called '**curated clutter**', tends to energise people who need to be creative, inventive, and innovate. As long as the chaos is meaningful. Imagine walls filled with Post-its and drawings of prototypes, not just



— The Arkwright Spinning Frame, Leeds
Woollen Mills (1769)

unrelated reference material. It serves as a tangible manifestation of ideas-in-progress.

This isn't far removed from the logic of the *fridge door*. Just as children proudly pin up half-finished drawings, creative professionals often surround themselves with sketches, fragments, and scraps of half-formed thinking. These visible cues don't just document the process, they *invite* it to continue. They act as reminders to the mind that it is in the **'open mode'**, and maybe even help step back into that mode more easily. The playful, unstructured state where ideas are free to collide. Environments that allow space for that mode of thought, rather than suppressing it in the name of tidiness, process, or organisation, are the ones where genuine invention can thrive. In the realms of design, innovation, and engineering, an overly tidy ship might miss the new horizons that a messier vessel could discover.

Culture is not decoration. It is infrastructure. It is the single most powerful tool we have in the innovators arsenal to make innovation happen, and happen with purpose.

So the question is: where can that culture take root?

“Innovation thrives in regions with frictionless access to early-stage capital, low institutional drag, and a culture of unreasonable ambition.”

— **Policy Exchange, 2024**



Creativity takes Courage by Bobbi Abbey, Jameson Rogan and Emma Hardaker, Mabgate, Leeds



David testing the Nuytco Exosuit Atmospheric Diving System, Vancouver, 2022

ABOUT THE AUTHOR

David Stoddart-Scott has spent over 15 years working at the bleeding, sometimes scabby, edge of innovation. His experience spans the field, the lab, the workshop, and the open sea. His career has involved high-risk hardware development, subsea technologies, energy systems, floating infrastructure, and startup-scale engineering projects. In many of these settings, failure is not only likely but is treated as a necessary part of the process.*

He has written and won multimillion-pound grant applications (written many more than won, see failure) delivered publicly funded R&D programmes under demanding technical and environmental conditions, filed multiple patents, and advised founders on intellectual property strategy. His IP work ranges from first principles through to full portfolio structuring. As an experienced operator, he understands how to build breakthrough technologies and how to navigate funding systems in both public and private domains.*

In addition to technical delivery, David is a committed facilitator of creative environments. He has led high-performing teams in startup and scale-up environments, established innovation cultures from the ground up, and coached founders and engineers to overcome creative and organisational barriers. He is known for his ability to simplify complex problems and for creating the conditions where radical ideas can emerge without losing commercial or technical discipline.

David is a member of the Institution of Innovation and Knowledge Exchange (IKE). He currently supports multiple early-stage ventures in clean tech, subsea systems and consumer hardware. He remains deeply committed to practical invention. He believes that with the right culture, the right appetite for risk, and the right support, anyone can build as boldly as they dream.

-
- ⁱ **Cleese, J. Creativity: A Short and Cheerful Guide. Hutchinson, 2020.**
<https://www.penguin.co.uk/books/441254/creativity-by-cleese-john/9781529157529>
- ⁱⁱ **IDEO. The Field Guide to Human-Centered Design. 2015.**
<https://www.designkit.org/resources/>
- ⁱⁱⁱ **Kelley, D. and Kelley, T. Creative Confidence. Crown Business, 2013.**
<https://www.creativeconfidence.com/>
- ^{iv} **Catmull, E. (2014). Creativity, Inc. Random House.**
<https://www.penguin.co.uk/books/414896/creativity-inc>
- ^v **Valve Corporation (2012). The Valve New Employee Handbook.**
https://cdn.fastly.steamstatic.com/apps/valve/Valve_NewEmployeeHandbook.pdf
- ^{vi} **Sinek, S. Leaders Eat Last. Penguin, 2014.**
<https://simonsinek.com/books/leaders-eat-last/>
- ^{vii} **Knight, C. & Haslam, S. A. (2010). “Your Place or Mine?” Journal of Environmental Psychology, 30(4), 445–453.** <https://doi.org/10.1016/j>
- ^{viii} **Haynes, B. P. (2008). “Impact of workplace connectivity on productivity” Journal of Facilities Management, 6(3), 189–201.**
<https://doi.org/10.1108/14725960810885998>
- ^{ix} **Duffy, Laing, & Crisp, (1998) The Responsible Workplace: How Facilities Management Affects Human Behaviour. Butterworth-Heinemann.**
- ^x **The Francis Crick Institute – Our Building** <https://www.crick.ac.uk/our-building>
- ^{xi} **How Steve Jobs Promoted Collaboration and Creativity by Forcing Everyone to Share Restrooms. Neatorama, 2012.**
<https://www.neatorama.com/steve-jobs>
- ^{xii} **The Steve Jobs Approach to Teamwork. Wired, 2011.**
<https://www.wired.com/2011/10/the-steve-jobs-approach-to-teamwork/>
- ^{xiii} **Brill, M., Weidemann, S., & BOSTI Associates. (2002). Disproving widespread myths about workplace design. The State of Office Productivity Research. Kimball International.**
https://www.researchgate.net/myths_about_workplace_design