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Citation: Goold, P. & Simon, D. (2022). Lucky IP. *Oxford Journal of Legal Studies*, 42(3), pp. 843-868. doi: 10.1093/ojls/gqac006

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Lucky IP

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Abstract—A person naturally owns the fruits of their intellectual labour; so goes the labour argument for intellectual property (IP). But what should happen when a creator gets ‘lucky’—such as the photographer who is in the right place at the right time or the scientist who accidentally discovers a new drug? IP law frequently awards ownership in such cases (what we call ‘Lucky IP’). Some argue, however, that the creators in such cases do not labour sufficiently to deserve ownership, and that Lucky IP merely demonstrates that IP law is not truly concerned about labour at all. Drawing on the philosophical literature of moral luck, we argue that this analysis is misguided. Nearly all intellectual creations involve some measure of luck and, in most cases, the creators still labour sufficiently to become the natural owners of their creations. Lucky IP does not, therefore, undermine the labour theory of IP law.

Keywords: intellectual property, moral philosophy, political philosophy, luck

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1. *Introduction*

In 1928, the Scottish researcher Sir Alexander Fleming was experimenting with the influenza vaccine in his London laboratory.¹ After a two-week holiday, Fleming returned to find that mould had accidentally developed in one of his cultures containing the bacterium *Staphylococcus*. Upon examination, Fleming realised that the mould was preventing the growth of the bacterium any further, and thus could be used to treat bacterial staphylococci infections in humans. And so the world's first antibiotic—penicillin—was created. Yet Fleming did not claim ownership of penicillin. He chose not to apply for a patent on the new drug because he did not 'invent' it. 'Nature did that', Fleming said; 'I only discovered it by accident'.² Fleming's decision was public-minded and laudable. But was he right to disclaim ownership of penicillin? Would it have been problematic if he had instead tried to patent the antibiotic? Or, more simply, should intellectual property (IP) law award individual property rights over such 'lucky' intellectual creations?

Although largely ignored in the academic literature on IP, luck presents an important problem for IP law. IP rights constrain non-IP holders' individual liberty and bestow economic benefits—in some cases very large economic benefits—upon IP owners. Furthermore, assigning ownership over intangibles—things whose very nature seems to defy ownership—may seem irrational. Scholars and politicians, of course, have offered justifications for IP law. One fan favourite is John Locke's 'labour argument', which is an extension of his argument for natural

¹ See Kevin Brown, *Penicillin Man: Alexander Fleming and the Antibiotic Revolution* (Sutton Publishing 2004) 1.

² Reported in various sources. See eg Gwyn Macfarlane, *Alexander Fleming: The Man and the Myth* (Chatto & Windus 1984) 260.

rights in personal property:³ because X owns herself, when X mixes her intellectual labour with an unowned resource (eg a creative idea) to create something original (eg a novel), X's right of self-ownership carries over and attaches to the original thing she has created; the state ought to protect that natural ownership claim through positive IP rights just as it protects other forms of natural property.⁴ Some argue, however, that luck presents a fatal objection to the Lockean labour argument for IP. In a highly influential recent essay, Mark Lemley writes: 'IP turns out not to map particularly well to a labour-reward instinct. We grant extremely valuable patents to accidental discoverers and extremely valuable copyrights to photographers who happened to be in the right place at the right time.'⁵ How can the labour argument plausibly justify IP law when it frequently grants ownership over apparently fortuitous creations?

As we understand it, the 'luck objection' to the labour argument can be subdivided into two arguments.⁶ First, the *Entitlement Argument* claims that persons are not entitled to own lucky creations because they do not labour sufficiently in the creation process. Second, the *Legitimacy Argument* claims that our current IP system is illegitimate (unless some other persuasive non-

³ John Locke, *Two Treatises of Government* (1690) reprinted in *The Works of John Locke* (London 1823) 115–26.

⁴ See eg Robert Merges, *Justifying Intellectual Property* (Harvard UP 2010) 31–67; Kenneth E Himma, 'Toward a Lockean Moral Justification of Legal Protection of Intellectual Property' (2012) 49 *San Diego L Rev* 1105; Adam D Moore, 'A Lockean Theory of Intellectual Property Revisited' (2012) 49 *San Diego L Rev* 1069; Wendy Gordon, 'A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property' (1993) 102 *Yale LJ* 1533.

⁵ Mark A Lemley, 'Faith-Based Intellectual Property' (2015) 62 *UCLA L Rev* 1329, 1340. While the quotation is only one line within a broader article, it is a philosophically interesting line. For broader empirical research on the role of luck in creativity, see Bhaven N Sampat, 'Serendipity' (2015) <<https://ssrn.com/abstract=2545515>> accessed 6 January 2022.

⁶ Lemley (n 5) does not use articulate these arguments precisely (or the various versions thereof that we discuss below). But if we are to evaluate the strength of the luck objection in accordance with the principle of charity, some elaboration is necessary to ensure we are critiquing the strongest possible version of the objection.

labour argument can be provided) because it routinely awards persons with ownership rights in Lucky IP. If sound, these arguments together may significantly weaken the labour-based justification for IP, and the case for IP law entirely.

This article introduces the problem of ‘Lucky IP’, provides the first legal-philosophical analysis of the issue and evaluates the luck-based objections to the labour argument. Luck, of course, is not the only objection to labour-based theories of property and IP. Nor is the ‘luck objection’ the only argument that Lemley’s essay raises.⁷ Writers spanning centuries, from Thomas Jefferson⁸ to Robert Nozick⁹ and Seanna Shiffrin,¹⁰ have critiqued the claim that one can naturally own intangibles. But is this newer ‘luck objection’ as persuasive as its predecessors? If it is, then it has the potential to be a very significant argument, given (as we show below) how frequently creativity is affected by luck. Yet, in our view, the force of those prior arguments is far stronger than that of luck-based objections. Bracketing for now the other objections to the labour justification for IP, we argue that, in most cases of Lucky IP, the individual creator is entitled to IP protection and this is not a significant problem for the legitimacy of the IP system.¹¹

⁷ *ibid* 1338–43 (summarising other arguments to Lockean labour theories).

⁸ Thomas Jefferson, ‘Letter to Isaac McPherson’ 13 August 1813, in AA Lipscomb (ed), *Writings of Thomas Jefferson*, vol 13 (Thomas Jefferson memorial Association of the United States 1903) 333–5.

⁹ Robert Nozick, *Anarchy, State, Utopia* (BASIC Books 1974) 136. See also Jeremy Waldron, ‘Two Worries about Mixing One’s Labour’ (1983) 33 *The Philosophical Quarterly* 37.

¹⁰ Seana Valentine Shiffrin, ‘Lockean Arguments for Private Intellectual Property’ in Stephen Munzer (ed), *New Essays in the Legal and Political Theory of Property* (CUP 2011) 138–67.

¹¹ In this article, we use the term ‘luck’ in a broad sense as events occurring outside of one’s direct control. Whether this broad sense includes what some may prefer to call ‘chance’ or ‘accidents’ depends on how one interprets those words. An accident, for example, may indicate lack of planning, but it may also describe a fortuitous discovery that involved sufficient labour to deserve IP. See eg Duncan Pritchard, ‘A Modal Account of Luck’ in Duncan Pritchard

We present our case in three parts. In section 2, we introduce the topic of Lucky IP in greater detail. Drawing on Thomas Nagel’s taxonomy of luck,¹² we illustrate how luck frequently affects the creation of authorial works and inventions, and pose the following question: are persons entitled to IP rights over their lucky creations?

In section 3, we critique the Entitlement Argument. Using examples drawn from case law and contemporary events, we argue that persons are frequently entitled to own their lucky creations. We claim that most instances of Lucky IP are lucky only in *part*. The intellectual creations in such cases are the product of labour and luck together in combination (a situation we call ‘normally’ Lucky IP). In such cases, the relevant creators typically labour sufficiently to be entitled to IP protection (as a matter of Lockean theory) even if they also benefit from some measure of good fortune along the way.¹³

In section 4, we critique the Legitimacy Argument. In our view, the state’s decision to award positive legal rights in the cases of normally Lucky IP is legitimate because the creators have plausible natural rights claims in relation to their creations. Of course, there are some cases of ‘purely’ Lucky IP—intellectual creations which are so serendipitous (perhaps even ‘fluky’) that they cannot reasonably be understood as the product of individual labour—where no one has

and Lee John Whittington (eds), *The Philosophy of Luck* (Wiley Blackwell 2015) 157 (arguing that winning the lottery cannot aptly be described as an accident and further distinguishing “neighbouring notions” from luck). To our mind, the definition of a given term will be highly context dependent, and its valence triggered by its use. See CS Peirce, ‘How to Make Our Ideas Clear’ (1878) 12 *Popular Science Monthly* 286. Given the broad definition, this article does not discuss every way in which creators enjoy good fortunes. Instead, it limits its focus to a collection of salient examples that enable us to fully evaluate the luck objection.

¹² Thomas Nagel, ‘Moral Luck’ (1979) reprinted in Daniel Statman (ed), *Moral Luck* (State University of New York Press 1993).

¹³ We have chosen the term ‘normally’ Lucky IP not in an effort to stack the deck in favour of our argument, but because, as we argue in this paper, most instances of Lucky IP are a mixed product of labour and luck. If the reader is unconvinced, they are likely to disagree with our terminology.

a persuasive natural rights claim therein. Nevertheless, we do not see the existence of purely Lucky IP as a major problem for the legitimacy of the IP system as a whole. Contemporary IP law does not award ownership rights over purely lucky creations to any significant degree; indeed, IP law has doctrines that help screen out ownership claims over such creations. And, to the extent that some purely Lucky IP claims slip through the net, this may be justifiable so long as the IP system as a whole is a broadly rational way to uphold meritorious claims in intellectual creations produced via labour.

Section 5 concludes by reflecting on what the problem of IP luck tells us about the role of control within fundamental IP doctrines such as authorship in copyright law and inventorship in patent law, particularly in the face of modern challenges such as those posed by artificial intelligence and machine learning technology.

2. *Lucky IP*

Many of us are intuitively committed to a general moral principle that persons deserve praise or blame for only those actions over which they have control¹⁴—a principle known as the ‘Control Condition’ or ‘Control Principle’.¹⁵ You may blame a person for stepping on your toe but withdraw your approbation, or find it misplaced, if you discover the person was pushed. But, as Thomas Nagel and Bernard Williams demonstrated in two famous articles, our day-to-day behaviour frequently departs from this principle.¹⁶ In a variety of situations we routinely praise or blame persons because of factors outside of their control. A reckless driver who speeds onto the pavement

¹⁴ Immanuel Kant, *Groundwork of the Metaphysics of Morals* (first published 1784, Mary Gregor ed, tr, CUP 1998) 4:394.

¹⁵ Dana K Nelkin, ‘Moral Luck’, *The Stanford Encyclopaedia of Philosophy* (Summer edn, 2021) <https://plato.stanford.edu/entries/moral-luck/>. accessed 23 September 2021.

¹⁶ Nagel (n 12); Bernard Williams, ‘Moral Luck’ (1981) reprinted in Statman (n 12).

and crashes is certainly blameworthy; but the same driver who hits and kills a pedestrian seems to deserve more blame. The difference in blameworthiness, however, seems to be a matter of luck—the pedestrian just happened to be there in one case but not the other. And if we are willing to blame the driver who hits the pedestrian more than the driver who does not, what are we to make of the Control Condition? A paradox results: our intuitions both support and undercut the Control Condition. This is the problem of moral luck.

The law shares a general commitment to the Control Condition. A variety of civil and criminal common law doctrines (eg volition, *actus reus*, foreseeability) suggest that one is legally responsible only for actions that are within one's sphere of control. And yet, the law frequently departs from this general principle. The legal status of the reckless driver above depends on their luck: the reckless driver that hits a pedestrian will be civilly and criminally liable; but that liability wanes when the pedestrian disappears from the scene. This is the problem of legal luck: despite the sense that control is important, our legal status frequently 'turns on facts outside our control'.¹⁷ If you are unconcerned about moral luck, you are unlikely to be overly worried about the problem of legal luck. But if, like many lawyers, you find moral luck paradoxical, then legal luck poses a similar dilemma.¹⁸

As we demonstrate in this section, the problems of moral and legal luck are both equally important in the field of IP. The 'legal luck' problem in IP is that, although fundamental principles in IP law emphasise the importance of control, in a variety of real-world cases legal status depends

¹⁷ Ori J Herstein, 'Legal Luck' in Ian M Church and Robert J Hartman, *The Routledge Handbook of the Philosophy and Psychology of Luck* (Routledge 2019).

¹⁸ See eg HLA Hart, *Punishment and Responsibility* (Clarendon Press 1968) 129 ('Why should the accidental fact that an intended harmful outcome has not occurred be a ground for punishing less a criminal who may be equally dangerous and equally wicked?').

on luck. Several doctrines in IP seem, on their face, to support the idea that the author/inventor must exercise control over the resulting product in order to qualify for IP protection. For a work to be copyrightable under EU law, it must be original in the sense of being the ‘*author’s own intellectual creation*’.¹⁹ An important strain of British precedent stresses that a work must ‘*originate*’ from the author in order to be copyrightable,²⁰ while US law limits copyright protection only to original ‘work[s] of authorship’.²¹ Patent law has similar rules. American patent law, for example, famously understands an invention to be ‘anything under the sun made *by man*’ (as opposed to those beyond human agency).²² And when determining whether a work or invention is owned by an employee (or independent contractor) or an employer, courts consider who has control over the manner of the product’s creation.²³ But although IP doctrines suggest that control is important (at least, at a high level of abstraction),²⁴ the examples below show how, in a variety of cases, the law routinely awards ownership status to persons for products which result from factors outside of their control. And while the legal luck problem in IP is our main concern, there is also a moral luck dimension in IP: we not only receive IP rights in products of luck, but we also receive moral praiseworthiness and recognition. So, what gives?

¹⁹ Case C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECR I-6569 (emphasis added)..

²⁰ *Walter v Lane* [1900] AC 539 (emphasis added).

²¹ Copyright Act of 1976, s 102.

²² *Diamond v Chakrabarty* 447 US 303, 309 (1980) (emphasis added).

²³ *Ready Mix Concrete (South East) Ltd v Minister of Pensions and National Insurance* [1968] 2 QB 497, 515C (importance of whether the service is ‘subject to the other’s control in a sufficient degree to make that other master’); *Community for Creative Non-Violence v Reid* 490 US 730, 751 (1989) (considering whether the employer ‘control[s] the manner and means by which the product is accomplished’); *Noha v Shubha* [1991] FSR 14 (on the importance of orders and directions).

²⁴ As discussed later, we believe there is clearly more ‘going on’ when judges apply these doctrines in context that is not easily captured and reflected by these high-level and abstract statements of principle.

To help unpack this question, we adopt Thomas Nagel's standard taxonomy of luck²⁵ alongside helpful examples from Robert J Hartman's more recent work.²⁶ On this view, moral luck falls into four categories: (i) resultant luck; (ii) circumstantial luck; (iii) constitutive luck; and (iv) causal luck. For now, we bracket the issue of causal luck, which raises questions of causal determinism and free will that are beyond the scope of this article (or perhaps, any article). Even without the discussion of causal luck, this section demonstrates how creative works and inventions are frequently the product of luck, and that this presents the same problem for IP as it does for moral and legal philosophy. This section ends with a short literature review.

A. *A Taxonomy of IP Luck*

(i) Resultant luck

Resultant luck occurs 'when an agent performs an action or omission with a consequence that is at least partially beyond her control and that consequence positively affects her praiseworthiness or blameworthiness'.²⁷ Hartman provides the following illustration:

Killer, our first character, is at a party and drives home drunk. At a certain point in her journey, she swerves, hits the curb, and kills a pedestrian who was on the curb. Merely Reckless, our second character, is exactly like Killer in every way, but, when she swerves and hits a curb, she kills no one. There was no pedestrian on the curb for her to kill.²⁸

²⁵ Nagel (n 12). There is a degree of fluidity between the categories within the taxonomy and some cases may fall into more than one category.

²⁶ Robert J Hartman, 'Moral Luck and the Unfairness of Morality' (2019) 176 *Philosophical Studies* 3179.

²⁷ *ibid* 3180.

²⁸ *ibid*.

In this case, the difference between Killer and Merely Reckless is a matter of luck. Yet many would judge and blame Killer more harshly than Merely Reckless. This judgment is reflected in criminal²⁹ and tort law,³⁰ which impose greater opprobrium, punishment and penalties on Killer than they do on Merely Reckless.

Creative works and inventions are frequently the product of resultant luck. Fleming's discovery of penicillin is one such example. Fleming decided to leave his laboratory for a holiday. As a result, the right sort of mould (*Penicillium chrysogenum*) was given time to develop on the *Staphylococcus* culture, from which the antibiotic penicillin was created. Other scientists working towards creating antibiotics were not so lucky. From the late 19th century, scientists such as Louis Pasteur had been experimenting with the therapeutic capabilities of moulds.³¹ But their research did not lead to the same scientific progress as Fleming's work. Only luck, not effort or intelligence, seems to separate them. Lest you think we are cherry-picking, science is littered with such examples. Charles Goodyear discovered vulcanised rubber when a batch of rubber was accidentally left on the stove.³² Wilson Greatbatch developed the pacemaker after he accidentally grabbed the wrong resistor from a box when completing a circuit.³³ Louis Daguerre invented film

²⁹ Killer would be guilty of involuntary manslaughter (due to gross negligence, *Adomako* [1994] 3 ALL ER 79, or recklessness) or causing death by dangerous driving, Criminal Law Act 1977, s 50(1); Merely Reckless would be guilty only of dangerous driving, Road Traffic Act 1988, s 2.

³⁰ The pedestrian's estate would have a claim in negligence against Killer, but not Merely Reckless, due to the requirement of legally cognisable damage.

³¹ Jules Brunel, 'Antibiosis from Pasteur to Fleming' (1951) 6 *Journal of Medical History and Allied Sciences* 287.

³² Mark A Lemley, 'Myth of Sole Inventor' (2012) 110 *Mich L Rev* 709, 733–4.

³³ *ibid.*

when fumes from a spilled jar of mercury interacted with an iodised silver plate.³⁴ Some of history's most important scientific and technological innovations were effected by resultant luck.

Resultant luck is also particularly noticeable in the case of photographers or film makers. Consider the case of the 'Zapruder film' (cited by Mark Lemley in support of the quote appearing in the introduction).³⁵ The 'Zapruder film' is a silent film (26.6 seconds long) taken by Abraham Zapruder on 22 November 1963.³⁶ The short film shows the assassination of President John F Kennedy in Dallas, Texas. While not the only film of the shooting, the Zapruder film captures the assassination clearly and completely. Due to its uniqueness, the Zapruder film is both commercially and culturally important. To this day, the Zapruder family retains the copyright in the film. Yet, Abraham benefited from the 'good fortune' to be filming the president's motorcade from a clear vantage point when the assassination took place almost directly in front of him.

The IP system recently confronted the issue of resultant luck in the case of *Naruto v Slater* (the 'monkey selfie' case).³⁷ In 2011, British nature photographer David Slater tried to produce close-up pictures of endangered Celebes crested macaque monkeys in Indonesia.³⁸ Slater soon found the monkeys were nervous around people, and this frustrated his early attempts to take close-up pictures. Slater realised that he needed to find a way to create the photographs 'without [Slater]

³⁴ *ibid.*

³⁵ Lemley (n 5) fn 45.

³⁶ Øyvind Vågnes, *Zaprudered: The Kennedy Assassination Film in Visual Culture* (University of Texas Press 2011) 4.

³⁷ 888 F 3d 418 (9th Circ 2018).

³⁸ 'Photographer Goes Ape over Monkey Selfie: Who Owns the Copyright?' (*Amateur Photographer*, 7 August 2014) <www.amateurphotographer.co.uk/latest/photo-news/photographer-goes-ape-over-monkey-selfie-who-owns-the-copyright-5054> accessed 23 September 2021. While the facts of the case are still contested, we assume *arguendo* that this account offered by Slater is true.

being there'.³⁹ To do so, Slater left his camera close to the monkeys along with a remote shutter trigger and stood back a safe distance. In his absence, the monkeys spent 30 minutes playing with the camera gear and looking into its lens. In so doing, they frequently triggered the remote shutter control. This caused the camera to take pictures. The result was a series of self-portrait photographs (selfies) of the macaques (Figure 1 demonstrates the most famous of these photographs featuring a monkey called Naruto). In *Naruto v Slater*, the People for the Ethical Treatment of Animals argued that the monkey who snapped the iconic picture (Figure 1) was the 'author' of the photograph and entitled to the IP rights therein; the case was subsequently dismissed by courts finding that animals cannot be copyright owners under US law.⁴⁰ Separately, Slater has complained about the fact that the pictures are freely available online, arguing that by 2014 he had already lost an estimated £10,000 (and growing) in licensing fees.⁴¹



Figure 1. One of the 'monkey selfies' taken by the monkey called Naruto, creator: David Slater.

³⁹ *ibid.*

⁴⁰ *Naruto* (n 37).

⁴¹ 'Photographer "Lost £10,000" in Wikipedia Monkey "Selfie" Row' (*BBC News*, 7 August 2014) <www.bbc.co.uk/news/uk-england-gloucestershire-28674167> accessed 23 September 2021.

The monkey selfie was, to a degree, a consequence of the acts and omissions of Slater. But the result of those efforts was also affected by luck. It was lucky that the monkeys triggered the remote shutter trigger at the precise time that they were looking into the camera lens (indeed, it was somewhat lucky they triggered the system at all). It was lucky that the ensuing photograph was aesthetically interesting (featuring Naruto's almost comically toothy smile) rather than a blurry mess. And yet, despite our general background sympathy to the Control Condition, praising Slater for the photograph or rewarding him with ownership rights therein is not obviously wrong as either a legal or a moral matter. Although some disagree,⁴² numerous copyright lawyers have argued that Slater's role in the creative process earned him copyright in the work and their views are hardly terminally misguided.⁴³ Many would be sympathetic to Slater's claims that free use of the photograph online is a source of lost revenue that, in part, he seems to deserve. Likewise, it is beyond question that Zapruder owns the copyright in the video of the Kennedy assassination⁴⁴ and we doubt many people would feel this to be a seriously wrongful outcome. The point here is not

⁴² The US Copyright Office compendium of practice states that 'a photograph taken by a monkey' would not qualify for protection under US law, US Copyright Office Compendium of Practices §313.2 (2014). However, as the US Register of Copyrights later pointed out, no application for registration was actually made in this case and there are arguments supporting Slater's claim to be the owner. Maria A Pallante, 'From Monkey Selfies to Open Source: The Essential Interplay of Creative Culture, Technology, Copyright Office Practice, and the Law' (2017) 12 Washington Journal of Law, Technology and the Arts 123, 127–9. Cf Shyamkrishna Balganes, 'Causing Copyright' (2017) 117 Colum L Rev 1, 65 (arguing that Slater's claim would fail under a proposed new test for causation in copyright).

⁴³ See eg Andrés Guadamuz, 'The Monkey Selfie: Copyright Lessons for Originality in Photographs and the Internet Jurisdiction' (2016) 5 Internet Policy Review (arguing that Slater has a 'good claim for ownership'); Andrew Orłowski, 'Cracking Copyright Law: How a Simian Selfie Stunt Could Make a Monkey Out of Wikipedia' (*The Register*, 24 August 2014) (comments of Serena Tierney) <www.theregister.com/2014/08/24/wikipedia_monkey_selfie_backfire/> accessed 23 September 2021. In *Naruto* (n 37) the appeals court agreed that the monkey could not be an author under US copyright law but equally did not state that Slater was the author. If the monkey is not the legal owner, and yet the work is protected by copyright, presumably Slater is considered the legal owner of the work.

⁴⁴ *LA News Service v Trullo* 973 D 2d 791 (9th Cir 1992).

that the individuals in each case certainly would receive IP protection, but that they each have an arguable claim to IP protection despite the fact that they benefited, in part, from luck.

(ii) *Circumstantial luck*

Circumstantial luck occurs when luck affects whether an agent faces a ‘morally significant challenge or opportunity’.⁴⁵ To illustrate, Hartman uses the following example:

No Start, our third character, gets drunk and gets into her car in exactly the same way as ... [Killer and Merely Reckless], but the difference is that her car does not start. As a result, she has to call a cab to take her home. But if No Start’s engine had turned over, she would have driven drunk just as they did. By stipulation, it is beyond No Start’s control that her car fails to start, and it is outside of Merely Reckless’s control that her car does start.⁴⁶

No Start did not face a morally significant challenge (ie should she drive while intoxicated?) in the same way that Killer and Merely Reckless did. But it was purely fortuitous that the car did not start and that No Start did not face this challenge.

Frequently, whether an agent produces a piece of protectable IP depends on circumstantial luck. Consider the famous *VJ Day in Times Square* photograph taken by Alfred Eisenstaedt (shown in Figure 2, left) on 14 August 1945, as the United States was celebrating victory over Japan. Eisenstaedt (a photographer) was taking pictures of the celebrations.⁴⁷ Eisenstaedt later recounted that he suddenly, ‘in a flash ... saw something white being grabbed’.⁴⁸ He ‘turned around and

⁴⁵ Hartman (n 26) 3181.

⁴⁶ *ibid.*

⁴⁷ Alfred Eisenstaedt, *Eisenstaedt on Eisenstaedt: A Self-Portrait* (Abbeville Press 1985) 74.

⁴⁸ *ibid.*

clicked the moment the sailor kissed the nurse'.⁴⁹ Eisenstaedt explains how a series of lucky circumstances led to the opportunity to take the photograph. He explained later: 'If she had been dressed in a dark dress I would never have taken the picture. If the sailor had worn a white uniform, the same.'⁵⁰



Figure 2. VJ Day in Time Square (left), creator: Alfred Eisenstaedt; Kissing the War Goodbye (right), creator: Victor Jorgensen.

Compare Eisenstaedt's story to that of Navy Lieutenant Victor Jorgensen, who, on the same day that Eisenstaedt took his famous photograph, also took a photograph of the same kissing people that Eisenstaedt photographed, except from a different angle (shown in Figure 2, right).⁵¹ Like Eisenstaedt, the production of Jorgensen's photograph, which became known as *Kissing the War Goodbye*, was somewhat affected by circumstantial luck (ie being in the right place at the right time). However, unlike Eisenstaedt, Jorgensen was a federal employee (a naval photographer) and

⁴⁹ *ibid.*

⁵⁰ *ibid.*

⁵¹ Daniella Gibson, 'Kissing the War Goodbye: The Fascinating Story of an Iconic Historical Photo' (*History Through the Lens*, 3 January 2021) <https://medium.com/history-through-the-lens/kissing-the-war-goodbye-27c75352294d>> accessed 23 September 2021.

he was on official duty at the time the photograph was shot.⁵² As a result, under US copyright law, Jorgensen did not receive copyright in his photograph, whereas Eisenstaedt did. The differing legal status of the two photographs is, in part, dependent on the *unlucky* coincidence that the photographic opportunity occurred while Jorgensen happened to be on official duty rather than at some other time.

Perhaps a more contemporary example of such circumstantially Lucky IP is the video capturing the murder of George Floyd. On 25 May 2020, 17-year-old Darnella Frazier used her camera phone to record police officer Derek Chauvin kneeling on George Floyd's neck.⁵³ The video captures Floyd saying 'I can't breathe' to the officer. The video is politically and culturally significant, and has been widely distributed in the wake of the murder. Like Eisenstaedt, Frazier was, in Lemley's words, merely in the 'right place at the right time'.⁵⁴

Cases of circumstantial luck are not confined to photographs and films. Creators of all types find themselves in the right place at the right time. This determines not only what type of works and innovations they produce, but also whether they are in a position to create any works or inventions at all. Consider, for example, Altair BASIC, created by Bill Gates and Paul Allen.⁵⁵ The MITS Altair 8800 was the first commercially successful personal computer, the MITS Altair 8800. Altair BASIC was the first programming language for the computer. The creation of Altair BASIC was substantially the product of lucky circumstances. Gates was born to parents with

⁵² *ibid.*

⁵³ Nicholas Bogel-Burroughs and Marie Fazio, 'Darnella Frazier Captured George Floyd's Death on Her Cell Phone. The Teenager's Video Shaped the Chauvin Trial' *New York Times* (New York, 20 April 2021) <www.nytimes.com/2021/04/20/us/darnella-frazier-video.html> accessed 23 September 2021.

⁵⁴ Lemley (n 5) 1340.

⁵⁵ Paul E Ceruzzi and William Aspray, *A History of Modern Computing* (MIT Press 2003) 233.

enough money to send him to a private school that happened to purchase a computer terminal and allowed Gates to use it freely.⁵⁶ Gates and Allen happened to meet at this same private school. Gates went so far as to say, ‘if there had been no Lakeside, there would have been no Microsoft’.⁵⁷ Their interests in computer technology happened to align. And they happened to live in an era when personal computer technology was in its infancy. When hobbyist computer users shared the BASIC software, Gates wrote a strongly worded letter accusing them of theft. But much of the circumstances that allowed him to generate the intellectual property in the first place were the result of factors outside of his control.

And yet, although Eisenstaedt, Frazier and Gates were lucky to be in the right place at the right time, giving them ownership rights does not seem to be obviously wrong. To illustrate, in summer of 2020, then US President Donald Trump released a short campaign video entitled ‘Healing not Hate’, which featured the Frazier video. Trump’s video was subsequently removed from Twitter following a copyright infringement complaint.⁵⁸ The exact details of the complaint are not publicly available and we do not know who made the complaint. For present purposes, imagine that it was Frazier who asserted copyright in her film and demanded that Trump remove his campaign video on the grounds of copyright infringement. Would this seem like an unjust outcome? We suspect that many IP lawyers would agree that, although her video was the product of lucky circumstances, she deserves the copyright therein and, hence, the ability to restrict at least

⁵⁶ Zameena Mejia, ‘Bill Gates Learned What He Needed to Start Microsoft in High School’ (*Make it*, 24 May 2018) <www.cnbc.com/2018/05/24/bill-gates-got-what-he-needed-to-start-microsoft-in-high-school.html> accessed 23 September 2021.

⁵⁷ Bill Gates, ‘Lakeside School’ (*Bill & Melinda Gates Foundation*, 23 September 2005) <www.gatesfoundation.org/Ideas/Speeches/2005/09/bill-gates-lakeside-school> accessed 23 September 2021.

⁵⁸ ‘Twitter Disables Trump Campaign Tribute to George Floyd Due to Copyright Complaint’ *The Guardian* (London, 5 June 2020) <www.theguardian.com/us-news/2020/jun/05/twitter-disables-trump-campaign-tribute-to-george-floyd-due-to-copyright-complaint> accessed 23 September 2021.

some unlicensed uses of the work, such as this one. But if this is true, what are we to make of our general sense that authorial control should matter in IP law?

(iii) Constitutive luck

Constitutive luck occurs ‘when an agent’s dispositions or capacities are not voluntarily acquired, and they positively affect her praiseworthiness or blameworthiness for a trait or an action’.⁵⁹

Hartman illustrates this type of moral luck with another character:

Scarred Childhood ... had a father who was killed by a drunk driver, and she subconsciously developed the policy never to drive drunk. If that traumatic experience had not occurred, however, Scarred Childhood would have had a different character and would have formed the intention to drive drunk ...⁶⁰

While Scarred Childhood’s experiences are outside of their control, they cause her to act in ways that are morally praiseworthy (avoiding drink-driving). How much praise does Scarred Childhood deserve for this outcome? Likewise, how much blame do Killer and Merely Reckless deserve given they did not have such a formative experience?

We might ask the same thing of a musical genius who acquires all of his ability from a traumatic brain injury. Take the case of Derek Amato.⁶¹ Amato suffered a traumatic brain injury in 2006 after diving into a shallow pool at the age of 39 and subsequently became a musical savant. Prior to the injury, he had played the guitar. After the injury, he experienced synaesthesia and was spontaneously able to compose and play complex scores on the piano (an instrument he previously

⁵⁹ Hartman (n 26) 3181.

⁶⁰ *ibid.*

⁶¹ Shankar Vedantam, ‘Stroke of Genius: How Derek Amato Became a Musical Savant’ (*NPR*, 23 February 2016) <www.npr.org/transcripts/467680296> accessed 23 September 2021.

could not play). Without the brain injury, Amato would not have been able to compose and play piano scores.

Alternatively, consider the case of the film director Francis Ford Coppola (director of such films as *The Godfather* and *Apocalypse Now*). Coppola contracted polio as a boy and was bedridden for large periods of his childhood. He whiled away the periods of solitude by reading plays (*A Streetcar Named Desire* was particularly formative for him during this time) and staging theatre productions at home with hand puppets.⁶² This childhood experience is seen as crucial to his later decision to pursue a career in theatre and film.⁶³ But does Coppola deserve the IP in his subsequent films any less because his life was affected by this unlucky experience? Does Amato not deserve to be the copyright owner of his piano scores? There is an intuitive sense that they both deserve their rights, despite the twists of fate that helped them acquire the capabilities necessary to create their works.

Constitutive luck can take both quantitative and qualitative dimensions. As a quantitative matter, some persons have the ability to produce vast amounts of IP-eligible material, while others do not have a similar capability. Stephen King, for example, is the author of 62 novels and over 200 short stories (and counting).⁶⁴ Thomas Edison held over 1000 patents on his inventions.⁶⁵ But others are incapable of such prodigious levels of creativity due to reasons outside of their control.

⁶² Francis Ford Coppola, Gene D Phillips and Rodney Hill, *Francis Ford Coppola: Interviews* (University of Mississippi Press 2004) 137.

⁶³ Robert Lindsey, 'Francis Ford Coppola: Promises to Keep' *New York Times* (New York, 24 July 1988) <www.nytimes.com/1988/07/24/magazine/francis-ford-coppola-promises-to-keep.html> accessed 23 September 2021.

⁶⁴ Stephen King, 'Written Works' <<https://stephenking.com/works/>> accessed 23 September 2021.

⁶⁵ 'Thomas Edison' (*History.com*, 6 June 2019) <www.history.com/topics/inventions/thomas-edison> accessed 23 September 2021.

JD Salinger produced only one novel (*Catcher in the Rye*) and a handful of short stories and novellas.⁶⁶ Similarly, Gustave Flaubert produced much less output over the course of his lifetime than the likes of Balzac and Zola due to his ‘perfectionist’ writing style.⁶⁷ Finally, others may be limited because their constitutive luck is quite bad. John Kennedy Toole, for example, produced only one masterpiece (*A Confederacy of Dunces*) because his life was cut short by suicide.⁶⁸

As a qualitative matter, some persons also have the ability to produce high-quality intellectual material, while many of us do not have such talent. Try as we may, very few among us will compose music with the lasting appeal of Beethoven’s Ninth Symphony, or produce paintings that usher in new artistic epochs like Van Gogh or Duchamp. This ability to produce qualitatively valuable creative output is particularly important as IP protection is conditional upon the satisfaction of certain qualitative standards. In patent law, only inventions which are sufficiently non-obvious are granted protection, and in copyright only sufficiently creative works receive protection. We do not want to overstate the point, however, because contemporary bars to IP protection are quite low.

To a certain extent, the skills and abilities required to produce high-quality intellectual goods can be voluntarily acquired. Thomas Edison himself said that ‘genius is one percent inspiration and 99 percent perspiration’, referring to the hard work required to produce inventions.⁶⁹ Nevertheless, many of the necessary skills and attributes are likely to be a product of

⁶⁶ ‘JD Salinger’, *Britannica* <www.britannica.com/topic/Holden-Caulfield> accessed 23 September 2021.

⁶⁷ Walker Percy, ‘Introduction’ in John Kennedy Toole, *A Confederacy of Dunces* (Grove Atlantic 2007).

⁶⁸ John J Conlon, *Walter Pater and the French Tradition* (Bucknell UP 1982) 120.

⁶⁹ Reported in Robert Curley, *The 100 Most Influential Inventors of All Time* (Britannica Educational Publishing 2009) 13.

factors outside of our control. While it would be nice for everyone to have some natural ability to generate high-quality creative output, alas we cannot all be Leonardo da Vinci.

B. *Luck and Literature*

Since the publication of Nagel's and Williams's famous essays sparked interest in the topic, ethicists have offered three broad responses to the problem.⁷⁰ One common approach is to deny the existence of a paradox by disclaiming the idea that our moral or legal response depends on luck. Scholars in this camp offer a number of arguments, including the following (illustrated by returning to Hartman's Killer/Merely Reckless example):

- (1) we do, in fact, have similar moral responses to lucky and unlucky persons such as Killer and Merely Reckless;⁷¹
- (2) we respond to Killer and Merely Reckless differently not because of a different moral assessment, but because negligent behaviour that results in death is seen as more negligent than negligent behaviour that does not result in death (the 'epistemic' argument);⁷²
- (3) we may, in some respects, appropriately feel differently about Killer and Merely Reckless, but this is not the same (and should not be the same) as subjecting them to the same moral assessment;⁷³ or
- (4) we can distinguish Killer and Merely Reckless by separating issues of morality from ethics.⁷⁴

⁷⁰ Nelkin (n 15). Other philosophers have considered conditions of responsibility beyond simply the control condition, see Fernando Broncano-Berrocal, 'Luck as Risk and the Lack of Control Account of Luck' in Duncan Pritchard and Lee J Whittington, *The Philosophy of Luck* (Wiley Blackwell 2015).

⁷¹ Judith Jarvis Thomson, 'Morality and Bad Luck' in Statman (n 12).

⁷² Andrew Latus, 'Moral and Epistemic Luck' (2000) 25 *Journal of Philosophical Research* 149 (summarising the 'epistemic' argument).

⁷³ Susan Wolf, 'The Moral of Moral Luck' (2001) 31 *Philosophic Exchange* 4.

⁷⁴ Bernard Williams, 'Postscript' in Statman (n 12).

An alternative approach is to accept that moral luck does seem to pose a paradox. Scholars who do so typically urge us to revise our moral judgments in line with the Control Condition⁷⁵ or alternatively urge us to modify our intuitive acceptance of the Control Condition (frequently by noting that if applied routinely, the condition would unacceptably erode any sort of moral judgment).⁷⁶ A final approach is to argue that either acceptance or denial of the problem is incoherent, particularly in respect to constitutive luck. Some suggest that one cannot meaningfully be said to be either lucky or unlucky in regard to who one is.⁷⁷

To date, scholars interested in legal luck have primarily focused on two areas of law: the tort of negligence⁷⁸ and the criminal law of attempts.⁷⁹ The broad underlying academic question posed in this literature is whether legal luck can be justified. Legal philosophers have offered various responses to this question. At one end of the spectrum, David Enoch supports the Control Condition within law and argues that any instances of legal luck are unjustifiable;⁸⁰ at the other, lawyers argue that one is responsible for lucky and unlucky outcomes which are beyond our

⁷⁵ Brynmor Browne, 'A Solution to the Problem of Moral Luck' (1992) 42 *The Philosophical Quarterly* 356.

⁷⁶ Margaret Urban Walker, 'Moral Luck and the Virtues of Impure Agency' (1991) 22 *Metaphilosophy* 14.

⁷⁷ Nicholas Rescher, 'Moral Luck' in Statman (n 12).

⁷⁸ See eg Joel Feinberg, 'Responsibility in Law and Morals' (1997) 71 *Philosophical Review* 340; Christopher H Schroeder, 'Causation, Compensation, and Moral Responsibility' in David Owen (ed), *The Philosophical Foundations of Tort Law* (OUP 1995); Jeremy Waldron, 'Moments of Carelessness and Massive Loss' in Owen (ibid); John CP Goldberg and Benjamin BP Zipursky, 'Tort Law and Moral Luck' (2007) 92 *Cornell L Rev* 11123.

⁷⁹ See eg Feinberg (n 78); Michael Davis, 'Why Attempts Deserve Less Punishment than Completed Crimes' (1986) 5 *Law and Philosophy* 1; David Lewis, 'The Punishment That Leaves Something to Chance' (1989) 18 *Philosophy and Public Affairs* 227; Kimberly D Kessler, 'Role of Luck in Criminal Law' (1994) 142 *U Pa L Rev* 2183; Larry Alexander, 'Crime and Culpability' (1994) 5 *Journal of Contemporary Legal Issues* 1; Sanford H Kadish, 'Forward: The Criminal Law and the Luck of the Draw' (1994) 84 *J Crim L & Criminology* 679.

⁸⁰ David Enoch, 'Luck Between Morality, Law and Justice' (2008) 9 *Theoretical Inquiries in Law* 23.

control. Famously, Tony Honoré argues that accepting legal responsibility for both good luck and bad luck (taking ‘the rough with the smooth’) is an essential part of our personhood.⁸¹

None of this discussion, however, has transferred into the field of IP law. Does the lucky creator deserve to own their IP? What about the apparent paradox between our intuitive moral-legal support for the Control Condition and our willingness to depart from it in real-world cases of Lucky IP? Does luck pose a fundamental problem to labour-based justifications for IP? These questions have not been addressed by IP scholars.

The closest argument related to this topic of which we are aware comes from Sean Seymore’s article entitled ‘Serendipity’.⁸² In that article, Seymore approaches the problem of accidental discoveries (particularly chemical discoveries) from a doctrinal perspective. Seymore describes how, under contemporary patent law, an accidental discovery does not immediately qualify as a patentable invention; instead, the discovery only ripens into an invention sometime later, when the inventor ‘conceives’ of the accident as an invention. Seymore proposes a slight modification of the discovery–invention dichotomy in patent law. Under this proposal, the discovery would become patentable once the scientist isolates the substance and makes reasonably diligent efforts to elucidate its structure.

Besides Seymore’s work on serendipity, IP scholars have started to explore the topic of causality—an issue which has some connections to luck. Several authors have recently explored the question of when a person may appropriately be considered the ‘cause’ of IP-eligible

⁸¹ Anthony Honoré, *Responsibility and Fault* (Bloomsbury 1999) 14–40.

⁸² Sean B Seymore, *Serendipity* (2009) 88 NC L Rev 185.

material.⁸³ Scholars have considered whether, for example, David Slater is the ‘cause’ of the Monkey Selfie and, if so, whether that entitles him to copyright protection over the photograph.⁸⁴ The literature examining causation within IP has grown in significance lately due to the technological development of artificial intelligence.⁸⁵ Increasingly pressing in the 21st century, for instance, is whether the producer or operator of a machine learning algorithm may claim to have ‘caused’ the IP-eligible outputs of the machine. Similarly, some scholars have considered the potential that some creations may be ‘unforeseeable’ and considered how that ought to affect the IP status of the product.⁸⁶ Yet the literature on these topics maps most closely onto the type of luck—causal luck—that we are largely bracketing in this article.

3. *Entitlement to Lucky IP*

At the core of the problem of Lucky IP is a fundamental question: are we entitled to own inventions and creative works that are affected by luck? In the examples above, there is frequently an intuition that at least some of the time we should be able to own such creations. But these intuitions seem to conflict with the Control Condition. In this conflict, the luck objection takes the side of the Control Condition and argues that we are not entitled to own such instances of Lucky IP. But then what are we to make of the competing sense, shared by many (although certainly not all), that creators like Zapruder or Gates are entitled to IP protection? In this section, we critically analyse the Entitlement Argument (EA).

⁸³ Balganes (n 42); Daniel L Burk, ‘Thirty-Six Views of Copyright Authorship, by Jackson Pollock’ (2020) 58 *Hous L Rev* 263.

⁸⁴ See eg Balganes (n 42); Burk (n 83).

⁸⁵ Jane C Ginsburg and Luke Ali Budiardjo, ‘Authors and Machines’ (2019) 34 *Berkeley Technology Law Journal* 343; Ryan Abbott, *The Reasonable Robot* (CUP 2020).

⁸⁶ Shyamkrishna Balganes, ‘Foreseeability and Copyright Incentives’ (2009) 122 *Harv L Rev* 1569; Justin Hughes, ‘Copyright and Its Rewards, Foreseen and Unforeseen’ (2009) 122 *Harv L Rev* F 81.

When given full exposition,⁸⁷ the EA can be interpreted in (at least) three ways. One might argue that: (i) persons have no ‘natural right’ to own lucky creations (what we call the Natural Rights version of the EA); (ii) persons do not ‘deserve’ to own lucky creations (what we call the Desert version of the EA); or, finally, (iii) persons do not own any creations to the extent that they result from events beyond our ultimate control (what we call the Ultimate Control version of the EA). Here we evaluate each version of the argument and find them unconvincing. For the vast majority of Lucky IP, the intellectual products are sufficiently the result of human labour to support property rights according to the labour theory of IP. Thus, we are more willing than Lemley to reject and modify the Control Condition in relation to IP.

A. Natural Rights EA

The Natural Rights EA can be presented in either an absolute or a qualified form.

(i) Absolute Natural Rights EA

The Absolute Natural Rights EA goes as follows (where P stands for premise and C stands for conclusion):

- P_{1anr}*: Persons naturally own intellectual creations if and only if they labour to create them.
- P_{2anr}*: Persons do not labour to create lucky intellectual creations.
- C_{anr}*: Persons do not naturally own lucky intellectual creations.

Despite the logic of the argument, we think premise 2 is false. In the vast majority of Lucky IP examples, the relevant persons clearly do labour to create the intellectual creations (in the sense of mixing their self with the commons). It just so happens that they also benefit from some measure of good fortune along the way.

⁸⁷ See above n 6.

Let us take the case of the Zapruder film (an example of resultant luck). While the precise content of the film was somewhat outside the scope of Zapruder's control, the film itself remains substantially the product of labour. Consider the events leading up to the filming.⁸⁸ Zapruder had initially planned to film the motorcade as it passed through downtown Dallas. However, as it had rained that morning, he decided to modify his plans and only film the motorcade as it passed near his work office. He initially considered filming the motorcade from his office window, but, after examining the vantage point his office window offered, he rejected that location in favour of filming from Dealey Plaza. Zapruder then went to the Plaza, where, to obtain a clear picture, he chose to stand on top of a four-foot concrete abutment on the north side (despite his vertigo and fear of heights!) and operated the recording equipment. Quite clearly, the resulting film was not completely fortuitous, but was instead, in part, the product of Zapruder mixing his person via labour with the commons. Of course, Zapruder could not have foreseen the assassination. But this element of luck does not completely negate the presence of labour in the generation of the film.

Consider next the monkey selfie case.⁸⁹ Slater's photography knowledge and skill were developed and refined over many years, leading him to the point where he had the artistic vision to capture close-up pictures of macaques. Through labour, Slater mixed that element of his person (his talents, his vision) with the commons in order to create original photographs. That labour involved travelling to Indonesia, trekking into the wilderness, selecting the appropriate camera to use, setting the camera and lighting up correctly (by the use of predictive autofocus, motor drive and a flashgun), and observing the monkeys use the setup over the span of multiple days while

⁸⁸ Vâgnes (n 36).

⁸⁹ *Naruto* (n 37).

waiting for the right photograph to emerge.⁹⁰ Undoubtedly, the resulting photographs were the product of Slater's labour in part. The fact that Slater also received good fortune does not entirely undercut this conclusion.

Similarly, the circumstances surrounding the creation of *VJ Day in Times Square* (a type of circumstantial luck) were, upon closer inspection, less fortuitous than one might initially think. Eisenstaedt was a professional photojournalist who specialised in 'human-interest' stories (ie the practice of capturing the human and emotional side of current events).⁹¹ To that end, Eisenstaedt preferred 35 mm film cameras (such as the Leica IIIa) rather than bulkier 4" × 5" cameras with flash attachments because they were easier to move quickly and thus more capable of capturing spontaneous events.⁹² On 14 August 1945, Eisenstaedt had the idea to capture human-interest photographs of the celebrations taking place in Times Square. He then proceeded to take his Leica camera to the Square in the pursuit of such photographs. As he later explained:

In Times Square on V.J. Day I saw a sailor running along the street grabbing any and every girl in sight. Whether she was a grandmother, stout, thin, old, didn't make a difference. I was running ahead of him with my Leica looking back over my shoulder but none of the pictures that were possible pleased me.⁹³

Of course, Eisenstaedt got 'lucky' at the point where he saw the sailor grab the nurse. However, the circumstances leading up to that point were engineered and brought about by his own labour.

⁹⁰ David Slater, 'Sulawesi Macaques' (*DJS Photography*) <www.djsphotography.co.uk/original_story.html> accessed 23 September 2021.

⁹¹ Vicki Goldberg, 'Alfred Eisenstaedt Finally Gets His First Full Retrospective—at 88' *New York Magazine* (New York, 15 September 1986) 80.

⁹² Charles Hagan, 'Alfred Eisenstaedt, Photographer of the Defining Moment, is Dead at 96' *New York Times* (New York, 25 August 1995) <www.nytimes.com/1995/08/25/obituaries/alfred-eisenstaedt-photographer-of-the-defining-moment-is-dead-at-96.html> accessed 23 September 2021.

⁹³ Eisenstaedt (n 47).

Furthermore, the different circumstances surrounding the creation of *Kissing the War Goodbye* and *VJ Day in Times Square* were not purely fortuitous, but were instead substantially within the control and agency of the respective authors. Eisenstaedt chose to labour as a freelancer; Jorgensen chose to labour as a naval photographer. While the circumstances of our lives are, arguably, never fully within our control, the circumstances of creation in these two cases were sufficiently within the control of the respective authors to warrant differential treatment.

Finally, while some persons win the genetic lottery and are blessed with an ability to create great art in great quantities, this does not negate the fact that those individuals labour to produce their works. Thomas Edison and Leonardo Da Vinci may have had a natural creative advantage over the rest of us, but they also clearly laboured to create their works. Furthermore, we take it as largely axiomatic that IP law ought to be insensitive to (and mostly disregard) issues of constitutive luck. We acknowledge that there is an important philosophical question regarding whether the fortunate deserve the talents they are awarded in the natural lottery.⁹⁴ However, if we conclude that persons do not deserve the fruit of their talents, then the case for IP as a whole, not just Lucky IP, is dramatically weakened. If any IP is justified, then it is clear that the field must be based upon a rejection of the importance of constitutive luck.

Of course, we do agree that there are some cases of ‘purely Lucky IP’ where the intellectual creation is so overwhelmingly the product of luck that insufficient morally significant labour can be detected. Unlike the above cases of ‘normally Lucky IP’, where labour and luck combine to produce the intellectual good, here premise 2 strikes us as more clearly true. In the 1994 movie *Forrest Gump*, for example, the main character (Forest) is splashed by mud while running across the country. A passer-by gives him a plain yellow shirt to wipe his face. The result is an iconic

⁹⁴ John Rawls, *A Theory of Justice* (Harvard UP 1971) 310. Cf Nozick (n 9) 149–63.

image of a smiley face (Figure 3). We would be hard pressed to find much labour in such an event. Here we would agree with Lemley that Forest has no natural right in the resulting image.



Figure 3. *Forrest Gump Smiley Face*, creator: Robert Zerneckis, Paramount.

Similarly, Fleming's discovery of the mould (as opposed to the outcomes of his later experimentation with that mould and the isolation of the penicillin from the mould)⁹⁵ presents another case where the level of serendipity leads us to view the mould *per se* as a purely lucky creation. However, as we explain in section 4, our sense is that such fluky creations are rare and, when they do occur, the IP system is already well equipped to deny ownership to purely lucky creators.

(ii) *Qualified Natural Rights EA*

But perhaps the Absolute Natural Rights EA is an uncharitably rigid interpretation of the Entitlement Argument. A better understanding of the EA might not be to deny that persons labour to produce lucky creations at all, but instead to claim that they simply do not labour *enough*. Maybe, then, the natural rights interpretation of the argument is stronger when presented as follows:

P_{1qr}: Persons naturally own intellectual creations if and only if they labour *enough* to create them.

P_{2qr}: Persons do not labour *enough* to create lucky intellectual creations.

⁹⁵ Eric Lax, *The Mold in Dr Florey's Coat: The Story of the Penicillin Miracle* (Henry Holt 2004) 21 (explaining how the isolation process was 'seemingly impossible').

C_{qnr}: Persons do not naturally own lucky intellectual creations.

However, this modification (*P_{1qnr}*) misunderstands, and therefore does not adequately respond to, the labour argument that Lockeans typically offer. Locke's justification for property does not specify a particularly demanding minimum quantity or threshold of labour that is required to enjoy natural rights. In fact, the examples Locke uses to illustrate his argument all require an astonishingly small amount of effort, such as gathering acorns or apples from the commons.⁹⁶ This is because labour in Locke's work is not synonymous with 'toil' or 'hard work'. According to Locke, we all naturally own ourselves: we have 'property' in our own 'person' and the 'labour' of our bodies.⁹⁷ When we remove something from the state of nature, we 'mix' the labour of our bodies (something owned) with the thing (something unowned). When this happens, the self-ownership carries over, and permeates the previously unowned thing. Even if the amount of effort required to remove something from the commons is low, so long as there is *some* element of mixing present (such as in the acorns and apples examples), that is sufficient to enable some amount of labour to attach to the thing, such that appropriating the thing would amount to appropriating something owned by the person.

This argument applies equally to the question of ownership of intellectual creations. Someone like Darnella Frazier did not expend much effort in creating the video of the George Floyd murder. But this is mostly irrelevant to Lockeans. Although a low-effort activity, Frazier owned herself and her labour. By taking out her camera phone and recording the tragic scenes, she performed some labour (much like the acorn gatherer). In so doing, Frazier mixed her labour with the commons in order to create something—the video—into which, according to Lockeans, her self-

⁹⁶ Locke (n 3) 116 (para 27).

⁹⁷ *ibid.*

ownership seeped.⁹⁸ To appropriate the video thereafter would be to appropriate Frazier's labour. While the extent of the appropriation may be smaller than it could have been if Frazier had spent many years creating the film, there would nevertheless be some element of wrongful taking of something that rightly belongs to her. Of course, as indicated in the Introduction, there are problems with this line of argument.⁹⁹ One may find Locke's apparent position that any relevant labour will generate natural property rights to be unrealistically facile. But the purpose of this present article is not to defend every aspect of Locke's theory; instead, it is to evaluate the unique luck-sceptic claim that Lockean labour arguments are inapplicable to creators like Frazier. Put simply, whatever one thinks of Locke's theory generally, the theory does dictate that such creators enjoy rights because of their mixing of labour; the fact that the creator enjoys some luck too does not change that conclusion.

Finally, even if we accepted P_{1qnr} , we are unconvinced by P_{2qnr} . In many instances, lucky creators expend very significant amounts of effort. As the former US Register of Copyright put it, David Slater was 'the one who trekked into the wilderness, engendered trust with a group of primates, and created the ambience and technical props that were arguably designed to facilitate a monkey taking a selfie'.¹⁰⁰ Similarly, Zapruder spent a significant amount of time and effort in finding the right spot from which to film the Kennedy motorcade. And while Fleming's discovery of the mould was overwhelmingly fortuitous, the subsequent isolation of the penicillin was so difficult that at times it seemed impossible.¹⁰¹

⁹⁸ Thus, the argument Lockeans present is not 'I created it so I own it', Lemley (n 5) 1341, but instead that I own myself, and myself ownership has seeped into the thing I have created.

⁹⁹ Nozick (n 9) 136–7 ('But why isn't mixing what I own with what I don't own a way of losing what I own rather than a way of gaining what I don't?').

¹⁰⁰ Pallante (n 42) 129.

¹⁰¹ Lax (n 95).

We think that understanding labour as a distributed process over different time horizons, rather than a discrete element that can be identified and connected to an invention or creative work, reinforces this intuition. The skills, knowledge and talents needed to create intellectual products are typically acquired and honed voluntarily over long periods of time. Viewed in isolation, *VJ Day in Times Square* may potentially (but erroneously) be seen as merely a photograph in the right place at the right time. But this misses the many years of labour Eisenstaedt expended in developing his unique style of photography and building up a career as a photographer that ultimately put him in the position to take the famous photograph. To be sure, we do not mean that all of life's experiences are sufficient to qualify one as an author or inventor (even the Forrest Gump Smiley Face could be understood as a product of labour if all of Forest's previous life experiences qualified as relevant labour). We do believe, however, that some experiences prior to the immediate creation (such as time spent practising one's art or craft) are sufficiently proximate to the end product to qualify as relevant labour.¹⁰²

B. *The Desert EA*

Alternatively, one could understand Lemley (and any other luck-sceptics) as arguing that the individuals simply do not *deserve* the full rewards that IP ownership brings.¹⁰³ Part of Lemley's argument is that the IP rights are 'extremely valuable' in the sense of enabling the creators to earn

¹⁰² Precisely defining the line between relevant and irrelevant labour is outside the scope of this article. Judgments about what qualifies as relevant or irrelevant labour must be made, we think, contextually on a case-by-case basis. But we incline generally towards the view that an act qualifies as legally relevant labour when it is undertaken with creative intentions. This view dovetails with the role of intention elsewhere in IP subject matter, see generally Justine Pila, 'An Intentional View of the Copyright Work' (2008) 71 MLR 535. This view separates the case of Forrest Gump's Smiley Face from examples such as Eisenstaedt's *VJ Day in Times Square*.

¹⁰³ Lemley's article describes the Lockean argument in terms of 'desert' on numerous occasions (n 5) 1341 fn 51, 1343, 1343 fn 59. This is not uncommon in IP literature, see Gordon (n 4) 1538.

significant market rents.¹⁰⁴ Perhaps such rents are an undeserved windfall when the amount of effort expended to create such works is low, as the following Desert EA conveys:

- P_{1d}*: Persons deserve to reap the rewards of their labour only in proportion to the amount of labour expended.
- P_{2d}*: Persons spend very little labour to create lucky creations.
- C_d*: Persons do not deserve to reap the rewards of lucky creations because they are disproportionate to their labour.

However, changing the basis of the EA from natural law to desert would simply render the argument beside the point. The Lockean labour argument is not about *moral desert*; it is about *natural law*.¹⁰⁵ Consider what Locke says in the *Two Treatises of Government*: ‘Whatsoever, then, he removes out of the state that Nature hath provided and left it in, he hath mixed his labour with it, and joined to it something that is his own, and thereby makes it his property.’¹⁰⁶ Unlike his arguments in other parts of *Two Treatises of Government*,¹⁰⁷ Locke makes no claim about desert in the section of property.¹⁰⁸ He does not say that one who collects acorns from the commons ‘deserves’ ownership as a moral matter. Rather, the acorns become the gatherer’s ‘private right’

¹⁰⁴ Lemley (n 5) 1340.

¹⁰⁵ Mala Chatterjee, ‘Lockean Copyright versus Lockean Property’ (2020) 12 *Journal of Legal Analysis* 136, 144 (summarising how it is not ‘plausible’ to think that Locke was making an argument about moral desert; although later scholars have made a Locke-inspired desert argument). A John Simmons, *The Lockean Theory of Rights* (Princeton UP 1992) 246 (there are ‘serious obstacles’ to understanding Locke’s theory as based on desert).

¹⁰⁶ Locke (n 3) 116 (para 26).

¹⁰⁷ See eg *ibid* 141 (para 87) (one who breaches the law deserves punishment, potentially including death), 144 (para 93) (one who undermines government law deserves to be declared an enemy of society and deserves death), 175 (para 159) (in some instances law breakers deserve pardon).

¹⁰⁸ *ibid* 115 (para 24)–126 (para 51).

by virtue of ‘natural reason’¹⁰⁹ (synonymous with ‘natural law’¹¹⁰ or the ‘law of reason’¹¹¹). Locke’s point is that we simply ‘naturally’ own ourselves (not that we deserve to own ourselves), and this ‘naturally’ carries over when we engage in the process of mixing our labour with the commons. And the same applies equally to instances of lucky intellectual creations. We might go as far as to say that Darnella Frazier did not do anything particularly morally praiseworthy or something that deserved a ‘reward’. But that is not a relevant objection to the labour argument because it is not typically what Lockeans are arguing.

Of course, it is certainly possible to think a desert-based labour argument provides a stronger justification for IP than Locke’s original claims about natural right. Kenneth Himma, for example, argues that Locke’s ‘overly metaphorical mixing-labour language’ could be replaced by making a more straightforwardly moral argument that when a person labours on the commons to create ‘new value in it’ that person deserves ownership;¹¹² and Chatterjee points out how one can find some textual basis for a desert-based reading of Locke, even if that is not what Locke intended.¹¹³ If one ascribes to a desert-based labour argument, then the Desert EA might land a more solid blow.

And yet, that blow still does not strike us as a knock-out. This, in our view, is because the Desert EA makes a category mistake. Although connected, whether a person deserves an IP right (an entitlement question) is not the same question as whether she deserves the full market rents that current IP rights provide (a rewards question). The market rents that Slater, Zapruder or

¹⁰⁹ *ibid* 116 (para 24).

¹¹⁰ *ibid* 162 (para 134).

¹¹¹ *ibid* 117 (para 29).

¹¹² Himma (n 3) 31–3.

¹¹³ Chatterjee (n 105) 144.

Eisenstaedt earn is affected not only by the existence of an IP right, but other factors such as consumer demand, consumer purchasing power and, notably, *the scope of the IP right itself* (including its term, the breadth of the right provided by doctrines such as substantial part/similarity or the doctrine of equivalents, and the availability of any limitations and exceptions). It is entirely possible to believe that persons who create normally lucky intellectual creations deserve IP rights because of the element of labour contained therein but to equally think that they do not deserve the current market reward provided by ‘extremely valuable’ IP rights.¹¹⁴ One can sensibly argue that Eisenstaedt, Frazier and Gates deserve copyright of a sort, but equally argue that the market position provided by contemporary copyright is too strong and should be reined in to align with our notions of desert.¹¹⁵ This view accords most closely with our own moral intuitions.

C. *The Ultimate Control EA*

Finally, a stronger presentation of the Proportionate Desert version may be called the Ultimate Control version. However, while the EA could be understood this way,¹¹⁶ we think the argument is quite implausible and thus dismiss it in reasonably short order. This version of the argument goes as follows:

- P_{1uc}*: Persons deserve IP rights only when the creations result from events under the persons’ ultimate control.
- P_{2uc}*: Lucky creations results from events outside of persons’ ultimate control.
- C_{uc}*: Persons do not deserve IP rights in lucky creations.

¹¹⁴ Lemley (n 5).

¹¹⁵ Doctrines both internal (eg term, scope of protection) and external (eg competition law) to IP might profitably address some distortions in market power.

¹¹⁶ The argument has been presented to the authors by those who have commented upon drafts of this article.

This type of argument has been made in philosophical contexts.¹¹⁷ The principal problem with the argument is that no one can agree on what constitutes ‘ultimate control’. This raises questions of free will and determinism that are so complicated and confused that the argument starts to lose force. First, what do we mean by ‘control’ when a variety of factors—no matter how much we try—will always be outside our control? Second, how much control of our own efforts is sufficient to warrant us ‘deserving’ the results of our efforts? Given that some factors will always be outside of our control, suggesting that moral or legal responsibility can only be assigned to outcomes which are under one’s ‘ultimate control’ threatens to erode the concept of responsibility down to nothing at all.¹¹⁸ Similarly, given that most (and perhaps all) IP creators will benefit from good fortune at some point in the development of their products, requiring that intellectual creations be subject to someone’s ‘ultimate control’ before awarding IP rights seems to present an unrealistically high barrier to achieving IP protection.

4. *Legitimacy of the IP System*

But what, then, of the IP system’s legitimacy overall? The luck-sceptic’s ultimate claim is that Lucky IP cannot be justified by the Lockean labour argument and yet the state continues to grant such rights. The implication of this view is that the state’s act of awarding IP rights is illegitimate unless some utilitarian argument can save the IP system from itself. This Legitimacy Argument (LA) can be presented as follows:

P_{11a}: An IP system that grants ownership over lucky creations is not legitimate.

¹¹⁷ See eg Mark B Anderson, ‘Moral Luck as Lack of Control’ (2019) 57 *Southern Journal of Philosophy* 5. See also Galen Strawson, ‘The Impossibility of Ultimate Control’ in Jonathan Dancy and Constantine Sandis (eds), *Philosophy of Action: An Anthology* (John Wiley & Sons 2015); Robert Kane, ‘Responsibility, Luck, and Chance: Reflections on Free Will and Indeterminism’ (1999) 96 *Journal of Philosophy* 217.

¹¹⁸ Nelkin (n 15).

P_{2la}: The current IP system routinely awards ownership over lucky creations.

C_{1a}: The current IP system is not legitimate.

We are unconvinced that an IP system that grants ownership over lucky creations is illegitimate (P_{11a}). As explained in the previous section, in our view the vast majority of Lucky IP is *normally lucky*, that is, it is lucky only in *part*. Despite the element of good fortune, the creators and inventors in these cases frequently invest sufficient labour to own, and to deserve to own, the resulting product.¹¹⁹ Thus, putting aside other objections to Lockean theory for the moment, the labour argument seems to support granting ownership rights in most cases of normally Lucky IP. If that is true, the state has a duty to protect those property rights just like any other property rights (as part of the social contract).¹²⁰ The fact that IP law grants ownership rights in many instances of Lucky IP does not strike us as a significant problem, and certainly not a problem that threatens to undermine the legitimacy of the IP system.

Of course, the same cannot be said of *purely* Lucky IP. Awarding IP rights in happenstance creations, such as the Forrest Gump Smiley Face, would seem to pose a more serious problem for the legitimacy of the IP system. Thus, perhaps there is a stronger and more charitable version of the Legitimacy Argument, one that takes account of our distinction between normally and purely Lucky IP. This reformed Legitimacy Argument goes as follows:

P_{1a}*: An IP system that grants ownership over *purely* lucky creations is not legitimate.

P_{21a}*: Our current IP system routinely awards ownership over *purely* lucky creations.

¹¹⁹ This conclusion is subject to the usual Lockean caveats. In particular, the labour involved in creating normally lucky intellectual creations is sufficient to make the labourer the ‘natural owner’ of the resulting product so long as ‘enough and as good’ is left behind for others in society to use and enjoy. See Locke (n 3); Merges (n 4) 48–55.

¹²⁰ Locke (n 3).

*C_{1a}**: Our current IP system is not legitimate.

Despite the modification, we do not believe current IP law awards ownership over *purely* Lucky IP to a significant degree (*P_{21a}**). The current IP system has well-established doctrines designed to prevent persons from acquiring IP rights in purely fortuitous creations. In particular, the discoveries–inventions dichotomy in patent law and the originality and authorship doctrines in copyright both attempt to prevent ownership claims over purely Lucky IP. Forrest Gump (or the individual who handed Forest the tee shirt) would face some serious obstacles if he tried to assert copyright in the Smiley Face. While the Smiley Face was not ‘copied’ from any pre-existing creative work, it is far from certain that he could demonstrate that the face involved a sufficient ‘spark’ of creativity,¹²¹ was the product of ‘skill and labour’,¹²² or represented the author’s own ‘intellectual creation’¹²³ in order to pass the originality threshold.

Alternatively, consider the penicillin case once more. Fleming could not patent the mould *per se*. Of course, the subsequent experimentation required to isolate the penicillin from the mould and to recognise its anti-pathogen effects would likely qualify as an invention in most legal systems¹²⁴—a conclusion which can be justified in virtue of the labour involved. But the purely serendipitous discovery of the mould would fail to qualify as an ‘invention’, and instead would qualify as an unpatentable ‘discovery’ (or product of nature).¹²⁵ Our point here is not that the IP system successfully denies ownership claims in every case of purely lucky creation, but that it already has the tools to achieve this end and generally is more successful than not in this task.

¹²¹ *Feist Publications, Inc v Rural Telephone Service Co* 499 US 340 (1991).

¹²² *Ladbroke v William Hill* [1964] 1 ALL ER 465.

¹²³ *Infopaq* (n 19).

¹²⁴ See eg *Association for Molecular Pathology v Myriad Genetics* 569 US 576 (2013; Directive 1998/44 EC on the Legal Protection of Biotechnological Inventions Preamble (17).

¹²⁵ See eg Patent Act 1977 s 2(a); *Diamond* (n 22) 309; European Patent Convention 1973, art 52.

To be sure, it is certainly possible that some persons do benefit undeservedly from IP rights in purely fortuitous creations. The above doctrines can be inconsistently or erroneously applied—or they may be simply too weak—and, as a result, some purely Lucky IP may slip through the net. But to the extent this presents a problem for any IP lawyer, the answer is not to tear down the system. Reforms, of course, may be justified. Applying a higher originality threshold or redefining the doctrinal boundaries between invention and discovery to better screen out purely Lucky IP are perfectly reasonable suggestions, if this truly is a problem. What matters is not that the system has kinks; what matters is that we try to iron them out.

And yet, even if doctrinal tweaks will not improve the accuracy of the law, we suggest the IP system remains legitimate despite some level of purely Lucky IP. The luck-objection might suggest that only in a Laplacian utopia, where the law in each and every instance mechanistically stamps out purely Lucky IP, can we find legitimacy in law. But this sets an impossible task for a legal system. It is unrealistic to expect the IP system to be able to successfully screen out *every* instance of purely Lucky IP: judges make mistakes, claimants lie and game the system, and, as the vast majority of cases do not go to trial, some persons will successfully assert ownership in IP rights in transactions even when there are none. How are we to react when such cases of purely Lucky IP slip through the legal sieve?

Here it is helpful to ask, perhaps surprisingly, what consequentialists think. Unlike act-consequentialists—who argue that whether an action is right depends only on whether the act produces good consequences¹²⁶—rule-consequentialists argue that whether an *act* is right depends only on the act's conformance with a system of *rules* that, if generally followed, lead to good

¹²⁶ Jeremy Bentham, *An Introduction to the Principles of Moral and Legislation* (1789) reprinted in JH Burns and HLA Hart (eds), *The Collected Works of Jeremy Bentham* (OUP 1996).

consequences.¹²⁷ To be sure, we do not mean to say that rule-consequentialism justifies a Lockean labour approach to IP. However, like rule consequentialists, we think the right question to ask is whether the system of rules as a whole is normatively defensible. If the body of contemporary IP law (in particular, the rules around authorship, originality and inventorship) provide the most rational system of protection for natural rights in works of labour, then those rules may be defensible even if their application occasionally creates some false positives where purely lucky creators qualify for IP rights.

5. Conclusion

This leaves us with the paradox of the Control Condition in IP. Despite our general sense that human authorial control matters when awarding IP rights, we find that in a variety of cases we are willing to depart from this principle. We find this practice entirely defensible. Creators like Slater, Gates and Eisenstaedt seem entitled to IP rights because of their labour, even though they enjoyed some luck too. The fact that the IP system conforms to that Lockean intuition strengthens the IP system's legitimacy rather than detracts from it. It is an overstatement to say that because the IP system awards ownership in some cases where the creator was lucky, the system is illegitimate barring some alternative utilitarian justification.

At least so far as authorial works and inventions are concerned, our view is that a commitment to the Control Condition, rather than lack of conformity to it, is the problem. This view dovetails with those who argue that Nagel and Williams overstated our moral commitment to the Control Condition, in part because it relies on an unrealistic and idealised conception of

¹²⁷ Commonly (although not without debate) this position is attributed to John S Mill, *Utilitarianism* (1861) reprinted in John M Robson (ed), *The Collected Works of John Stuart Mill: Essays on Ethics, Religion and Society* (Liberty Fund 2006). See JO Urmson, 'The Interpretation of the Moral Philosophy of JS Mill' (1953) 3 *The Philosophical Quarterly* 33.

agency.¹²⁸ In IP, this idealisation materialises in doctrines which, on their face, ground IP protection heavily in human creativity and ingenuity. IP doctrines that emphasise control (particularly authorship and inventorship doctrines)¹²⁹ do not, on their face, acknowledge the role that luck plays in the genesis of works and inventions. Furthermore, as technologies like machine learning become widespread, these doctrines will struggle to adapt without room for luck. A person, for example, may program a computer with a machine learning algorithm, and that computer may produce an artwork or invention that was somewhat unexpected and outside the programmer's control. When this happens, we worry a great deal about whether the work really was the *author's own* intellectual creation or *originated from* the author.¹³⁰ Such worry is entirely natural when our doctrines do not acknowledge the role that good fortune almost always plays in creativity.

We do not mean to suggest that these agency-focused doctrines are wholly misguided. Clearly, we believe that to a significant degree works and inventions must originate from an author or inventor in order for that person to claim ownership. We merely think the problem of Lucky IP shows how and why these doctrines should (and can) be understood in a more 'luck-inclusive' fashion. Works and inventions, even accidental discoveries and spontaneous photographs, ought to receive IP protection when they are substantially the product of authorial creativity or inventive ingenuity. Ultimately, it is up to courts to decide contextually whether any given token of Lucky IP involves sufficient labour to satisfy the Lockean type. Lucky for us, they usually do.

¹²⁸ Walker (n 76); Robert M Adams, 'Involuntary Sins' (1985) 94 *Philosophical Review* 3.

¹²⁹ See above nn 19–23 and accompanying text.

¹³⁰ See eg Ginsburg and Budiardjo (n 85); Pamela Samuelson, 'AI Authorship?' (2020) 67 *Communications of the ACM* 20; Burk (n 83).