## HISTORY AND DEVELOPMENT OF THE CREATIVE INDUSTRIES

Creative Industries is officially understood by those which are based on individual creativity, skill and talent, or which have the potential to create wealth and jobs through the development or production of intellectual property.[1]

The allusion to creative industries or economy was first used 24 years ago after the publication of the document "Creative Nation: Commonwealth cultural policy" in October of 1994 by the Australian Government. In this document, is evident the sense of urgency in the acknowledgment of culture and diversity as the main pillars for economic progress and also as a motor to embrace a new era. A *revolution*, as they call it, that represents a shift from an industrial society to a cultural and information oriented which is rooted in the fast growth of the media platforms by the end of the century.

" This cultural policy is also an economic policy. (...) Culture creates wealth (...) Culture employs (...) Culture adds value, it makes an essential contribution to innovation, marketing and design. It is a badge of our industry."[2]

Later, the UK Department of Culture, Media and Sports in their *Creative Industries Mapping Document of 1998*[3] listed 13 areas of activity under the concept of Intellectual Property, economic and cultural significance. Advertising, Antiques, Architecture, Crafts, Design, Fashion, Film, Leisure Software, Music, Performing Arts, Publishing, Software, TV and Radio are those part of this list that aimed to, through the analysis of the different sub-sectors in terms of revenue, employability and marketability overseas, "(...) to raise awareness of the industries, the contribution they made to the economy and the issues they faced.[4]

Today, the term is widely used and understood worldwide and its economic importance is undeniable as we witness a significant growth since it first began to be quantified. Since 1998[5], Revenue related with creative industries has grown 220% from £41.7bn to £91.83bn; Employment has gone up by 400% from 754k to 3,04M and Exports from £1,899bn to £38,2bn.[6]

## ECONOMIC AND CULTURAL IMPORTANCE OF THE CREATIVE INDUSTRIES

With the strong increase of the media consumption across the globe since the late 90´s, Creative Industries in general have experienced a significant growth in revenue, employability and marketability. A change that is transforming our economic society in a way that perhaps the most optimistic studies haven´t predicted and is shaping our way of life significantly.

Considering the numbers discussed above about their growth in the last two decades, its fair to say that we are witnessing a profound economical transformation where the generation of Intellectual Property is more valuable than manufacturing of products,[7] The *11th Five Year Plan* of the Peoples Republic of China, the *United Nations survey of the global Creative Economy*, published in 2008 or the 2009 UK *Creative Britain: New Talents for the New Economy*, are perfect examples of the increasing importance of the Creative Industries in a global context.[9] A clear distinction between generating intellectual property against manufacting products ultimately leading to a shift in paradigm from anIndustrial economy to a more holistic creative economy englobing economic, cultural and education policies. As stated in the UN survey:

"The interface between creativity, culture, economics and technology, as expressed in the ability to create and circulate intellectual capital, has the potential to generate income, jobs and exports while at the same time promoting social inclusion, cultural diversity and human development. This is what the emerging creative economy has begun to do."[10]

An example of this strong growth is the video games sector with more than 62% of the gaming companies founded right after 2010 achieving an audience between 2,2 to 2,6bn people and by June of 2018 there were 2,261 active games companies in the UK including mobile, PC and console to Virtual Reality, Augmented Reality and Artificial Intelligence representing a total of £3,56bn in revenue for the economy in 2017.

The UK is the 5th largest video game market in 2017 in terms of consumer revenues after China, USA, Japan and Germany and approximately 32,4M people in the UK play games.

The UK consumer spend on games was valued at a record £5.11bn in 2017, up 12,4% from 2016 (4,33bn)[11]

List of some of the most successful UK media products:

*GTA V – Rockstar Games.* The most financially sucessfull media product with 95M sold units and top 10 of all time sequel seller generating over £6bn in overall revenue. The fastest selling entertainment product in the history of UK. With roughly 3.5 sales per minute and returned to the top chart in March of 2018 even after 4.5 years of its release date.

*Batman: Arkham Knight by Rocksteady Studios.* Fastest selling game in 2015 and 5M copies sold worldwide.

*Monument Valley by ustwo.* Winner of 20 International Awards.

*Football Manager saga by Sports Interactive*, with 7M copies sold worldwide.[12]

## PRINCIPAL CONSTITUENT ELEMENTS OF THE VIDEO GAMES SECTOR

In accordance with was have been said about the Creative Industries, the video game industry mirrors its holistic characteristics. From Human Resources to the more technical departments, the industry rely in multi-cultural and in an interchangeable web to produce new content. For this particular report I have chosen one of the most succesfull studios in the UK - Rockstar North (founded in 1999 and part of the Rockstar Games family) - as an example of the richness of its structure. In its structure we could find from highly creative to heavily oriented business departments. From our research we can name them in alphabetic order as it follows:[13]

*Animation,* working alongside Designers and Programmers,  their goal is to produce high quality work in accordance with the Game Design.

positions: Character, Technical and Motion Capture Animator.

*Art*, "they design, create, build and texture the world the game takes place in".

positions: Environmental and Character Artists.

*Audio*, "At its simplest, videogame audio involves creating raw assets (music, dialogue and sound-effects) () to suit the interactive nature of a videogame".

positions: sound designer, audio programmer.

*Programming*, their goal is "to create cutting edge game features" trough the use of computer based language and could range between Graphics to and Animation programmer role.

positions: Graphics, Physics or Animation programmer.

*Quality Assurance / Game Testing*, responsible for the testing of the finish product. Their goal is to asses the quality and reliability of the coding, scripting, animation and audio throughout the whole game.

*Mission Scripting*, "to code game missions and create gameplay scenarios featuring AI, physics and interactive story-telling."

Other departments within the Rockstar family.

*Analytics,*
*Communication*
*Finance*
*Human Resources*
*Information Technology (IT)*
*Marketing*

By definition, synergy is "the combined power of a group of things when they are working together that is greater than the total power achieved by each working separately."[14] Synergy within the creative industries refers to a strategy to maximise impact or exposure of a product trough the use of different skills within the line of production. As John Siestma points out, "The great thing about game development is that you have all these disciplines working together, and it´s really enjoyable to be part of .."[15]

Examples can be found across a vast number of titles in the market.

*Film + Product/Video Game:* Tomb Raider: Shadow of the Tomb Raider being one of the latest to be launched where the gaming experience is heavily tailored as a cinematic product and less as a more conventional video game title. Other titles like Last of Us offer a similar feel.

*Machinima*: term used to describe film that have been created through the use of a game engine. World of Warcraft (game) / Warcraft (video game), Red vs Blue (movie) / Halo (video game)   and Final Fantasy.

*Marketing/Branding + Product/Video Game:* An example of this pratice is the long partnership between Electronic Arts and Coca Cola which merged ideas for their best seller product: the FIFA sequel. In their new game, Coca Cola´s endorsement represents a step forward in marketing where a virtual character (Jake Hunter) promotes their product in the virtual game career mode in pursue of exposure and branding recognition in both markets, a perfect example of marketing/branding + video game synergy.

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9_" The challenge of government is to put the creative economy at the centre of its economic framework (...) (as they) are developing rapidly, adapting to and developing new technologies and reaching new audiences." in UK Government (2009). DCMS (2009). "Creative Britain: New Talents for the New Economy." (2009) Retrieved from http://webarchiv-nationalarchives.gov.uk/+/http:/www.culture.gov.uk/images/publications/CEP-Feb2008.pdf
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Ross Baxter is an environmental artist that had previously worked at Disney as a Lead Artist and not far ago very generously accepted an invitation to give a lecture at Edinburgh College about his academic and work experience. His lecture was based on his passion with the profession and how much has shaped him since first started. Having this in mind I decided to interview him in order to know a little more about him, his approach and his thoughts on his work environment.

**What are the most significant internal and external challenges you face in your job?**

So internally whilst at Disney I would have to say the biggest challenge for me was working within a team where everyone works at a different speed. I've always liked to work at a good speed whilst making sure the deliverable is at a high standard however sometimes you are working with people who are a bit slower or faster than your are. However, in time you learn how to be more efficient. This is also where you learn to not always be precious with your work. Externally I would say is keeping up with the current trends of the industry whether it's skill set or your personal goals regarding portfolio etc and making sure you have time to do them.

**How is the work you do in the game industry different from the work you have done elsewhere?**

I've not worked in games yet however games and films are similar in some ways but also completely different. It really depends on the studio. But if I had to compare it to my time doing Architecture Design I would say deadlines/time restrictions is the biggest difference. Sometimes you might get a day to make an asset and then another a month or 2 whilst maintaining the same high level of detail.

**Are there model companies or way of working (both within and outside of the game industry) that you look to for inspiration?**

For this question you are asking where is my inspiration coming from. Love this question. For me everything is inspiration. I always recommend not just looking at games or film to be inspired. The thing that inspires me the most is reading. I read a book a week minimum. Also nature is another big one. It's what defines design so by exploring bugs, birds, fish, robots and so fourth your able to develop an understanding of design but also functionality.

**How would you describe the management structure and workflow in your company?**

When I was in Disney I was the Lead artist on the team so working with the management staff was a very back and fourth approach in which we would discuss what we could achieve within the time frame. I was fortunate enough to work with people with strong communication skills and this plays a huge part in maintaining a strong workflow. Furthermore, it keeps the pipeline flowing equally so nobody's being a bottleneck (getting too stressed!!!). Since I'm a environment artist my workflow was simple so what I did was a block model first with base meshes first then modelling then UV's then Texturing and I would then send this off to a layout artist if

they required any changes which then would be passed on to the lighting artist (shaders included). After that it get's rendered.

**What advice would you give yourself if you were to start from the very beginning?**

This is a interesting question as personally I would like to say I've always done my best to take full advantage of everything I have to access to. But if I had to change something I would say do more drawing and also it would of been great to come across Zbrush earlier than I did. As long as you work hard and ask questions you'll always be good.

**How is your artistic daily routine like and what kind of drawing/visualization exercises you tend to do?**

My work routine changes based of the goals I set per week. Whilst at Uni I worked 16hrs a day. But I would not recommend that. Because of this I decided to plan 15 mins - 30 mins breaks in between. I would write down a small list of things you want to do and make sure to get them done. People who right big lists normally don't ever get them finished. Consistency is everything. So the things I do everyday are: I model every day of the week. I'm always in Maya or Zbrush for minimum 4 - 6 hrs depending on how much hours I'm working on my other job. Another part of my routine is reading. I try to read 2hrs a day (normally before bed). As for visualisation it depends if I'm starting a project or not. If so I like to keep things simple and purely focus on good designs, strong clear silhouettes, practising line-work is important (check out Feng Zhu)

**Im 35 years old and I remember Atari's. I would like you to talk about technology and the technical developments…**

When it comes to technology and in the context of someone that is starting and its influence in becoming a better artist, I would say that you just need to make sure that you are not flooded by it. Technology should determine the approach and finally the outcome, it should be use as an improvement tool considering the task at hand. For example if I am working/modelling rocks I will use a software like Zbrush because of the nature of the software.

**Well, the amount of software out in the market is overwhelming as you said in your Lecture at Edinburgh College. How do you think that a student should approach this subject? How should we prepare ourselves for this?**

Students/Artist can get perplexed because they see so many different software out there but when it comes to me I always think that you should become proficient at your art first and up to their standards artistically. However, there are some studios like Rockstar that use 3Dsmax exclusively and in this case you should be open to adapt and learn in order to collaborate there. On the other hand, all this software are pretty similar and only takes practice to catch up.

**I know that you create your own art. What are your thoughts about Intellectual Property?**

When it comes to your own work, first you have to ask yourself the Why. Why are you doing it? Because you enjoy making it, that would be the obvious answer. If your work is good it will be copied no matter what and that could be flattering to say at least and everyone does it. It's a cycle…

**You have ambitions in creating your own studio. Do you think that there is enough support for incoming artists to start a solo career in the UK?**

There is not a lot of studios in Scotland, we are in the earlier stages despise the gaming industry being in constant growth and there not many studios across the world. Unless you start exploring, there is not a lot of opportunities out there. I've been on the move around Scotland for quite some time, creating connections and inquiring about future projects, but its a process and it takes time. On the other hand, England is flooded with studios compared to Scotland, London is crazy as well as Manchester. It's all about connections…

But if a solo project is your ambition I would say that you need to identify yourself financially first and take it from there. I would say that patience is key. It's a slow process.

**You worked at Disney. What about health and safety issues when there?**

I worked there for 5/6 months as a Lead Artist. I was working a lot of hours because I like to work hard and in a lot of this studios people overwork themselves and is not healthy. Some of this studios get some slap for this kind of practice but at the end of the day it seems that is a personal choice from the employees considering the nature of the profession.

**What about in comparison with other professions for example hospitality?**

I believe that is the nature of being an artist. The work is never good enough and they force themselves to keep working but it's all about balance. Sleep deprivation and poor diet are the key factors here. I lost 3 stones in a space of a year and that was obviously not good but I didn't care about it at the time. But again, is just about getting that balance right and acknowledging how to work more efficiently in order to keep a healthy lifestyle.

**Now that we are talking about work balance, where do you draw a line between pragmatism and creativity/idealism?**

Well, two of my idols are Michael Jordan and Kobe Bryant and I wanted to play basketball so I start practicing. Soon realised that its all about the quality of the practice/work rather than the quantity and I believe that this can be applied in art too. Acknowledging how your effort can affect your work flow and outcome is key to achieving the balance you need in pursue of your goals. I suffered from this when at University. I didn't care if they were better than me, I will just overcome them by putting the extra effort. Now, I organise my schedule making my

tasks shorter and making sure that I fully concentrate on those. But you need to understand yourself and how you think of achieving it. This has helped me to be more productive and efficient because there is a lot of people out there that struggles to get the work done and that's key if you want to prepare yourself to be successful within the industry.

**What do you think that the employees responsibilities are?**

When I worked as an Architectural Modeller in Aberdeen, and this will sound pretty obvious, getting to know the people that you are working with I believe is very important. It saves you time and stress, and improves work flow. Be productive, knowing your place and being able to take criticism is important too.

**What about if you were in the lead?**

Teamwork. The biggest mistake, and not just in art studios, is when people think that because of a title it means that people know better than you. Just because you are in charge that doesn't mean that you are always right. Being a leader to me is being able to acknowledge people strengths and using them to your advantage. Leading doesn't mean tell people what to do but telling people how to improve, how to grow and that first starts from you as a leader. Work methodically, constructively and informing people about how can they contribute.

After his lecture, answers and some others forms of contacts with Ross, we can fairly conclude that we are in the presence of a person that speaks very passionately about the profession. He believes that commitment, empathy and organisation (despite well aware about our inumerous conversations regarding the strict relation between artists and procrastination) are fundamentally important. On the other hand, he offered a glimpse about the versatility of the role of animator and the challenges that we faced today with the impact of technology and further technical developments.

Technology encourages innovation and creativity through the manipulation of tools that weren't available in past. It boosts productivity, the quality of the processes, final products and improves communication channels.

**Owen Shepperd is currently the lead lighting artist for Rockstar North in Edinburgh. Worked in games like Grand Theft Auto V and Transformers: The Game by Activision Publishing.**

**What are the most significant internal and external challenges you face in your job?**

Internal: knowing when something is good enough. We/I have high expectations and we will have an idea of what the finished product should be and to perfect this is often impossible. Knowing when something is good enough can be difficult when you have very high expectations as an artist and as a company.

We don't receive validation of what we're doing in the wider world until the game is released. There is a time between "going gold" and receiving your first game reviews when your breath is held.

External: balancing the above with your home and social life.

**How is the work you do in the game industry different from the work you have done elsewhere?**

At the beginning of my career within the gaming industry my job shared similarities with previous jobs I'd done. Some Repetitious tasks and working within established work flows but with more creativity than any other job I'd experienced.

As I've progressed in my career my role has now become more about setting up/establishing work flows, decision making on how and what technologies we push in the future, doing this within a large company means working with a lot of people, sharing ideas, and working through/managing creative differences.

**Are there model companies or way of working (both within and outside of the game industry) that you look to for inspiration?**

I love the way that Valve appears to work. They seem to be a think tank for creativity relying on their steam profits to find interesting and creative products. Having said that, they've not produced a full triple A game in a long time so productivity doesn't seem to be too high.

**How would you describe the management structure and workflow in your company?**

We have a relatively flat structure with minimal layers between bottom and top of the structure. We are also fairly fluid; if someone identifies something that needs addressing, often they are then allowed to manage that task. As an example this is in fact how I created my own department. I pointed out inadequacies in our lighting and spent time increasing the quality, this developed into my previous role as principal lighting artist.

**What advice would you give yourself if you were to start from the very beginning?**

Seek out good peers to learn from, after doing a fine art degree I knew I wanted to get into game art but had let my skills slide while the industry leapt forward. I spent a couple of years working various menial jobs while

studying at "the university of polycount" this was the best education money couldn't buy. I got good great critique and help from various artists who I am proud to see in and around the industry in various roles. Good honest critique and learning how to accept it (it can be quite difficult) is the most important skill and is relevant from the bottom to the top of any creative industry.

**How is your artistic daily routine like and what kind of drawing/visualization exercises you tend to do?**

I don't really have a routine anymore. I used to when I was an artist in the company. I would get in to the studio, read my emails, look at my bug/task list then decide what to tackle and in what order unless there was already an explicit order to follow.

These days I am generally working self directed and researching and developing or reacting to things that need to be done, none of which follow much of a schedule.

*Producer*; or project manager, project lead or director. Manages the development team, schedules, reports props, hires and assigns staff. Also responsible for Public relations, contract negotiations, liasing between the staff and stakeholders, schedule and budget maintenance, quality assurance and beta test managment.

*Publisher*; responsible for finance, licensing, layout, printing, user manual and marketing.

*Artist*; visual artist who creates content for video game art. They can be specialized as environmental, user interface, meshes, animation, 3D environment or cinematics.

For *animators*, other employability options are available. Web Design Companies, Film Studios or Marketing Companies are common possibilities whereas the vast majority opts for a more rewarding freelance career. However, this path doesn't seem to be the best option for young practicioners as some level of reputation is required. Creativity, artistic blend, storytelling and good human skills  are considered key skills for the roles available.

They are responsible for animating characters and other elements of the in-game environment in a way that matches the overall visual style of the final product.

Taking Rockstar North as an example, some of the roles available for animators are: Facial Animator, Technical Animator, Motion Capture Animator, Character Animator or Animation Developer.

*Programmers*; normally software engineers. They are responsible for the game codebase. They can be specialized in Physics, AI, Graphics, Sound, Gameplay, Scripting, User Interface, Input processing, Network Communication or Game Tools.

The role is to take the ideas of the designers and write the code required to build a playable game. It's vital good understanding and ability to follow instructions to bring the creative vision of the designers to life.

*Designers*; designs gameplay. Reality and structure of the game (main visionaries of the game/project). They can be specialized in Writing, Game Mechanics, User Interface, Characters or DIalogue.

*Audio Specialists*; Sound Engineers. Reponsible for sound effects and positioning. Voice acting and Musical Score.

*Testers*; those responsible for the quality assurance. Requires some level of computing expertise.

*Self-employed*; or freelance is someone who is normally seen as responsible for the success or failure of their  business and decides about their own projects. Legally, they are subjected to taxation through self assesment rather than PAYE but are not entitled to sick or holiday pay like a standard employee. Some of his responsibilites as a practicioner are:

Understand his clients and develop a product accoording to their concepts or needs;

Create storyboards that depict the script and narrative;

Draw in 2D to create sketches, artwork or illustrations;

Design models, backgrounds, characters, objects and environment;

Using clay, plasters, oil paints, watercolors and acrylics;

Working to deadlines and meet clients expectations;

Using technical software packages such as 3Ds max, Maya, Zbrush and Adobe Creative Suite, Lightwave, Softimage and Cinema 4D.

## LEGAL AND STATUTORY CONTROLS

The biggest legal right and the most sensitive within the Creative Industries is the ones linked to Intellectual Property along with consumer and data protection, advertising, gambling and health and safety legislation. It's interesting to acknowedge that despite the impressive reports on Creative Industries growth over the past years, it continues to lack an unified and specific legislation.

The Health and Safety at work Act of 1974 is the document used currently to envise matters regarding health and safety within the Creative Industries.

Work Act (section2, 3 and 7)

Managment of Health and Safety at Work (Risk Assesment)

Manual Handling

Display Screen Equipment

Control of Substances Hazardous to Health (COSHH)

Workplace Health, Safety and Welfare

Personal Protection Equipment (PPE)

Provision and use of Work Equipment (PUWER)

Reporting Injuries, Diseases and Dangerous Occurences (RIDDO)

## BUSSINESS AND FINANCIAL SUPPORT ORGANISATIONS

British Council, UK's international organisation for educational opportunities and cultural relations;

Department for Digital, Culture, Media and Sport (DCMS), UK Government department. It aims to protect and promote the UK's cultural and artistic heritage and help business and commits to grow by investing in innovation.

Ukie, it strives to help ensure that members from the video games and wider interactive entertainment industry have the right economic, political and social environment needed for this expanding industry to thrive.

Knowledge Transfer Network (KTN), accelerates innovation, stimulating and facilitating the conversion of ideas into new products and services that benefit the UK economically, socially and environmentally.

Creative Scotland, supports the arts, screen and Creative Industries across all parts of Scotland. Distributes funding from the Scottish Government and the National Lottery.

UK Games Fund, grants up to £25000 to help new and young games development businesses create working prototype games.

Scottish Enterprise, grants up to 35% of an entity's operating costs.

Innovative UK, could facilitate grants from £25000 up to £1000000.

Horizon 2020, from £50000 to £2500000.

Creative Europe, European Regional Development Fund (ERDF) and European Social Fund (ESF) are also institution within the European Union created to promote development.