

Creative Works London Dinner Debate: 'A New Industrial Revolution'?

With Rt Hon David Willetts Minister of State for Universities and Science

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At St George's House, Windsor Castle

Background

In the UK as well as having some of the greatest universities in the world, we have a long established creative education system - arguably the best in the world. With growth of almost 10% in 2012, the creative industries are now worth 71.4 billion to the UK economy per year, which the DCMS worked out as something like 8 million pounds an hour.

Tonight we will discuss the new digital creative industries which are often perceived as being clustered around the relationships with London's leading universities. Recent research shows an intriguing map of connectivity and cross-cutting relations between the leaders of these companies and the academy.

But is this really the case?

How significant are these networks?

How do these relationships manifest themselves?

And what are the opportunities and potential for better and deeper connectivity between the two?

Beyond the much-discussed economic power of the new creative digital sectors, what other forms of value are emerging that might have wider benefits beyond the next generation of intellectual, political and social elites, or are they just the same social elites in different clothing?

Provocations

Provocation 1

The digital economy is central to the new industrial revolution but it is facing an acute skills shortage and academia is not moving fast enough or thinking boldly enough to do anything meaningful to address this problem anytime soon.

Background to City Unrulyversity: The idea was formed back in 2007, born out of a shared interest in data and social video data. From those beginnings a relationship developed based around data and the sharing of data and research. Lectures were given at Cass Business school and interested students started to come forward and get involved. By 2012, Unruly had several offices, a turnover of 17 million and were working with lots of top brands but we were really struggling with skills shortage – it was a big problem finding the right people with the right skills and help was needed. There wasn't time to wait for governments and institutions to formulate, ratify and put things through committees so we had to look for our own solutions. We had the Hive by this point (a co-working space) and we now have the Club House where we host digital media week, Internet week etc. City University came forward to say that they

would love to use the Club House and see how they could get involved with ‘Tech City’. The Vice Chancellor asked what Cass Business School and City University could do to help Tech City? The answer was that they could teach and educate, share knowledge from the University and within a week we had *City Unrulyversity*.

What is it? *City Unrulyversity* is a pop-up university in the heart of Tech City for entrepreneurial hipsters. It pops-up every Wednesday night for two hours and delivers a session for free on topics of interest to the Tech City start-up community. It’s about offering something of value to students and the local community - it’s designed to help the community and engage with the future employers of the students. It launched in January 2013 and has run 33 sessions so far – a combination of Informatics, the Arts School and the Business School. It’s great to collaborate as a university as it’s not that easy for the Business School to collaborate with the other parts of the university and business students often don’t have the technical expertise that they need to start a business and vice versa.

City Unrulyversity has helped 65 start-ups and 700 individuals over the past year. Sessions topics range from how to build an awesome app and marketing on a shoestring to how you can get funding. The core of *City Unrulyversity*’s offering is that it offers academic content that is very applied and practical - often in conjunction with practitioners such as Twitter, the BBC, Halo. It always collaborates with an aim to showcase how useful academic knowledge and theories are in solving very practical business problems.

Why do this (for free)? We do have to worry about our value proposition nowadays and we actually benefit in many different ways:

- These are the future employers of our students
- It gives us, as academics, the opportunity to test our research in the real world and to test different teaching formats and understand what it is that is expected of our students in the professional world.
- It enables collaborations that are relatively difficult to achieve in the traditional university setting
- It gives our students the opportunity to try out different things in a creative and energized environment

What is the business value to Unruly Media?

Building skills – you have to be able to offer more than monetary value as a startup and having a pop-up university upstairs, providing space to share knowledge and develop and learn new skills does that.

Building Profile – it’s an innovative, forward thinking and research-led business keen to embrace the latest ideas and rigorous academic thinking (which helps us to be objective and impartial about our propositions). Building international and corporate profile – as Tech City has grown in stature and branding around the world, the links between that and Unruly has been helpful.

Building the Future – thinking about our legacy. We want to make sure that there is a healthy *Unrulyversity* alumni base who will take the next steps to becoming the digital entrepreneurs of the future.

Relating Back to the Provocation

As academics we agree that we are too slow in responding to the needs that the creative industries have nowadays. We had to develop a separate institution in order for us to learn what our students need to learn in order to be employable. There is a need to think outside the box if we are going to remain relevant for the future and continue to provide education that matters.

Provocation 2

Is there a new industrial revolution going on? Yes there is. Are Universities at the heart of it? Absolutely. There isn't such a thing as a cluster anywhere in the world that hasn't got a clutch of HEIs somewhere in the vicinity. Agreed, but what should the relationship be between those clusters and the HEIs? And every single one of those relationships, where they are successful, are bespoke – there is no such thing as the creative economy or the digital economy. Instead there are very particular local ecosystems that have the particular inputs and outputs which local ecosystems always do have and the universities and the HEIs which are successful are the ones which tailor themselves to what is needed and what is going on in their locality. But the danger is that if you start to interpret the role of universities as handmaidens to the local labour market then you finish up with something equivalent to a vocational skills programme, which is not what a university should be doing. So how do universities relate to that cluster? There needs to be a bit of productive friction in those relationships - which is a difficult thing to gauge and manage.

Another issue – Are the ways in which Universities and HEIs construct their programmes too long and too expensive and not in tune with what we need today? The taking off of pop-up universities and MOOCs seems to indicate the way that higher education is going to go, but in going that way do we lose other things which are part of the traditional university experience?

Are we always teaching the right skills? Should we teach arts students business skills when all the successful businesses I know are teams. The whole business of how we build and manage teams and the psychology behind this may be a much more useful way to be thinking about this.

Synergy and Diversity – it is of great interest that while we look at where we want to find synergies between what's going on in higher education and what's going on in the economy, we also know that diversity is incredibly important - all creative industries depend upon diverse communities which include diversity of knowledge (technical, academic, managerial etc.). Harvard Business School conducted a study a few years ago which demonstrated that in asking companies to solve each others problems, what they found was that the companies whose skill sets were furthest away from the companies that were having the problems were the ones which came up with the most interesting and creative solutions. Rather than finding connectedness between problem and solution, they went for absolute divergence between problem and solution and they came up with some very interesting results. It takes a lot of guts to think in those terms but very often it can deliver in a digital economy.

So is the role of a university in building relationships with small creative businesses not just to feed them what they think they need but to provide some productive friction and to challenge and provoke?

The big challenge is that what is going on is an incredible convergence of everything in the world and in the digital economy. Last week at City University we launched the latest UN report on the creative economy and one of the threads running through that is that you can no longer disentangle culture from the economy. Culture is one of the key drivers of the economy, and you can't have sustainability of economy without sustainability of community for example – these things all work together which represents a huge challenge to the way most of our institutions run.

Where do the creative industries and the universities belong? What do we do with this strange new world where we can't disentangle culture, economy, community, cohesion? – All these things are jumbled up together in ways that they haven't been before and our structures are struggling to cope with them. You can't put things into one box which creates problems for the governmental and educational systems and these are things which we need to address.

In Science and Technology at the moment, the most fundamental boundaries are being pushed back and there are the most extraordinary breakthroughs happening but where are the arts in all that? There is not adequate parity of esteem between the way that we see the arts in the broad sense and science and technology. The thing which moderates the influencing power of science and technology is the application of ethical judgments and values in which the arts play a critical role. The universities and the higher education bodies have got an important role in helping us as a society to come to terms with this strange new world where things are bumping into each other in ways they never have before. In this country we have a good track record in this respect – e.g. Creative England collaborating with the NHS. Looking collaboratively at how we can work together to crack issues (e.g. clinical problems in non-clinical ways) and higher education has a crucial role to play in developing this in a sensible and sustainable way...

Provocation 3

First Proposition: How to discuss the value of the arts and humanities (and their wider significance) in economic and social terms. The arts and humanities are valuable in their own right but they are part of a creative economy. The university is itself an institution of far greater economic significance than ever before.. This significance has crept up and is sometimes a role that people within universities are uncomfortable about. Sometimes this discomfort is displaced and blamed on government but if you are running a university with a revenue or expenditure of half to one billion pounds a year then you are economically significant. That kind of set of connections is something we need to accept.

Second Proposition: The dilemmas of our 'two cultures' education system. These two cultures (i.e. science and the arts) are a creation of our education system in that they are a specific English problem which forces young people to make a brutal decision as to which 'culture' they are going to opt for. Why do we have this unusual level of specialisation in our schools system? The underlying reason is the power of our

universities in our school system. There is a fairly clear educational proposition that the greater the control that the universities have over their admissions, the greater the degree of specialisation in the school system. We have constructed a school system aimed at preparing people for subject specialisation and so that the universities have some responsibility for this they are now being consulted on the future of A-Levels – which could result in a number of scenarios. The more optimistic scenario is that we get back to the values of the American Liberal Arts College where entrants have a less specialised knowledge of a broader subject range. The two cultures is an artifact of a particular educational system and overcoming it lies in our hands.

Third Proposition: government structures can always be improved on – BIS was unchanged at the election, Whitehall was not reorganised and having universities as part of our business department has worked rather well. However, we essentially have technology on one side (through the Technology Strategy Board) and content on the other side (notably in the DCMS; AHRC). And we have contentless technology and on the other hand people focused on content who have no real grasp of the technological possibilities available to them and government would like to do better at linking content and technology. It's so much more interesting if you're developing technology because there's a real thing that you want to do with it and it's so much more interesting if the content is linked to an understanding of the medium and we could do better at this.

Fourth Proposition: The challenge of encouraging interdisciplinarity. This is another area where government could do better and the challenge of interdisciplinarity is not just a problem in the school system but also in the way that we reward excellence in research and the structures of the REF do tend to favour specialisation and working in established disciplines rather than interdisciplinary working. We have a decision to take as to whether we run the next REF like the last or whether we set ourselves some challenges for how it can be done better, and one way in which it could be done better is thinking about how we could better reward interdisciplinary working.

Fifth Proposition: Educational Technologies. In terms of what is most exciting in terms of the development of these new media technologies, education is an area where some of the technology developments of the last twenty years can finally be felt. This sometimes becomes a debate about MOOCs but these don't often offer massively exciting educational experiences. The opportunities are partly just delivering volume – education ministers from some of the emerging powers discuss the scale growth they want (e.g. The Indonesian minister is expecting an extra quarter of million graduates going through the education system year on year for the next 15 years; India wants another 14 million university students) and the issue is how can that kind of growth be delivered through conventional means? Online learning is going to be part of the answer to the challenge of more access to education. There are fantastic technological opportunities and the challenge will be to use them not to deliver conventional education but also to improve it.

Education analytics – tracking the online education process. If you can analyse every key stroke of someone who is doing an online education programme and observe for a million people doing it a pattern regarding which questions they start to get wrong or take more time to answer; if you can track all that on scale and in detail you have a greater insight into how people are learning and it does enable you to design and

construct education programmes, endlessly revising and improving them with a level of understanding of the learning process which is not available in more conventional education environments. The other challenge is an opportunity for Gamification – the great battle for Teachers is holding the attention of the class and engaging them (which is what great education does, and what the creators of games do). Bringing the insights of games creators and the value of games into the classroom could enhance education. Technology could help raise educational standards but in order to harness these benefits we need to break down some barriers and some of them, but not all, are in BIS and it's up to all of us have to rise to the challenge.

Table Discussions Summary

An overview

There were two key axes through which the tables discussed the points raised in the provocations: value systems and the addressing of skills.

Discussion of skills particularly focused on the need for interdisciplinarity in education and work; the role and responsibilities of universities (underpinned by a general consensus that they still don't understand the needs of the creative industries, which is fundamental to the problem of students graduating with a lack of the 'right' professional skills); and the need to support entrepreneurship early on in education as well as open up access to the creative industries to those from non-elite backgrounds.

Discussion of value systems encompassed the differences and crossovers between different sectors (i.e. the arts and technology and education and business); the impact these have on collaborations between different - and sometimes within the same - sectors (e.g. the issues surrounding 'big' versus 'small' business); and the need to protect the value of creative work in the context of the digital economy.

Below is a more detailed summary of these key points of discussion and the arguments raised...

Why 'A New Industrial Revolution'?

- We are only at the beginning of seeing what we can do with technology - what we have seen so far has been but a stepping-stone. There is a united feeling that the future will emerge in the confluence of the creative and technological sectors.

The opportunity

- Digital industries are fundamentally a convergence of many forms of media and the potential for impact is seen to be exponentially higher because of this. What forms the economic basis of the digital economy is perhaps more consumerist than would be ideally liked but there is a lot of potential to realize social innovation with digital technologies. The key is to look beyond seeing/using technology purely as a service...

- Collaborations between the sectors have huge potential because you can start with almost nothing (in monetary terms) and potentially connect with an audience/consumers on a global scale. You just need to get the right sets of people of together.

The problem

But in order to facilitate synergy between sectors we need to address potential problems, the primary one being **timescales**:

- Everything is now converging so quickly that university structures and long-term strategies are now barriers to progress. Failing to understand and react to the rapid pace of change is impacting graduate employability and problem solving. The traditional ways of tackling a problem are no longer relevant because by the time you know what the problem is, things have already moved on. All you can do is create a catapult, to create speed.

Skills

- Interdisciplinarity

There is widespread agreement that **it would be beneficial** ‘for people from different disciplinary backgrounds to learn to communicate and interact, with friction or otherwise, with people from other disciplines’.

- Students from disciplines outside of the technological are learning to code. ‘They might never become coders but (by learning it) they will know how to speak to people who are’.

But more than one table also discussed the importance that this be learned alongside exposure to other disciplines, such as philosophy or theology for example:

- ‘The current emphasis seems to be on teaching people how to program, for example, when a university should be teaching the fundamental intellectual activity of thinking about a problem, breaking it down and solving it. Why is Apple successful? Because they employ artists who are interested in code.’

- ‘You've got to give people the skills that enable them to survive change and reconfigure. It requires a certain amount of risk taking but also faith in the importance of knowledge.’

In order to address the skills shortage [outlined in Provocation 1], it was also generally noted that interdisciplinarity should ideally start in (early) education. ‘Creativity comes out of a sense of playfulness and people enjoying experimenting without borders’; ‘The current school system, which requires you to specialise in the arts or science by the age of 16 is limiting’; ‘We need more exemplary stories of people who have not been prisoners of their choices’.

The barriers:

People sign up to interdisciplinarity in theory but seem to be punished for carrying it out in practice. ‘There's a governance problem which requires you to put things in boxes, and sometimes the things that cross those – even though they may be the innovative things – are not allowed to “speak their name”. We make the valuable things about the cultural sector invisible.’

‘REF is not geared up to support interdisciplinarity yet. The REF is a symptom and not a cause, it's an expression of a disciplinary situation.’

‘Universities are unable to pull together courses which have input from the Arts school, Informatics and the Business School (combined) because of the way they are organised.’ (*City Unrulyversity* was a reaction to this).

‘Universities are structured on the basis of disciplines and there is a sense that you can’t have interdisciplinarity without discipline. There are cultural and structural problems which are only going to be solved if we keep going on about it and continue to build synergies.’

‘There is conflicting information concerning “skills requirements” being received from employers - some want extremely technical people but others only want people who are technically skilled and personable.’

This linked in with another key question (and conflict): **what skill sets should we ideally focus on developing?**

‘Are we are interested in developing graduates who can program but who understand the aesthetics, critique and theory of the arts practice, or do we want to have someone who’s really good at one thing but who is able to communicate an understanding, an empathy and a sensitivity to the disciplines, conceptual frameworks and practices of other disciplines?’

There were views on this from various tables:

- ‘In terms of skills, having people who know the fundamentals, can communicate, and are good at learning.’
- ‘You need specialists (as opposed to generalists) who have a deep knowledge of a subject but know how to “team-up”. You need specialists to help ideas land.’
- [In relation to designing an online experience] ‘You need experts who know it very well...and a few people who don’t know what they’re doing but who have got really good ideas. One of the most important things is to have skilled people involved, but to be careful not to shut out the ideas from people who haven’t had a chance to have a go at it yet.’
- ‘The organisation Hackers, Hipsters and Hustlers (for example) argues that a perfect startup would have a creative person which is the hipster, a hacker that’s the coder and the hustler which is the business person.’
- ‘With interdisciplinarity you have to have a place to speak from, a sense of a specialism but you also have to be open to change and a critical dialogue. You need someone to test your ideas.’

- **What is the universities’ role in this?**

It was argued that part of the purpose of having universities is to have a space in which there is room for critique, a space that isn’t perfectly aligned to the activities beyond it.

There was shared feeling that it is ‘the universities’ responsibility to make sure students have the skills needed to find their place in the world after they leave higher education.’

But to do this it is essential that they form external collaborations and networks that stretch beyond the university.

However, solutions are not straight forward, as was noted:

‘There are a lot of people who say “why don't you create an undergraduate programme in creative industries?” But that won't work, it's really important to build the foundations. You need a strong set of disciplines for interdisciplinarity to exist.’

Others identified problems as lying in ‘a lack of understanding of what’s coming through the school system.’ This was identified as something that they need help with because it was also suggested that ‘it is the responsibility of universities and higher education institutions to re-educate students on the value of those options which have been closed off to them at schools (craft arts - for example which have been removed from the school curriculum).’

Structural and timescale problems were also relevant here:

‘It's not good enough saying “there's no demand for this at the moment”, you've got to see demand - you've got to take a punt on the future.’ Universities can and should be playing a leading role in creating the particular combination of skill sets that will set students up for life in the professional world.

- **Supporting entrepreneurs and opening up access**

There’s a challenge to universities and the creative industries in how to address issues of inequality, access and genuine diversity.

Is inequality part of the infrastructure of creativity and innovation? There are incubators and funds but we need to make sure that students at university (without private funds for example) feel that they can go on being creative beyond it.

Technologies and are more generally and democratically available than most other things which helps.

Passion is fundamental to entrepreneurship and academia plays an important role in encouraging. Teaching people how to communicate and how to pitch is also vital.

Tech City does this well (e.g. with Tech Hubs and *Unruly*), which offer free sessions and a platform for and exchange of ideas in a ‘buzzy environment’.

Value Systems

‘There is a sense in which there is a real seduction around the notion of the creative and the creative economy and there are real questions around this about sustainability and how the creative economy needs to become a more connected economy, fostering the sort of connectivity that we've spoken of tonight.’

- **Similarities and differences between Technology and the Arts**

‘Intersection between arts and technology seems to happen in a digital sphere mostly (as opposed to other fields) because it’s new and doesn’t yet have an established value system.’

‘Art and Technology are woven in with each other (and always have been) – Science requires as much of an artistic vent and capacity for imagination and Artists are very good at coming up with new ways of directing and using technology. ‘

Research into the backgrounds of people working in digital London showed ‘a real intellectual and business base for what's happening’: 30% of them had advanced degrees, 17% were content and arts graduates and 20% of them were business studies of one kind or another.

Another of the key creative parallels between the Tech and Arts sectors was seen to be ‘that people make things before realizing whether they have any monetary value. The value is firstly in the ideas rather than in the business it can generate (e.g. Twitter, Facebook, Google...)’

However, there was still a sense that technology companies need to be shown the value of artists:

‘Artists often have the best training for doing interdisciplinary work and some areas such as Biotech now copy from the arts to find better forms of practice.’

And that arts organisations may need to change the way they operate to incorporate more agile working methods:

‘Arts organisations are entrepreneurial but what do agile methodologies mean to companies working in a cyclical fashion for example?’

- **Similarities and differences between universities and industry**

- ‘There's a divide between academia and industry. There's also a deeply-implanted culture within academia that commercialisation somehow debases excellence or artistic finesse.’

- ‘Universities don't know whether they want to be commercial entities, public goods or where the in-between space is.’

There seemed to be a general consensus that the universities didn't understand what the needs of the creative industries were:

Q: How do you see universities shaping up to the challenge of working with the creative industries, as a way of creating a cultural identity right through to economic survival in the next ten years?

Barriers included: inflexibility in university structures; a sense of hesitance in forming external (non-academic) networks and timescales:

While universities are often focused on the long term, Tech City and its businesses for example are focused on addressing the short term. Universities haven't traditionally been excited by the short-term – 'they want to perfect the science/technology first.'

- 'Universities are working hard to adapt to structural changes but the main challenge is the rapid rate of change (which the partnership behind *City Unrulyversity* for example, could be seen as addressing – it showed that institutions can move quickly).'

- Tech City marks a move away from university clusters because it has universities at its periphery rather than its heart.

Both sectors need the opportunity to stand still, take stock, to re-learn, re-think and be exposed to the 'grit in the oyster' and the two-way flow of knowledge.

- **Collaborations and synergy between sectors**

There was a feeling that two-way education, between universities and the arts sector for example is necessary – 'there needs to be some education for the universities on how to deal with artists and how to be fair.'

There was also keen debate about the need to focus on knowledge exchange as opposed to knowledge transfer – the focus should be on collaborations, not teaching: 'Yes, of course the creative industries have benefited from the knowledge locked up in universities but universities have also benefitted from the knowledge in the creative industries and something better was created as a result of that two-way flow.'

- **Facilitating collaborations**

This was discussed by the majority of tables and most came up with the same point, that it is a case of getting people who might otherwise never meet together in a room:

'One of the critical things [about Tech City for example] is the fact that people are rubbing shoulders with each other all of the time and that's what sustains a community... It's the things you rub up and push up against, sometimes antagonistically – 'the grit in the oyster'... it's the balance between the collaboration and the competition that is really interesting.'

- **Issues of size and growth in creative sector business**

Scaleability continues to be an issue within creative sector business, as it is often viewed as the key measure of success. The agencies which support creative technology are quite beholden to models of growth...

One interesting point raised is that we need to think about getting 'little' and 'big' business to work together instead of focusing on turning little into big, as not all smaller businesses want to grow... 'Big' technology companies seem far more interested in brokering relationships with small creative startups than the other way around (there seems to be an anxiety that the larger will extract value from the former and 'rip them off').

- 'There are a high number of startups which fail to become sustainable but that's not a sign of ill-health, instead it's a good sign that people are trying new things.'

- **Protecting the value of creative work**

There are expectations (currently) that content should be free. We need to create space for discussion of this issue and how we can demonstrate and measure the value of what artists do in the creative industries.

Intellectual Property plays a role here – 'it could be argued that we need to look at supporting micro businesses in ways that allow them to retain and build on their IP (as is beginning to happen in the indie games industry in the UK). We need to also create platforms where small independents developers can access international markets and develop their ideas while owning the back end rights.'

Is it possible that money is seen as a 'dirty word' for artists? One solution is to frame money in terms of sustainability – 'you need to make money so that you can be here next year'. This is a hurdle.

Other topics touched upon:

Opinions on MOOCs were divided – some tables discussed the idea of their presenting an alternative to the conventional HE admissions system. Others found them 'not very exciting' while some hotly contested them:

'No one is thinking about them as a replacement for university education (except for India). Accreditation through MOOCs is not a replacement for education...'

Concluding Summary

To begin, the structure of organisations was very interesting. We had a discussion about whether university is perhaps a little bit schizophrenic here - in one sense it's a large industrial unit producing twenty thousand students, giving them all an education and at the same time you're trying to do something entrepreneurial and research-y and doing things that nobody has done before. These things don't easily fit within one organisation and so particularly in the creative industries how you make that work and how you get the bills paid on time are things which are important for us.

When we come to the perceptions of universities and artists and SME's working together, there are tensions that sometimes the universities don't know what the pressures are that the artists and SME's are working under. Academics get their salary paid by 'some sort of magic thing that they don't know about' and it appears in a bank account but if you're an artist or SME, you're counting the minutes that you're spending on something, when you could be using the time training people, creating something, or in your workshop building the thing that you've got to do at the weekend. These are the things that often the university partner doesn't know and so when we invite someone to an event and say 'can you come and talk about this interesting business thing that you're doing?' The idea that this is taking somebody's time (when they could be doing something creative) is sometimes something we don't register.

There were some interesting things raised about this type of meeting - in a way it's a bit of an odd thing to have a creative digital economy meeting where we're not actually live tweeting anything. The idea that there'll be a report which will come out a few days later...

One interesting thing to me as an engineer is that you can't always do a requirements analysis but if you're trying to solve problems involving people, arts and humanities researchers have a deeper understanding of what people are about than engineers might necessarily do. You can't write down the rules of how you're going to deliver something but somebody knows how that will work and that 'this' will be a better solution. Later on you can explain why but if you wait until you know why you'll have lost the market opportunity - so even when you're thinking about just building stuff, bring people who know about people in and that's where the arts and humanities can come in.

There are some issues about measuring success - in this digital creative economy area, it's very easy to look at traditional measures of success, at how the businesses are going to work and say 'this is a successful business'. Appearing on the front of a newspaper for raising VC capital - this is a traditional measure of success but some of the businesses here are never going to do that, they're not interested in doing it, it's an individual person and the economy is perhaps growing because there are more people that want to do that rather than that the businesses themselves are individually growing in it. This is something which is very hard to put a finger on and to measure and reward in the right way. It's more common to be able to reward growth businesses than be able to reward tiny businesses and so it might be that the measures of those have to be adapted to the new types of economy and business that we're working with.

There are also big challenges for how the very groundwork (the place where the business is happening) can be changed underneath the people who are there. We had a discussion about the way Hackney is changing, as soon as digital Shoreditch/Tech City becomes really famous, everyone wants to be there and because of that the money comes in and the way things happen changes. That also means that the people who first started it are then priced out of that, so this is the very difficult challenge of how to deal with that and how to continue to make sure that the culture of this creative economy can continue to work in that situation.

- General Thanks