

# 1. The history of (pro)creation

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## INTRODUCTION

3D printing (3DP) has been hailed as a revolution. ‘Now a third [industrial] revolution is under way. Manufacturing is going digital.’<sup>1</sup> It has been claimed that 3DP will rewrite the norms of distribution, fundamentally altering the way in which distribution occurs, marking a shift away from traditional factories to local, home based, production.<sup>2</sup> This is known as the ‘Maker Movement’<sup>3</sup>:

In recent years 3D printing has become a hot topic in the media, in industry and in academia. Some claim that 3D printing will soon enable us to print, rather than buy, all the products that we normally obtain from stores—from clothing, automobile parts and guns to various foods, medication and spare parts for our home appliances. Some even claim that printing living tissues and organs is just beyond the horizon.<sup>4</sup>

This monograph argues that the claims that 3DP will revolutionise society are misleading. 3DP is an evolution of existing machinic technologies, an evolution of the ways of making things. 3DP allows the making of things to be more globally connected than before by the utilisation of the Internet, whilst being more localised than traditional manufacturing methods through the existence of the printer in the home. However, the most critical element about 3DP is the way in which it reveals shortcomings of our current regulatory system, and the way in which individuals interact with the State. It reveals that our States, founded upon creativity, are on the verge of collapse.<sup>5</sup>

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<sup>1</sup> Anon, *The Economist*, ‘The Third Industrial Revolution’ available at <http://www.economist.com/node/21553017>

<sup>2</sup> European Parliament, *Three-dimensional printing: intellectual property rights and civil liability*. European Parliament resolution of 3 July 2018 on three-dimensional printing, a challenge in the fields of intellectual property rights and civil liability (2017/2007(INI)).

<sup>3</sup> C Anderson, *Makers*, Business Books (2012) at 20.

<sup>4</sup> B Berg, Chapter 1 ‘Introduction’, in B Berg, S Hog and E Kosta (eds), *3D Printing: Legal, Philosophical and Economic Dimensions*, Asser Press (2016) at 1.

<sup>5</sup> The approach pursued here focuses on creativity, but the reader may also wish to look at J Diamond, *Collapse: How Societies Choose to Fail or Succeed*, Penguin (2006).

Making things is a key element of what it is to be human. We cannot help but to create, be that due to necessity<sup>6</sup> or for enjoyment.<sup>7</sup> As will be explored throughout this monograph, this is apparent in our history from our earliest times.<sup>8</sup> It is an argument central to numerous philosophical works.<sup>9</sup> 3DP is a technology that enables us to make things in a way that has previously been more difficult to achieve. In this sense, it mirrors developments such as the production of paper, the printing press, and the Internet. It is an evolution.

3DP technologies reveal some of the current issues relating to the regulatory relationship of human beings with the State. Whilst there has always, in some form or other, been regulation of the ways in which things are being made, the spectre of technological convergence means that the ways of making things are more likely to be regulated, and with the increased potential for additional future regulation. Convergence is where technologies combine different functions into a single unit, and thus also pull together existing regulations.<sup>10</sup> Digital regulations have the power to lead to greater observation by the State, and hence the possibility of attempted control. There has been discussion about how 3DP leads to convergence of existing areas of IP such as patents and copyright law.<sup>11</sup> This work argues that 3DP regulation reveals inherent shortcomings in State regulation, namely a failure to acknowledge the importance of creativity, and that any reform of the law for 3DP should also entail a broader reform of creativity regulation.

This introductory chapter outlines (1) how creativity, in the forms of collaboration and conflict, has been an integral part in the history of humankind, and argues that these aspects should be considered in the legal regulation of creativity. There is then (2) an introduction to the relationship between the creative individual and the State, with a focus on aspects such as capitalism. Subsequently, there is (3) an outline of the following chapters.

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<sup>6</sup> '[Technology] deals with human work, with man's attempts to satisfy his wants by human action on physical objects', M Kranzberg and C Pursell, Chapter 1, 'The Importance of Technology in Human Affairs', in M Kranzberg and C Pursell (eds), *Technology in Western Civilization, Volume I*, OUP (1967) at 6; G Basalla, *The Evolution of Technology*, CUP (1988).

<sup>7</sup> Or indeed, for other superfluous ends – consider 'Thus, invention is often the mother of necessity, rather than vice versa', J Diamond, *Guns, Germs, and Steel*, WW Norton (1997) at 242.

<sup>8</sup> *Infra* pp. 29–83.

<sup>9</sup> *Infra* pp. 3–9.

<sup>10</sup> *Infra* p. 147.

<sup>11</sup> *Infra* p. 244.

## 1. CREATIVE COLLABORATION AND CONFLICT: AN INHERENT HUMAN CONDITION

Throughout the history of humankind, humans have had to create to survive, from the invention of hunting tools through to modern-day farming.<sup>12</sup> Forming into groups improved hunting efficiency and use of resources.<sup>13</sup> However, the existence of groups also resulted in conflict between those groups, in addition to conflicts between individuals within a group.<sup>14</sup> Collaboration and conflict have been central themes to the development of humankind, and have underlain and remain a central part of the creation of culture. Such conflict and collaboration run through all aspects of human culture. Even at a biological level, the level at which human culture begins its formation (for without the human body there would be no culture),<sup>15</sup> collaboration within the human body is necessary for survival, and it is of course necessary for the survival of the species for reproduction. At a social level, it is necessary for the inclusion of the individual into society. By the same token, conflict also exists at the biological level, in that it arises with biological diseases; and it also exists in the social form either within society (e.g. as a crime) or in the form of war.<sup>16</sup> Conflict may exist with the allocation of resources. The balancing of these interests is what has led to the creation of culture, to the development of complex technologies, and to more complex collaborative and conflicting interaction between members of society. Today, works of culture build a complex web of collaborating interrelationships, but based around a degree of competition and proprietary IP boundaries. That balance between conflict and collaboration should reflect the human agency involved, at both the biological and sociological level; and this should feed through into any attempts at regulation of creative technologies such as 3DP.

Competition and collaboration have been key concepts throughout the history of both the development of humankind and humankind's culture. Berger and Luckmann suggest that a human is nothing if he is not socialised with others, that in this case he would not be much more than an animal.

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<sup>12</sup> P Watson, *Ideas: A History from Fire to Freud*, Phoenix (2005) at 33; J Pfeiffer, *The Creative Explosion*, Harper & Row (1982) throughout; L Keeley, *War Before Civilisation*, OUP (1996); R Leakey, *The Origin of Humankind*, Science Masters (1994) at 12; S Parker, *Evolution: The Whole Story*, Thames and Hudson (2015) at 531.

<sup>13</sup> J Pfeiffer, *ibid.*, Chapters 3 and 4; L Keeley, *ibid.*, throughout.

<sup>14</sup> L Keeley, *supra* n 12, Chapter 2 onwards.

<sup>15</sup> The regulation of the human body is considered within the bio-power notion of M Foucault, 'Truth and Juridical Forms', in J Faubion (ed), *Essential Works of Foucault 1954–1984*, Penguin (2002) Volume 3.

<sup>16</sup> L Keeley, *supra* n 12.

‘Homo Sapiens is always, and in the same measure, *homo socius*’.<sup>17</sup> At the same time, though, humankind is dependent on conflict, which is perhaps inherent within aggressive behaviour<sup>18</sup> and territoriality.<sup>19</sup> Conflicts over food resources or space could easily have been the cause of early conflicts between modern humans and other *homo* species, or perhaps between groups of modern humans.<sup>20</sup> Early conflicts appear to have been focused around small skirmishes that would have led to groups of modern-day humans distinguishing themselves from one another.<sup>21</sup> These groups would, in time, come to form on an increasingly larger scale, in coalitions such as nationalities; and those nationalities would, in time, come to war.<sup>22</sup>

What is remarkable is the extent to which conflict and collaboration extend deeply within the human condition and human culture. Life may be brutish and short<sup>23</sup> when we do not collaborate with others. War and peace is an external embodiment of this condition, but it is deeply rooted within the biological nature of a modern-day human being – and within all our forebears. Unless we understand this biological side to humankind, it will not be possible to reach a deep understanding of why it is that conflict and collaboration are such a central part of our lives and the development of our culture and modern-day technologies such as 3D printing.<sup>24</sup> To begin with, over 90% of the human body does not come from the womb of the mother.<sup>25</sup> Setting aside the issue of

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<sup>17</sup> P Berger and T Luckmann, *The Social Construction of Reality*, Penguin (1967) at 69.

<sup>18</sup> K Lorenz, *On Aggression*, Methuen (1966) and discussed in J Bronowski, *The Origins of Knowledge and Imagination*, Yale University Press (1978) at 8.

<sup>19</sup> R Ardrey, *The Territorial Imperative*, Dell (1966).

<sup>20</sup> L Keeley, *supra* n 12; W Divale, *Warfare in Primitive Societies*, ABC (1973); R Ferguson, ‘The Causes and Origins of “Primitive Warfare”’: On Evolved Motivations for War’ 73(3) *Anthropological Quarterly* 159 (July 2000).

<sup>21</sup> L Keeley, *ibid.*, Chapter 2.

<sup>22</sup> *Ibid.*, Chapter 12.

<sup>23</sup> T Hobbes, *Leviathan* [1668], Penguin (2017), ‘Chapter XIII: Of the Natural Condition of Mankind As Concerning Their Felicity, and Misery’.

<sup>24</sup> Indeed, this is where Adam Smith may have fallen short in his discussion of an ‘invisible hand’ – here, the theory is that individuals are involved in economic society, working for their own advantage yet leading to a growth in economy and thus without understanding the whole picture as to why there is that growth – the same being true of any governing body. Conflict and collaboration is a means to understand the invisible hand. See A Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* [1776], Penguin (1999) Books IV–V, Book IV, Ch. II.

<sup>25</sup> For further information see J Dupree and MA O’Malley, ‘Varieties of Living Things: Life at the Intersection of Lineage and Intersection’ 1 *Philosophy and Theory in Biology* 3 (2009) at 13.

regenerating tissue, the human body consists of over 90% symbiotic bacteria.<sup>26</sup> More recently, 3DP is also seeing more use of machinic and biological prosthetics as an integral part of the human body.<sup>27</sup> If the human body is comprised of so much matter that is not purely ‘human’, then quite clearly collaboration is vital to our survival even at the lowest biological level. Indeed, viruses and diseases that destroy the human body are those that interfere with the process of collaboration, most notably of all cancer.<sup>28</sup> Within the human body, therefore, collaboration between elements is vital to the longevity and health of the body. At the same time, however, it is similarly vital for some elements of the body to be more aggressive. White blood cells will attack, for instance, other cells in order to ensure appropriate functioning of the human body.<sup>29</sup> Conflict and collaboration is therefore vital within the human body and this extends through to the wider relations between modern-day people.

Modern-day humans are therefore a large grouping of complex biological systems, of which we are consciously unaware in day-to-day life and culture despite their integral interlinked nature.<sup>30</sup> Our understanding of what a single person is tends to be therefore highly subjective upon our own interpretation as an individual. We do not tend to think of other people, or of their works, for instance, as being the consequence of complex biological systems. Thus, in the vast majority of human contact, the underlying biological systems, and the collaboration and conflict that goes on within, is largely irrelevant in our understanding of humans and human regulation – but the biological systems, and their inherent collaborations and conflicts are nonetheless critical for regulation.<sup>31</sup>

Regulatory and biological systems are closely related, and should not be separated – one not only deeply influences the other to the smallest degree, but is integral to its very operation.<sup>32</sup> It is not that the cultural work cannot

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<sup>26</sup> Symbiotic bacteria are bacteria which live in symbiosis with each other or with other another organism.

<sup>27</sup> *Infra* Chapter 2, pp. 38–9.

<sup>28</sup> See *inter alia* A Vassilev and M De Pamphilis, ‘Link between DNA Replication, Stem Cells and Cancer’ 8(2) *Genes* 45 (2017).

<sup>29</sup> B Alberts, A Johnson, J Lewis, et al., *Molecular Biology of the Cell*, 4th edition, Garland Science (2002) Chapter 22.

<sup>30</sup> *Cf.* Luhmann – he makes this same point, as a way of saying the systems are different. N Luhmann, ‘The Autopoiesis of Social Systems’ reprinted in 6 *Journal of Sociocybernetics* 84 (2008). J Dupree and O’Malley, ‘Varieties of Living Things’, *supra* n 25.

<sup>31</sup> For further discussion see e.g. S Fuller, *Humanity 2.0*, Palgrave Macmillan (2011).

<sup>32</sup> Luhmann, *supra* n 30; *cf.* D Allan, *The Philosophy of Aristotle*, OUP (1970) at 177.

exist without the biological system; it is that the cultural work cannot exist, be understood, without that biological system of conflict and collaboration. Without the biological systems, creative works (e.g. 3DP works) would not exist. Similarly, Foucault writes ‘Knowledge doesn’t form part of human nature. Conflict, combat, the outcome of the combat, and, consequently, risk and chance are what gives rise to human knowledge ... It cannot be deduced from the instincts themselves.’<sup>33</sup> Again, it must be stressed that knowledge, that conflict and combat to which Foucault refers, is ultimately reliant on the biological human body.

Most of the time, the biological aspect tends to be approached as a given. An example of this would be our manner of interpreting sounds or vision – highly complex operations that we tend not to consider within everyday activity, and yet plays a function within creation.<sup>34</sup> However, there are specific situations where the biological aspects come to the fore and become more prominent. For instance, illness will occur within humans but this may lead to them being ostracised from a society.<sup>35</sup> Nonetheless, a core concern is that many of the biological processes inherent for creativity are not understood. The difficulty in us understanding even basic biological relations was recently emphasised by Ashwin. He has been investigating the ways in which single celled organisms interact with one another. One of his findings was that even at this level, the relationships between the cells were incredibly complex and difficult to understand: ‘One of the most surprising results of this investigation is that robust heteroclinic cycles and switching heteroclinic networks can occur in very simple asymmetric architectures with just three or four cells.’<sup>36</sup> Simple celled organisms thus can involve complex operations. Any attempt to classify our understanding of the relations between humans, or indeed their conflicts, will be something that will require a certain degree of assumption.<sup>37</sup> Over

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<sup>33</sup> M Foucault, ‘Truth and Juridical Forms’, in J Faubion (ed), *Essential Works of Foucault 1954–1984*, Penguin (2002) Volume 3, at 8. One could argue that this is inconsistent with some of his discussions concerning bio-power.

<sup>34</sup> J Bronowski, *Science and Human Values*, Pelican (1964) at 10–17; J Bronowski, *The Origins of Knowledge and Imagination*, Yale University Press (1978).

<sup>35</sup> W Jopling, ‘Leprosy Stigma’ 62(1) *Leprosy Review* 1 (March 1991).

<sup>36</sup> M Aguiar, P Ashwin, A Dias and M Field, ‘Dynamics of Coupled Cell Networks: Synchrony, Heteroclinic Cycles and Inflation’ 21 *Journal of Nonlinear Science* 271 (2011) at 273.

<sup>37</sup> Science is, at best, our approximation of things around us that will be subject to change. See Newton’s three laws of motion, as published in *Philosophiæ Naturalis Principia Mathematica* (I Newton, *Philosophiæ Naturalis Principia Mathematica* [1687], University of California Press (2016)). His theory of gravitation remained accepted until Einstein argued that light could be effected and bent by gravity (A Einstein, ‘Does the Inertia of a Body Depend upon its Energy-Content?’ [1905], in

time, a certain set of rules and understandings have developed. Whilst there are many who have argued that the human soul has innate knowledge,<sup>38</sup> there has been relative consensus that the human body has played a crucial role in enabling individuals to be able to collaborate or conflict with one another. This has been most developed by philosophers such as Locke, Hegel or Kant, where the individual is reliant upon their senses to be able to understand and interact with the environment around them.

Locke (1632–1704)<sup>39</sup> was one of the key philosophers to consider the impact of physical surroundings on individuals. He stressed that the individual obtained his knowledge from his surroundings. Furthermore, he argued that by observing the world, it was possible to infer future knowledge. Locke argued that ideas come from the combination of existing thoughts. These thoughts arise from the observation of events.<sup>40</sup> Locke develops this further by reference to ‘passive’ and ‘active’ powers,<sup>41</sup> ‘passive’ powers being those such as observation, and ‘active’ powers being the re-use of the information gleaned. Locke provides an example of billiards, where if a ball is hit with a cue, an ‘active’ power is at work moving the ball.<sup>42</sup> The observer may, in turn, learn how to carry out that ‘active’ power.<sup>43</sup> Hegel (1770–1831) took a different approach and stressed the importance of using the human senses to influence the world around the person. To grow as a person, as a human being, Hegel

A Einstein, H Lorentz, H Minkowski and H Weyl, *The Principle of Relativity* (trans W Perrett and G Jeffery), Dover (1952)).

<sup>38</sup> Notably R Descartes, *Meditations on First Philosophy* [1641], trans B Williams and J Cottingham, CUP (1996) in section III. See also, for instance, Malebranche who argued that God acted through the soul to motivate individuals and to provide them with innate ideas. N Malebranche, *Dialogues on Metaphysics and on Religion*, trans. N Jolley and D Scott, CUP (1997); N Malebranche, *The Search after Truth*, trans TM Lennon and PJ Olscamp, CUP (1997), Ohio State University Press (1980).

<sup>39</sup> In this regard Locke could be argued to be building on the work of Plato – to summarise, ‘The body and sense-organs belong to the fluctuating physical world, and the mind is an immaterial being conversant with the Forms.’ D Allan, *The Philosophy of Aristotle*, OUP (1970) at 117. Whilst not detailed here as Locke is largely representative of the knowledge theory literature, the reader may also consider the works concerning knowledge of D Hume (*An Enquiry Concerning Human Understanding* [1748], published by Hackett (1993)), G Berkeley (*The Principles of Human Knowledge* [1710], published by Collins (1962)), G Leibniz (*New Essays Concerning Human Understanding* [1765], trans A Langley, The Macmillan Company (1896)) and E Condillac (*Essay on the Origin of Human Knowledge* [1746], trans H Aarsleff, CUP (2001)).

<sup>40</sup> J Locke, *An Essay Concerning Human Understanding* [1689], William Tegg & Co, Leeds (1880), Book IV Chapter I at §8.

<sup>41</sup> *Ibid.* at §2.

<sup>42</sup> *Ibid.* at §4.

<sup>43</sup> *Ibid.* at §4.

argued that it is necessary to alter the world around the individual – to exert the will: ‘A person has the right to direct his will upon any object, as his real and positive self. The object thus becomes his.’<sup>44</sup> Hegel continued to stress the importance of possession over an object in order to change it.<sup>45</sup> He did however suggest that with intangibles

... one hesitates to call such gifts, knowledge, powers, mere things, because although they may be bargained for as a thing, they have an inner spiritual side. Hence the understanding becomes confused as to how they are to be regarded at law. Before the understanding always arises an exclusive disjunction, which in this case is that something must either be a thing or not a thing.<sup>46</sup>

Thus, without the senses, it might not be possible to change the physical world, and the person would not consequently be realised. By contrast Kant (1724–1804), in the *Critique of Pure Reason*,<sup>47</sup> suggested that there was certain innate knowledge within an individual – he termed this synthetic knowledge. This is knowledge than can be applied across the world that we know. For example, time and space are things that we identify as universal understanding. Outside of this synthetic knowledge is analytical knowledge, which is what we identify more from our surroundings by thinking or analysing them. In his view analytical knowledge is key, but that this is bounded by the concept of ‘thing in itself’ whereby those things around us may remain inaccessible. Tools that are used in the communication or making of things may also hold a special status, essentially becoming a part of the utiliser as part of the expression.<sup>48</sup>

The ability to interpret what is observed therefore has a great bearing upon the way in which we accept the world we find around us. Our ability to see at a particular level of depth is a major influence in the relations that we have with

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<sup>44</sup> G Hegel, *Philosophy of Right* [1820], trans. SW Dyde, Prometheus Books (1996) at §44.

<sup>45</sup> ‘Taking possession is partly the simple bodily grasp, partly the forming and partly the marking or designating of the object. Addition. – These modes of taking possession exhibit the progress from the category of particularity to that of universality. Bodily seizure can be made only of particular objects, while marking an object is done by a kind of picture-thinking, In marking I keep before me a representation, by which I intend that the object shall be mine in its totality, and not merely the part which I can hold in my hand’, G Hegel, *Philosophy of Right* [1820] *ibid.*, §54.

<sup>46</sup> G Hegel, *Philosophy of Right*, *ibid.*, at §43.

<sup>47</sup> I Kant, *Critique of Reason* [1799], trans. M Gregor, CUP (1997), *cf.* R Descartes, *Meditations on First Philosophy supra* n 38.

<sup>48</sup> Consider M Heidegger, ‘The Origin of the Work of Art’ [1950], in D Krell (ed), *Martin Heidegger: Basic Writings*, Routledge (2011) Part IV.

others; as are our other senses, such as hearing or vision.<sup>49</sup> It is these faculties, and our ability to interpret what they provide, that enables us, on a large scale, to partake within the broader humankind and which influence our ability to develop our culture. However, this ability remains simultaneously enabled yet constrained by our desires for collaboration, and our need for conflict. When we create, when we think of new thoughts, we are effected by the manner in which we collaborate and conflict with others. Sometimes this will be overt, as in the obvious instance of collaborative authorship or country to country warfare, but all the time there will be subversive influence. Our ability to interact with the world is influenced through collaboration and conflict. There develops over time a split between the notion of one's own private knowledge and that of public knowledge,<sup>50</sup> just as there is a split in the understanding of object, source and encrypted code in machinic digital technologies.<sup>51</sup> Control over that knowledge is influenced by collaboration and conflict, and it influences the relationship of the individual with the State. It influences the core rationalities of how the State is perceived by the individual.<sup>52</sup>

## 2. CREATIVITY, THE STATE AND THE INDIVIDUAL

Creativity is therefore what has driven us, as a species, forwards; to make us achieve, to make us create from the mind what does not yet exist in our reality. From the moment in which the human becomes conceived, the process of creativity begins. The human infant comes to terms with their surroundings,<sup>53</sup> with other humans, and so begins the process of creativity. It is from the web of creativity that great civilisations and societies develop. It is from this that

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<sup>49</sup> E.g. M Changizi, *Harnessed: How Language and Music Mimicked Nature and Transformed Ape to Man*, Benbella Books (2011), J Bronowski, *supra* n 18, Chapter 11.

<sup>50</sup> S Wolin, *Politics and Vision*, Allen and Unwin (1961) at 3, 9 and 17; Plato, *The Republic* [380 BC] (good of the individual and the good of the Community) and Cicero, *De Officiis* [44 BC], trans. PG Walsh, OUP (2008) when referring to a commonwealth as *res publica*.

<sup>51</sup> Consider J Griffin, 'The Rise of the Digital Technology "Meritocracy": Legal Rules and their Impact' 15(3) *Information and Communications Technology Law* 211 (2006).

<sup>52</sup> *Infra* Chapter 3, p. 51.

<sup>53</sup> P Berger and T Luckmann, 'The Social Construction of Reality', *supra* n 17, Part 2 Chapter 1.

life has come to develop to its current form, and will develop new forms, new futures.<sup>54</sup>

However, creativity is under threat, and it is under threat from certain types of relations between individuals and groups. The spider web of creativity, with its inherent multidimensional flexibility, is being made more rigid. There has been a lack of emphasis upon the centrality of creativity within societal dialogue, with a focus instead upon dialogues which are misleadingly representative of creativity.<sup>55</sup> Some of these dialogues, such as property and capitalism, have pushed the discourse in a manner which has led to a seismic, misleading, shift in the direction of human thought away from creativity. Whirlpools, currents and eddies in the discourse fabric of capitalism suck up the imaginative spirit, diverted towards capitalist ends rather than creative ends.<sup>56</sup> Capitalism might be about creating money through the process of capitalisation on debt, but that very process, though creative, sucks up other creativities within its folds, for an economic unit is a unit which within its borders is one which inhibits other creative freedoms.<sup>57</sup> These folds are integral elements related to boundaries of the units of exchange such as legal property. Each unit is a representation of some *thing* and capitalism in turn represents that as a unit within exchange.<sup>58</sup> The provision of lending, of debt, to make for the creation of money does not necessarily equate to broader creativity. This is self-evident in that money may of course be used to prevent the making of creative cultural works, but it is a clash that is in the core of capitalism, because debt itself requires a degree of return if capitalism is to work, and thus a degree of certainty as determined by the economic system itself. We should not seek to capitalise on our imaginative endeavour if capitalisation does not equate to

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<sup>54</sup> Cf. Reckwitz, who suggests that it is perhaps surprising that creativity has become more important in recent history. The remainder of this chapter and the next two chapters should make clear to the reader why this should not be surprising at all. Furthermore, he argues that ‘... from a sociological point of view, creativity was present in modernity yet was essentially limited until around the 1970s to cultural and social niches’. Throughout this monograph, it is argued that creativity has been centrally important to the creation of the State. See A Reckwitz, *The Invention of Creativity*, Polity Press (2017) at 4 and 5 on restructuring around creativity.

<sup>55</sup> *Infra* Chapters 2–4.

<sup>56</sup> Cf. the notion of striation – see *infra* Chapters 2 and 3, and G Deleuze and F Guattari, *A Thousand Plateaus*, Continuum (2004).

<sup>57</sup> *Infra* Chapter 4.

<sup>58</sup> J Schumpeter, *Capitalism, Socialism and Democracy* [1943] Unwin University Books (1976) argues in Chapter VII that creativity is a part of economic competition, but he overlooks two points: (a) the utilisation of property to provide economic boundaries for, e.g. copyright works, and (b) that technology can provide for exchange which is smaller than a self-viable single economic unit (i.e. the cost to administer exceeds the value of the unit).

the inner creativity. Capitalism should be considered a means by which creative endeavour can be realised, but if humankind is to follow the trajectory of creativity, our own inner conception of creativity is what needs to be focused upon as the primary director of the flow of regulation. This is not something that is true just of capitalism, it is true of all other forms of interpretation of creativity. Property concepts may have the same criticism made of them, as can other forms of exchange such as technical code. Whichever system is being utilised as a means by which to enable or disable creativity, the State itself should develop a means by which the impact or parallelism of the systems with creativity can be monitored.

Creativity is all around us. Creativity is not just limited to an act of the mind; creativity can exist independently of it.<sup>59</sup> Creativity is not just a concept to describe a process of making, it is far more important and central than that. If it were not for creativity, no single human being would be alive today. Whether one has a scientific or religious conviction, in favour of the big bang theory or a religious moment of creation, creativity is a starting point for which the human act of imagination begins. Any creative act today has a seamless relationship with that very first act of creation within the human body, and all the thoughts of the human race. Not only that, the seamless creative link passes through to the very creative processes in the brain. Energy and matter is at work, the moment of creation passing through to be within the person, within the societies that people make.<sup>60</sup> Everything is interlinked; and that link is the creative process. In view of how important the creative act is, then, is it not curious that today we rarely directly address in our laws the question of what *is* creativity and how does it impact our daily lives.<sup>61</sup> Perhaps this is partly because if one imagines such a future, it immediately calls to mind a dystopian one, akin to *1984* – and the spectre of thought control:

The thought police would get him just the same. He had committed – would have committed, even if he had never set pen to paper – the essential crime that contained all others in itself. Thoughtcrime, they called it. Thoughtcrime was not a thing that

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<sup>59</sup> Cf. A Einstein, *Ideas and Opinions*, Souvenir Press (1954) at 4.

<sup>60</sup> Moving beyond the Orgone Machine theory of Reich – W Reich, *The Function of the Orgasm [Volume I of the Discovery of the Orgone]*, trans. V Carfagno, Farrar, Strauss and Giroux (1942) – see E Bohm, *On Creativity* (1996), esp. the Introduction in the 2004 edition by Leroy Little Bear.

<sup>61</sup> Cf. Reckwitz, who makes an argument that in terms of aesthetics creativity has become strived for. This monograph fundamentally disagrees with this position. In the following three chapters the argument is made that capitalism mirrors creativity and that creativity itself has been neglected. In the mind of the present author, Reckwitz has neglected this point. A Reckwitz, *The Invention of Creativity*, *supra* n 54, Chapter 4.

could be concealed forever. You might dodge successfully for a while, even for years, but sooner or later they were bound to get you.<sup>62</sup>

Perhaps there is a deep-seated fear,<sup>63</sup> an innate knowledge that creativity is so central to our being, our inner self, that to regulate it is a potential horror; we instinctively cast aside all thoughts to that end. Historically, the Christian religion at one time sought to control heretical *thought* – notably with the attempts at censorship and the inquisitions<sup>64</sup> – but even then, the notion of inwardness remained: even if the Church never admitted it, it was possible that inner thought could diverge from the dogma of the Church. The same is true of other societies: Communist China at the height of Mao's powers instituted methods to control the expression of inner thought,<sup>65</sup> but could not directly change the deeper innermost thoughts of people. Even if the greater realm of knowledge may have not been so accessible, the ability remained to be able to think as an individual. By contrast, the possibilities of regulation based around creativity – for instance effecting innermost thought – could be highly invasive, involving constant surveillance of every thought process. However, such a nefarious approach has not been something actively pursued to date in the West, although there have been clear attempts to limit access to copyright works to limit re-use of those works – for instance, with p2p file sharing case law.<sup>66</sup>

The focus on creativity and thought does not need to be so dystopian, in fact quite the opposite. It could just as naturally be utopian – maximising the potential for each individual's own creative and imaginative re-use. However, there is a fundamental issue with creativity, in that each of us can share the same thoughts and ideas. Maximised creativity within society could demand a coherent societal approach avoiding duplication, which in turn inherently limits certain types of other creativity; a system of maximised creativity restricts the unknown, accidental events of creation.<sup>67</sup> By contrast, unrestricted

<sup>62</sup> G Orwell, *1984* [1949], Penguin (2004) Book I Chapter I.

<sup>63</sup> A parallel can be drawn with the notion of discomfort – J Pezeu-Massabuau, *A Philosophy of Discomfort*, Reaktion Books (2012) at 33.

<sup>64</sup> See J Green and N Karolides, *Encyclopaedia of Censorship*, Facts on File (2005) at 108. For a general discussion see P Yu, 'Of Monks, Scribes and Middlemen' [2006] Michigan State Law Review 1 at 6 and D MacCulloch, *A History of Christianity*, Allen Lane (2009) at 769–776.

<sup>65</sup> See *inter alia* J Chang and J Halliday, *Mao: The Unknown Story*, Vintage (2005); M Meinser, *Mao's China and After: A History of the Peoples Republic*, Simon and Schuster (1999).

<sup>66</sup> *Infra* p. 152.

<sup>67</sup> A Reckwitz includes a discussion concerning this regarding aesthetics – see A Reckwitz, *The Invention of Creativity*, *supra* n 54, at 232–235.

creative acts have the potential to harm others, e.g. the ‘creative murderer’,<sup>68</sup> or the creative accounting in the banking crisis of 2007 and 2008.<sup>69</sup> One may therefore suggest that the ideal utopian system is one that regulates some, but not all, creative acts. When considering the current regulatory regimes in most Western countries, this indeed is what we have: laws against murder, laws against financial crimes. Any consequence upon thought processes is a consequence of regulating the *act*. Consequently, in general, laws do indirectly regulate creative thoughts by focusing on their expression.

However, the focus on deliberate, harming, acts is but one field in those of the regulation of creativity. As mentioned above, the broadest approach can be found in the core of capitalism. Humankind has long employed money as a means for the exchange of goods.<sup>70</sup> Capitalism, the process of creating profit from debt,<sup>71</sup> has become the most prominent means by which there is both a State and normative regulation of creativity. Units of exchange are both potentially ‘creative’ whilst also representing an exchange of a value which in turn is representing a creative act. For example, a bank may wish to fund a loan for a business in exchange for profit stemming from the creative act of a business. The bank, however, by virtue of the security it may gain, may seek to capitalise on that loan by the loaning out of more money than it actually owns, for instance to another company. The former is an act of representative capitalism, and the latter is an act of creative capitalism.<sup>72</sup> In the former example, the creative acts of the company are being represented by financial investment, and in the latter the creative act is in the making of capital. The role of capital in those two situations is different. It is in any event important to realise that creativity in capitalism is not just creative capitalism itself, but that it can just be a representation of creativity. Capitalist exploitation is the bedrock upon which our whole system of intellectual creativity law (note – normally termed ‘Intellectual Property Law’) is based – proprietary capital.

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<sup>68</sup> T De Quincey, *On Murder Considered as One of the Fine Arts* [1827], OUP (2009) at 8–34.

<sup>69</sup> See *inter alia* G Gorton, *Misunderstanding Financial Crises*, OUP (2012); C Mackay, *Extraordinary Popular Delusions and the Madness of Crowds*, Bentley (1841), Chapters 1–4.

<sup>70</sup> J Weatherford, *The History of Money*, Crown (2009).

<sup>71</sup> A Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* [1776], *supra* n 24: ‘A particular banker lends among his customers his own promissory notes, to the extent, we shall suppose, of a hundred thousand pounds. As those notes serve all the purposes of money, his debtors pay him the same interest as if he had lent them so much money. This interest is the source of his gain’, Book II, Chapter II.

<sup>72</sup> Cf. J Schumpeter, *supra* n 58, who does not make the distinction, even though this has a bearing upon the notion of the ‘invisible hand’ of Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* [1776] *supra* n 24.

We pay for works with a token representative of a creative act – money – and not a directly creative act ourselves. Any creativity we enjoy at this stage is merely in the selection, or purchase, of the creations of others. This occurs throughout society – capitalism acts as an intermediary unit by which to represent creative acts. It is therefore misleading to assume that capitalism itself is the means by which creativity exists. Mere investment does not guarantee creativity, yet many courts do make such an assumption.<sup>73</sup> So do the various statutes concerned.<sup>74</sup> The issue is that over time, we have come to associate the two. Deleuze and Guattari cite capitalism as the basis for civilisation, arguing that capitalism is ultimately ‘schizophrenic’ because if ultimate realisation of capitalism is reached, then the capitalist system will obliterate itself.<sup>75</sup> However, it will not – for capitalism is based, predicated, upon the creative process. Creativity has always been a constant; an on-going event during the existence of the human race.

If creativity is so central, if it is so important to the development of life, of society, and the individual, we should recognise this within our laws. We may not do so today because of our universal wariness towards the State, but the world is changing and we will become increasingly aware of the centrality of creativity within society. The main difference that is wrought upon the world is the stripping bare of the legal and capitalist edifice, with machinic technology revealing that capitalism is a mere means of the representation of creativity, and that capitalism is not the creative process in itself. The moment these technological changes make us more aware of our creative potential, the more that they raise our expectations of what we can, even *should* do, we will begin to observe clearly that some of our laws, some of our conceptions of capitalism, are *not* concerning creativity but exist merely to maintain the existing capitalistic order. This is something more than Barlow’s proclamation of Internet independence: ‘We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth.’<sup>76</sup> This is something more than a mere rebellion by a new class of creative content owners, or a regulatory turf war. This is a stripping bare of the inertia of state regulations and leaders that capitalism is a principle for them, appropriate to represent vested interests and vested means of regulation.

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<sup>73</sup> For example in the UK, *Designers Guild v Williams* [2000] 1 WLR 2416, or in the US, *Grokster v MGM* 545 US 913 (US Supreme Court, 2005), see *infra* p. 152.

<sup>74</sup> For instance, the reference to property in the UK in s1(1) CDPA 1988, s2(1) TMA 1994 and s30(1) Patents Act 1977; in the US see e.g. 17 USC §201(d).

<sup>75</sup> G Deleuze and F Guattari, *Anti-Oedipus* [1977], Continuum (2004), esp. Chapter IV Section 10, e.g. at 244 referring to civilisation and capitalist production.

<sup>76</sup> JP Barlow, ‘Declaration of the Independence of Cyberspace’ [1996], in N Spiller, *Cyber\_Reader*, Phaidon Press (2002) at 270.

Creativity in its various guises remains a vital element in life for all human beings, and attempts to restrict it simply will spell the end of the state of capitalism: 'Creators of the World Unite'.

Reform needs to not just be a restatement of existing capitalistic and governance endeavours. It needs a wholesale reconsideration of the function of creativity in society. Though we cannot specifically define creativity, though we cannot scientifically identify it (though we may try), we can at least recognise it; we know where it might be and we can see, if we open our eyes, how important it has been to the development of society. We can see that creativity can be both a factor for good and also a factor for evil. What cannot be allowed is the stifling of creativity, because if that happens the State is no more – the life in that State would be effectively extinguished. So, to maintain that State life, we need to consider regulation that has creativity at the core, an explicit rationalisation and realisation of how important it is for every individual within the State, for the State itself, for the entire world. We need laws that apply and realise this importance, and we need a public who can identify and value that importance.

How, then, do we reach the stage of implementing a system that recognises creativity – along with that vital question of doing so without raising that spectre of mind control? One of the first and not insubstantial challenges is to be able to institute such a principle over areas of law concerning the making of things. It is this aspect that the monograph focuses upon. It may be the case that regulation that has principally been called 'Intellectual Property Law' was that which tangentially dealt with creativity in the sense that it dealt with creative cultural works, but as we have shown it is much wider than the traditional formulation. There is a need, therefore, to have a holistic recognition of creativity. This is to provide a basis for discourse, for discussion, and at any rate recognise that it is possible to have, in some forms at least, an ontologically correct legal order.<sup>77</sup> When laws are being applied, or the laws are effecting the production actions of the populace, or when one person intends to use the law against another, the way in which individuals' creativity is impacted needs to be appreciated. In history, the biggest challenges to any centralised system of policy that is non-capitalist has been a lack of control by the centre in the application of law. We have seen this throughout history, from the times of the

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<sup>77</sup> D Koepsell, *The Ontology of Cyberspace*, Open Court (2000).

French Revolution,<sup>78</sup> through to Communist Russia and Mao's China,<sup>79</sup> where the original policy aims of the State have been subverted to result in a group or groups maintaining political control. Capitalism, with its 'invisible hand',<sup>80</sup> leading to each individual acting for their own benefit but also benefitting the overall creation of wealth, has not been subject to such political concern.<sup>81</sup> Creativity likewise has an 'invisible hand' but society has developed in such a way that it has become based around the concept of exchange and debt, and less so around the innate nature of creativity. What is needed is a way to draw out of people the means by which creativity becomes an inherent, common-sense, 'good'. Provided that the law is appropriately structured, it is suggested that this can become so, but to enhance the creative invisible hand will require initial direction from the State – as, it should be noted, was the case with capitalism.

From the start, therefore, creativity as a guiding principle may become diluted through its application, and so there is a need to identify an initial framework or means by which creative actions are encouraged and enabled. Here, the starting point of this monograph is to focus on the principal product of creativity from the mind, the creative work – today, what is often a copyright work or invention. However, an important reason for focusing more upon copyright is that it will increasingly become the primary means of legal regulation.<sup>82</sup> This may seem a startling point – today we (arguably) tend to emphasise the function of contracts as the most central form of regulation of day-to-day capitalism, however. Anything produced to run on a digital device has the extreme likelihood of being considered, under copyright law, as a literary work – it just has to meet the very low subsistence requirements.<sup>83</sup> Combine that factor with the rise of 3D printing and scanning, and further the possibilities for biological and printing and programming, which will see the 'literaturisation' of everyday objects and bodies, and the possibility for the endless scope of copyright regulation becomes apparent. Consequently, an amendment of copyright is chosen as the basis for the majority of future reg-

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<sup>78</sup> W Doyle, *Oxford History of the French Revolution*, OUP (2003); D Guerin and I Patterson, *Class Struggle in the First French Republic*, Pluto Press (1977); D Andress, *The Terror: Civil War in the French Revolution*, Abacus (2006); A Forrest, *Paris, the Provinces and the French Revolution*, Bloomsbury (2004).

<sup>79</sup> See *inter alia* J Chang and J Halliday, *supra* n 65, SS Montefiore, *Stalin: The Court of the Red Tsar*, Weidenfeld and Nicholson (2003).

<sup>80</sup> A Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* [1776], *supra* n 24 Book IV, Chapter II, §9.

<sup>81</sup> By way of explanation – this is not to argue that there have not been attempts to regulate it, but that the core of the 'invisible hand' remains regardless.

<sup>82</sup> For more detail see Chapter 8 p. 191.

<sup>83</sup> For discussion see Chapter 3 pp. 80–81.

ulation (rather than patents or inventions, although the same principles could apply to those as well). It is a natural consequence of the function of creativity that mere ‘creativity’ subject-based regulations should become the centre point of regulation itself: a self-fulfilling prophecy in the knowledge-based economy where knowledge is king, and where it is proposed that creativity will supersede capitalism as the main driver of human progress.

So, with that centrality of literary regulation in mind, the scene is set for a consideration of how to regulate the outcomes of creative acts such as copyright works. Currently the system is largely bound by capitalist principles – capitalism being, recalling the above, a system based upon creativity, and principally representative of it. The trouble is that the copyright system is one based around capitalist proprietary exploitation, to the degree to which proprietary concerns can trump or pre-empt the creativity concerns *per se*. Property may be used creatively, but the issue is that it can be used purely to ‘land grab’, inhibiting future development, in the same way that capitalism itself can through the desire to realise debts.<sup>84</sup> This can be seen in some recent 3DP lawsuits.<sup>85</sup> Creativity can be both a destructive or co-operative creativity. Withholding ‘creativity’ is a threat to the development of society. To identify when that threat exists, it is both necessary and prudent to consider the relationship between law itself and how law is utilised. This is not just a means of identifying the impact of the law but also the means by which to consider the impact of law upon the minds of the public independently from within the mind of the individual. Whilst there are many categorisations and analytical interpretations of the impact of law upon individuals – rationality, authority, recognition, ‘living law’ to name but a few which this work discusses<sup>86</sup> – an overriding concern often neglected is the issue of the threat as perceived by the individual. There are specific attempts to regulate ‘the threat’ – from threatening criminal acts through to what are known as ‘unjustified threats’ of patent

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<sup>84</sup> C Mackay, *Extraordinary Popular Delusions and the Madness of Crowds*, Volume I (1841), *supra* n 69 at 1–97.

<sup>85</sup> See *inter alia* the settlement in *3D systems v Formlabs* SDNY District Court Civil Action No. 1:13-ev-07973-RWS (2014) – ‘3D Systems & Formlabs Settle SLA Patent Lawsuit, with Formlabs to Pay 8% Royalties’ (<http://www.3ders.org/articles/20141204-3d-systems-and-formlabs-settle-sla-technology-lawsuit-royalties-to-3d-systems.html>); *Stratays v Afinia*, Case No.: 13-CV-03228 (DWF/JJG) US District Court of Minnesota (2014–15).

<sup>86</sup> J Rawls, *Theory of Justice*, OUP (1976); M Weber, *Economy and Society* [1922], University of California Press (1978) Vols I and II; H Hart, *The Concept of Law*, 3rd edition, OUP (2012); A Simmons, ‘Authority’, in D Estlund, *The Oxford Handbook of Political Philosophy*, OUP (2012); L Brandeis, ‘The Living Law’ 10 *Illinois Law Review* 461 (1916); E Ehrlich, *Fundamental Principles of the Sociology of Law*, Harvard University Press (1936). For a discussion see Chapter 2.

and trade mark infringement. The existence of these opens up further issues on the impact of those laws: the ‘threat in bringing a threat action’. In essence, this is a question of how the inner creativity of the individual him or herself relates to the broader creativity within the State. Ultimately, once that central keystone of creativity is assessed and correctly implemented within the legal system, there should not need to be any separation between the law and the individual – both should be in harmony due to the realisation of creativity. This is meant in the sense that whilst there may be action which poses a *challenging* creativity, i.e. the individual challenging the State – there will not be the lacuna of creativity due to threats of legal action if the law is appropriately structured.

Once the issue of application is resolved, regulation should become concerned with being ontologically correct in terms of its structure and in terms of its content. Ontological correctness, combined with growth in literary copyright protection and abilities to reproduce content, leads to new possibilities of regulation. The nature of newer forms of technology allows for greater interconnectedness, paving the way for law to become more directly involved in the technical process itself – and therefore leading to more possibilities for the law to be able to encourage creativity. Today, there are many technologies that remain independent of direct regulation, but this will change with the development of technologies which focus upon either augmentation or real-world association (e.g. through the use of tagging or the watermarking of 3DP objects, both for commercialisation and to enable licensing for printing).<sup>87</sup> This is why ontological correctness is so important if law is to adequately interface with the digital environment. If it does so, this will change the way in which we as individuals have in the recent past associated ourselves with the State. We will become more focused around creativity as the basis for our relationships rather than systems like capitalism which are mere representations of the creative process. To focus on creativity rather than crude ‘misrepresentations’ of the process, as by capitalism, is imperative if the human race is to continue to develop in future and reach for, and be once again of, the stars. It is to this aim and purpose that this work is dedicated.

### 3. AN OUTLINE OF THE FOLLOWING CHAPTERS

The next chapter analyses creativity to question why it is so central to society,<sup>88</sup> and assesses how individual creativity has helped to form the State – as in the

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<sup>87</sup> J Griffin, ‘A Proposal for a Bridge of Licensing over a Sea of IP Uncertainty: Digital Watermarking of 3D Printed Content’, in H Chan, H Choo, J Griffin and O Osuji (eds), *Intellectual Property Rights and Emerging Technology: 3D Printing in China*, Routledge (2018).

<sup>88</sup> *Infra* p. 29–56.

crystallisation of creative flow which led to State structures. It then proceeds to query to what degree State regulation has begun to move away from the core concerns of creativity. In order to do so, the chapter considers how individuals' own creativity is influenced by the creativity of others as encapsulated by the entity of the State. Creative conflict and collaboration are key, with collaboration leading to more iterative progression, whereas conflict leads to larger jumps. In essence this is discussion of Platonic v Nietzschean<sup>89</sup> creativity, so that analysis itself – although applied in a novel way – is nonetheless analysis that has been much discussed.<sup>90</sup> However, there has been limited application of that discussion through to the link between the creative individual and the State sphere,<sup>91</sup> with that limited application being reduced to implicit assumptions, i.e., in works such as More's *Utopia*.<sup>92</sup> Some of the later debate concerning theories of knowledge touches again upon the issue of creativity – in particular the works of Locke, Hume and Condillac (and Leibnitz's response to Locke's work),<sup>93</sup> though they all skirt around the issue of where creativity comes from. Creativity and the relationship through to the State is not clearly enunciated. Theories of agency (Parsons),<sup>94</sup> and Giddens' notion of structuration,<sup>95</sup> also do not address the critical issue of creativity. Nonetheless, whilst they do not explicitly acknowledge this, their theories do rest necessarily upon creativity, in the functional relationship of creativity to the State. Some analogy can be identified, though again implicitly, to a degree, through works which deal

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<sup>89</sup> Plato, *The Republic* (380 BC) – which emphasises imitation, cf: F Nietzsche, *The Gay Science* [2nd edition, 1887], trans W Kaufmann, Random House edition (1974) Book III §110.

<sup>90</sup> L Zemer, 'The Making of a New Copyright Lockean' 29 *Harvard Journal of Law and Public Policy* 891 at 939, quoting RM Adams, 'Where Do Our Ideas Come From? – Descartes and Locke', in S Stich (ed), *Innate Ideas*, University of California Press (1975) at 78. However, this should be treated with caution, for Descartes writes, there are 'three classes: innate, adventitious and made up', in 'On Meditation Three: Innate Ideas', R Descartes, *Meditations on First Philosophy: Objections and Replies* (1986 CUP edition) at 78.

<sup>91</sup> Note Cicero, *De Officiis* (44 BC) discusses that privacy has no place in the State, a discussion which could be deemed parallel to a discussion about secretive creativity kept away from the eyes of the State. However, this is more akin to the public-private debate mentioned above *infra* pp. 11–12.

<sup>92</sup> For example, in terms of how individuals' own creative actions may impact the ideal utopian society. T More, *Utopia* [1516], Penguin (2012).

<sup>93</sup> J Locke, *An Essay Concerning Human Understanding* [1689], *supra* n 40; D Hume, *An Enquiry Concerning Human Understanding* [1748], *supra* n 39; E Condillac, *Essay on the Origin of Human Knowledge* [1746], *supra* n 39 and G Leibniz, *New Essays Concerning Human Understanding* [1765], *supra* n 39.

<sup>94</sup> T Parsons, *Social Systems and the Evolution of Action Theory*, Free Press (1977).

<sup>95</sup> A Giddens, *The Constitution of Society*, Polity Press (1984).

with State architecture, both physical and intangible. For instance, Lessig's discussion of the design of cities,<sup>96</sup> or the work of Bauhaus' Gropius<sup>97</sup> – these indicate that the creative architectural act of one person or a group of people, as regulated by or encouraged by the State, will have a consequence upon the expression of creative thought. This is also seen in the recent discussion concerning creative hubs and cities.<sup>98</sup> Again, some discussion can be relevant which is of a broader analysis – e.g. discussion of capitalism, and property rights, to name but two<sup>99</sup> – but again these do not concern the deeper core of creativity *per se*. It is the nature of creativity that binds society together and so it is that we need to analyse and critique if society is to become more ontologically concerned with its core.

The subsequent third chapter considers the issue of creativity within the individual.<sup>100</sup> Both are at the core of the human experience, and yet are merely represented at the State level by concepts such as capitalism. Creativity underlies everything that we do. However, the levels at which creativity exists are important to identify if creativity is to be recognised as a core condition of regulation. Within the individual there is identified an 'inner creativity' which the State cannot interfere with, other than to 'destroy' the brain in which it exists – the ultimate bio-power.<sup>101</sup> There is, however, an 'outer creativity' – those aspects influenced by giving and receiving expression – and it is this that the State can and does seek to affect. This differentiation identifies the realm of the sovereignty of regulation. The notion of property, it is suggested, is an attempt to breach that distinction. By placing an individual within 'property' undesired expressions are kept cabined by the State, as well as the otherwise un-regulable inner creativity. On the outside, the person is living in their 'Castle' but within, property can limit the actions of the individual. It is this same proprietary characteristic that is at work within properties given over our intangible intellectual property rights, particularly copyrights. A copyright – which is legally a property right – endeavours to achieve the same. The property 'fixes' the work, it legally prevents others from utilising 'too much' (an infringement of a substantial part).<sup>102</sup> Whilst intangible property cannot prevent the deeper inner

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<sup>96</sup> L Lessig, *Code*, Basic Books (1999) Appendix I.

<sup>97</sup> W Gropius, *Scope of Total Architecture*, Collier Books (1956); W Gropius, *The New Architecture and the Bauhaus*, MIT Press (1935).

<sup>98</sup> See *inter alia* P Cooke and L Lazzeretti (eds), *Creative Cities, Cultural Clusters and Local Economic Development*, Edward Elgar (2008); A Reckwitz, *The Invention of Creativity*, *supra* n 54, Chapter 7.

<sup>99</sup> For discussion see *infra* pp. 158–90

<sup>100</sup> *Infra* pp. 57–83.

<sup>101</sup> See discussion *infra*. p. 35.

<sup>102</sup> *Infra* p. 41.

creativity of the minds of others re-utilising copyright elements, it can help to limit the expression of the expressed ideas in the future. Property then acts as a potential suppressor of creativity, with the possibility of increasingly bureaucratic regulation which emphasises the inherent proprietary concerns over the underlying creative ones. Thus regulation and the creativity of the individual become divorced. Of course, that is to some degree an oversimplification. Elements of a work can still be reproduced, e.g. ideas, and so a reduced degree of ‘reproductive’ creativity can take place there. Furthermore, we should not neglect to consider that ‘piracy’ takes place, that fan fiction is often uploaded (which would otherwise be copyright infringements), to name but a few.<sup>103</sup> Indeed, such ‘subversive’ acts may give encouragement to more iconoclastic, bigger, creative jumps.<sup>104</sup> However, it remains the case that the regulation of these acts has become discordant from consideration of the underlying, broad, creative process in terms of the individual, and the link in creativity terms, between the individual and society.

The fourth chapter focuses upon the developing difference between the creative zone of discourse and the administrative core of crystallised concepts.<sup>105</sup> An individual may be swayed or influenced by the State in what they create, and yet as Chapter 2 demonstrates, the State itself is an administrative crystallisation of creative acts. Efficacious regulation should accord with the actions of the inner creativity of an individual. It is the degree of accordance of creativity with a legal system that affords for rationality. However, what the chapter identifies is that although initial regulation did directly concern creativity in the broadest sense, from the fourteenth and fifteenth centuries the focus began to shift. For instance, rules similar to copyright – licensing – were at the time of Henry VIII based around censorship.<sup>106</sup> Over time this shifted to regulation by publishers for the purpose of protecting their proprietary interests. By the time of the Statute of Anne 1710,<sup>107</sup> authors were transferring their newly given property rights to publishers and a property-based, capitalist, system was supplementing one based around creativity. That is not to suggest that the proprietary system was not based on creativity – it was – but the underlying structural

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<sup>103</sup> See *inter alia* M Greenberg, *Comic Art, Creativity and the Law*, Edward Elgar (2015).

<sup>104</sup> See e.g. ‘Damien Hirst to Publish Tell-all Autobiography’ at <http://www.bbc.co.uk/news/entertainment-arts-26915100> (last accessed 31 July 2014).

<sup>105</sup> *Infra* p. 84.

<sup>106</sup> Following a proclamation in 1529 – see H Ransom, *The First Copyright Statute*, University of Texas (1956) at 121.

<sup>107</sup> ‘An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of such Copies, during the Times therein mentioned’, 8 Anne c.19.

web of creativity crystallised by the State began to be obscured. Whilst rules were originally concerned with the regulation of creative cultural works, proprietary reasoning soon established itself, and it is through that approach that our current system of capitalist proprietary exploitation has taken hold. That system does so at the expense of the ontology of creativity which underlies our whole society and State. Without such creativity our State would collapse and so the capitalist diversion and obfuscation is an inherently dangerous and destructive modality of communication.

Ultimately, the capitalist proprietary discourse has been utilised in a manner which favours certain proprietary interests in a way which displaces the traditional creativity dialogue. The means by which this occurs is discussed (as opposed to the reasons for it which are in Chapter 3). Discourse is a means by which the direction of dialogue between society and the individual is forced apart and away from creativity to create a three-way dialogue with proprietary stakeholders at its core. It is by this process that the spectre of a capitalist proprietary system of exploitation has arisen that has become far removed from the original reasons for the creation of society and State. A bureaucratic and neutral core has developed to facilitate that system of exploitation and the associated parcelling and ownership of capitalist representations of creativity.<sup>108</sup> That proprietary assertion has led to the capitalistic exploitation of creativity as a commonality. However, that parcelling and ownership is inherently fallacious, for creativity is the basis for capitalism. Capitalism represents the creative process – it is not the creative processes itself but it depends upon creativity for its very existence – even if, as this work suggests, capitalism misrepresents the creative process. That symbiotic relationship between creativity and capitalism is the ‘invisible hand’ of capitalism. Although discourse is aimed at establishing property and capitalist exploitation as the core of literary and artistic endeavour, it is not a mere construct that replaces the operation of the interactivity between the state and the individual. The neutral administration and bureaucratisation of property is anything but; it is an attempt to force an ‘inner state’, an ‘inner dialogue’ which seeks to undermine and divert the critical operation of the State as a creative, cohabitive, collaborative and co-operative entity that was the consequence of creative and not solely proprietary endeavours. Any attempt to separate capitalism from creativity is doomed to failure (but not vice versa!), because without creativity capitalism is nothing.<sup>109</sup> It is therefore time to return to a restatement of the principles of

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<sup>108</sup> For a discussion of bureaucracy see M Weber, *Economy and Society* [1922] University of California Press (1978) at 956–1005 (Volume II).

<sup>109</sup> Consider the most recent debates in the press about creative accounting and debt management by States. If all debt is removed, then there would be no risky lending,

creativity: a return to the original principles on which the State was originally predicated. Some attempts at this approach have been made by Steiner and Beuys,<sup>110</sup> a theorist and an artist respectively, who have identified this split between what they term the inner spiritual self, and politics and economics. This monograph is more predicated in the development of the original notion of the State, and thus argues that creativity is the underlying core of all three of Steiner's and Beuys' elements.

Of course, such a discussion and realisation only takes us so far. We need to work our way back to the creative light to take heed of our creative endeavours, and to be able to re-engage with a State founded around creativity reasoning. As outlined earlier in this introductory chapter, one of the key methods of achieving this is to accept that the State–individual relationship occurs at many levels but that the foundation of these remains creativity. The nature of that relationship, independently of creativity *per se*, has been much discussed, from the analysis of the individual being independent of the State<sup>111</sup> through to modern-day discussions such as those concerning natural and positivist law.<sup>112</sup> Creativity remains key – so, the question in terms of central analysis must be how creativity is potentially affected by the State. Naturally, each individual will be influenced by the State regulation in different ways due to different circumstances, but there is another situation we should consider first and that is the relationship of the individual vis-à-vis another individual using law. After all, the initiation of States stemmed from a degree of group pluralism<sup>113</sup> and so our discussion should likewise accept the importance of private relations. Today, much of this is governed through provisions of law dealing with threats, from the use of contracts through to wider civil and criminal laws, through to remedies. There are even specific IP threats provisions. This is, in effect, the law 'stating' that the use of its rules by others can be changed or affected in unexpected ways. There is nothing new here – it is prominent in the work of Hohfeld<sup>114</sup> – but what is different is the idea that creativity can form such a central role. Why? Because threats are a consequence of flexibility

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and consequently less ability to obtain funding for creative works or indeed to create capital. See *infra* p. 168.

<sup>110</sup> R Steiner, *World Economy*, Rudolf Steiner Press (1936; 1972 reprint) at 32, J Beuys, *What Is Art?*, Clairview (2004) and J Beuys, *What is Money?*, Clairview (2010).

<sup>111</sup> As was strongly implicated with Descartes and his analysis of the pineal gland: R Descartes, *Treatise of Man* [1637, pub. 1662], Prometheus (2003); R Descartes, *The Passions of the Soul* [1649], Hackett (1989), alongside later knowledge theory (see *supra* n 93).

<sup>112</sup> *Infra* p. 60.

<sup>113</sup> R Unger, *Law in Modern Society*, Free Press (1976).

<sup>114</sup> W Hohfeld, *Fundamental Legal Concepts as Applied in Legal Reasoning*, Yale University Press (1919) at 50.

in the law that has arisen purely because of the lack of communication and rationalisation around creativity. The lack of any correct or coherent ontology has meant that the debates and discoveries between individuals has focused on nebulous concerns – such as property and capitalism. Today most people would probably suggest that a property ownership document or money in the form of coins and banknotes is something that provides for ‘certainty’. However, it does not – it is highly volatile and uncertain compared to creativity, simply because property ownership is from the State whereas creativity is from within. Creativity is the one constant, the most certain thing that we have. It cannot be taken away unless we are killed, as in Bronowski’s ‘push-button order’.<sup>115</sup> It is the core of our being. Creativity is core to what we are. Creativity is that central basis of our relationship with society which cannot be removed. It is creativity, that thing most intimate to us, that is the most certain and important basis for life. Money, capitalism and property are but a side show, an attempt to subvert dialogue away from that core of creativity. To focus on creativity would be to provide for law which would reduce the need for specific provisions to govern the misuse of those laws, because the laws would be perceived as more rational.

Once the issue of the regulation of threats has been adequately addressed – which is in part dependent upon the reforms that will subsequently be discussed – there is then the broader issue of re-orientating the regulation of the State around creativity. The challenge posed in establishing a dialogue based around creativity is that it tends to disfavour the importance of reproduction in enabling creativity. Chapter 6 is a discussion of the degree to which the notion of reproductive flow has taken hold within society, notwithstanding attempts by the State to proprietise such reproductions, and shows how concepts such as memes<sup>116</sup> and information flows<sup>117</sup> are insufficient to explain the full importance of reproduction. It is a debate which is the direct opposite to the establishment of a State-based capitalist or proprietary dialogue. Reproductive flow is a significant remnant of our earlier biological associations with creativity. However, it is very symptomatic of our times<sup>118</sup> that Dawkins coined the meme

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<sup>115</sup> J Bronowski, *The Ascent of Man*, BBC (1973) at 374.

<sup>116</sup> R Dawkins, *The Selfish Gene*, Oxford University Press (1976) at 152.

<sup>117</sup> N Elkin-Koren, ‘It’s All About Control: Rethinking Copyright in the New Information Landscape’, in N Elkin-Koren and N Netanel (eds), *The Commodification of Information*, Kluwer (2002).

<sup>118</sup> This is a reference back to W Benjamin, *The Work of Art in the Age of Mechanical Representation* [1936], Penguin (2008) and his discussion of the aura of works diminishing over time – see Parts III and IX. This is similar to the gradual loss of the aura of creativity within discourse see *infra* p. 137.

phrase yet limited reference is made by him or indeed other discussants<sup>119</sup> of the term to the earlier Platonic form – which lends itself back to discussion about creativity in earlier civilisations and how that played a function within the development of the State. Today, it has only been with the shift in technology back to the symbiotic individualist-global era of Internet communication and the decline in the applicability of State regulation and importantly, rationality, that the reproductive flow has begun to be discussed once again, and thus a reinstatement, at a subconscious level, of some consideration of the link between reproduction and creativity within a mainstream debate at the societal level.

Technology that enables easier reproduction and distribution has been, and is, the key here, because this is more ontologically geared towards representing the human creative process. It is this ontological shift that has been the cause of recent questioning of whether the State and its regulations match the wishes of any creative individual. Mass piracy in the face of prohibiting legislation would indicate that in some situations the individual is opposed to State control in making lesser creative re-uses, i.e. reproducing copyright works in themselves, or making more creative re-uses which may nonetheless be infringements of copyright. However, it is more than just this, because the technology has enabled individuals to interact more easily, and, consequently, this has led to significant changes in the relationships between individuals and the State – hence, the Spring Uprisings and greater responsiveness by Government to publicly raised issues. Technology has, in effect, lifted a veil of ignorance from the populace.<sup>120</sup> It identifies and makes possible a new form of exchange – by which I mean creative exchange. Importantly, code is the basis for that exchange. Code, therefore, is something that can be exchanged for other code – like money. The more something is exchanged – as with a meme – the more the code is valuable. Whilst it is often argued that intangible ideas can be easily replicated, that is a replication of something valuable in code, something which can be valued in itself. So, replication of an intangible notion can be rewarded by a means other than property and exclusive scarcity. This, in itself is an advantage to these creative units of exchange when compared to traditional proprietary, capitalistic, forms. Capitalist proprietary exploitation became associated with literary ideas, yet this is not needed with digital works. Digital units of exchange do not require property *per se*, and this is why alternate forms of exploitation have been proposed, e.g. the use of

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<sup>119</sup> *Infra* pp. 139–40.

<sup>120</sup> See *infra* p. 51.

advertising or other associated networked sales.<sup>121</sup> Likewise, the sale as such is not required – and capitalism as such is not required – in order to achieve reward or incentive. Free (and not just open) software for instance does not require a sale, it relies upon other factors such as advertising or licensing by a third party. Other examples are the remixes which are regulated by licence on YouTube and Spotify. However, for too long individuals have been in a system that favours proprietary and capitalist means of expressing creativity. Dialogue has been effected, and so the means of creative involvement in the State has become skewed. For instance, capitalism and property rights provided a means by which individuals could become involved within society. They provided, in essence, a form of ‘idea democracy’. Those who work hard, or in accordance with the protestant work ethic, could express themselves through capitalism or property. Over time, they developed a proprietary or capitalist democratic entitlement, in that everyone was entitled to a property of their home, or their earnings through capitalism. This is integrally linked to the notion of merit. This applies to all intangible works – those of sufficient ‘merit’ such as those which meet the requirements of copyright subsistence<sup>122</sup> usually obtain intellectual property protection. Of course, this is all fine in the eyes of the public until those meritocratic, democratic tests of entitlement are no longer in line with the underlying technologies, and thus no longer in line with the public perception of creative merit. If merited effort goes unrewarded, or is impeded, or even if that effort results in State persecution, then the individual is going to become separated from the dialogue with the State. Examples of this can be found in coverage of recent IP disputes with 3DP.<sup>123</sup> Proprietary and capitalist methods of obtaining reward or incentive are likely to fall by the wayside in the search for other technological means of expression that do reward these creative endeavours. In effect, another form of State could develop, one within the Code itself. Ultimately, there has been in part a shift away from the traditional proprietary capitalist exploitation to a more economic-based system focusing on the licensing of works and smaller units of exchange. However, at the moment these are still heavily bound by proprietary concerns.

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<sup>121</sup> For details see *infra* p. 188. and see C Anderson, *Free*, Random House (2009) at 83.

<sup>122</sup> See discussion *infra* p. 175.

<sup>123</sup> See *inter alia* a dispute over 3DP chess pieces and the Duchamp estate – Kira, ‘How a Mustachioed Duchamp Chess Set is Opening the Dialogue on 3D Printing and Copyright Laws’ (2015) at <http://www.3ders.org/articles/20150909-how-a-mustachioed-duchamp-chess-set-is-opening-the-dialogue-on-3d-printing-and-copyright-laws.html> or Simon, ‘Man Accused of Copyright Infringement after 3D Scanning a Michelangelo Statue’ (2015) at <http://www.3ders.org/articles/20150122-man-accused-of-copyright-infringement-after-3d-scanning-a-michelangelo-statue.html>

An approach is therefore proposed which could develop into a regulatory system based around principles of creativity. A system of qualitative infringement exists which could move away from tightly knit proprietary conceptions to standard quantitative rules governing royalty rates. The system can be applied in a manner by which those accessing and re-using content are not aware of the underlying licensing scheme – much in the way in which YouTube and Spotify licences works. Artists and creators would operate under a separate scheme so as to reduce costs – basically such individuals could copy and reuse the works they choose, up to the point of commercial exploitation, utilising a royalty fund.<sup>124</sup> Licensing would then operate as the main system.<sup>125</sup> The key thing is for this to be invisible yet transparent to those who want to observe its operation. The proposed scheme also needs to interface with existing laws and obligations – it is argued that it can, in fact, do so.

Of course, the proposal of any new system poses a number of challenges in terms of it taking actual practical effect. This is where any discussion of the relevant principles could become ensnared in the practical dialogue of implementation, but the discussion of the proposed system is not likely to be so prone to that. This is because creativity is so central to society that if discourse is becoming enmeshed in principles that adversely affect creativity, it is ultimately destructive to the State. As mentioned earlier, debate may also appear to be about criminal laws, contracts or even tax, but the reality is that these concern the creative acts of individuals. Consequently, discussion of any system that favours the development of creativity can – and should – remain true to that creative principle, and avoid at all costs becoming a divorced bureaucratic separation from the creative process. Consequently, it is important that the system begins with a clear statement of principle.<sup>126</sup>

Having established the principle, the regulation of it must be dealt with. It is proposed that a combination of the existing Copyright Tribunal and the developing Digital Copyright Exchange or Copyright Hub could take this role. It would be an independent body which would definitively set the royalty rates. However, it has a separate and absolutely crucial function in assessing and setting the tone for the alignment of the state with creativity, through a technological medium. Heidegger once wrote that bureaucracy was a form of technology;<sup>127</sup> today, code can be used to help regulate and encourage creative acts by the public. Code can run behind the proposed system to facilitate the move away from traditional proprietary capitalist means of exploitation to,

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<sup>124</sup> See Chapter 7 *infra* p. 182.

<sup>125</sup> See Chapter 8 *infra* p. 213.

<sup>126</sup> *Infra* p. 242.

<sup>127</sup> M Heidegger, *The Question Concerning Technology and Other Essays* [1954], Harper Perennial (2013).

instead, concentrate on the means by which creativity can be more appropriately focused upon. This raises all manner of oft-debated questions concerning the role of technology in society and the development of the individual,<sup>128</sup> but the core concern is that the State should once again provide an appropriately structured means by which individuals can creatively engage to drive forward not only their own creative endeavours, but also the State. The proposed system will provide the mechanism for an individual to be able to drive society forwards, marking the start of a new liberal creative era, an era which will once again return us to home of the Creative State and the continuing development of humanity.

*Creō potentia est; creativity is power*

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<sup>128</sup> *Infra* Chapter 8.