Futureproofing EU Law

The Case of Algorithmic Discrimination



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Abstract

The paper presents the European Charter of Fundamental Rights (the Charter) and the General Principles of European Union (EU) law as tools which can be used to futureproof the current EU non-discrimination framework against the main substantive challenges raised by algorithmic discrimination. The first chapter identifies the narrow personal and material scope of the current non-discrimination framework as being substantial limitations in the face of algorithmic discrimination, the effects of which are also discussed. The Charter and the General Principles are presented as potential solutions, given their goal to ensure the evolution of EU law in response to societal changes and technological development. The second chapter provides a closer look into these futureproofing tools and their dynamic, as well as the role of the Court in applying them and the potential issues involved with it doing so, including claims of judicial activism and competence creep. Having set out what needs futureproofing and why, as well as the tools available for the task, chapter three discusses ways in which the futureproofing process itself could unfold and argues that there are four approaches that the Court could take, each with its respective benefits and limitations. These four approaches are presented as being complementary rather than mutually exclusive, giving the Court the chance to use the most appropriate one in each specific case and therefore the possibility to futureproof EU non-discrimination law for the age of Artificial Intelligence.

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TABLE OF ABBREVIATIONS

AI	Artificial Intelligence
AIA	Artificial Intelligence Act
AG	Advocate General
CJEU	Court of Justice of the European Union
ECHR	European Convention on Human Rights
EU	European Union
GDPR	General Data Protection Regulation
IP	Internet Protocol
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
WPMs	Weapons of Math Destruction

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Introduction

The choices we make today will shape the future we experience tomorrow. This is the case of digital governance, especially now, at a time when the transition towards the digital age is picking up pace. The beginning of this new age is marked by a period of reflection, not only on what the future will look like but also on how the values underpinning the modern societies of today will be affected. Futureproofing - seen as the process of enhancing the resilience of a certain element against the passing of time - should be a cornerstone of this reflective exercise and be used to ensure that these values will not be damaged or rendered redundant by the emerging digital age.

This piece considers what the process of futureproofing could look like in the context of the European Union's ('EU') non-discrimination framework. The need to reflect on futureproofing in this context arises as European societies become increasingly algorithmic. That is to say that algorithms, already active in curating content, recommending books, or setting prices for plane tickets and Uber rides, also become part of public administration, healthcare, and criminal justice systems.[1] Consequently, they go beyond the realm of smartphones and digital platforms into a territory where they can have an even more significant impact on fundamental rights.

[1] Marc Schuilenburg and Rik Peeters R (eds), *The Algorithmic Society: Technology, Power, and Knowledge*, (1st Edition, Routledge, 2020), Chapter 1.

For several reasons, which will be discussed throughout this paper, algorithmic discrimination is different from the forms of discrimination against which the current framework has been designed to protect, therefore pushing its boundaries, as well as those of the principle of equality. Thus, a gap emerges between what the current frameworks account for and how algorithmic discrimination occurs, leaving those subjected to it in a vulnerable position, confirming algorithmic discrimination as the 'new regulatory frontier'.[2] As the negative impacts of algorithmic discrimination can already be felt in Europe, and across the world, the need for this gap to be addressed is pressing.

It is for these reasons that the focus of this paper will be on algorithmic discrimination. More specifically, the purpose of this paper is to analyse the limitations of the current EU non-discrimination framework in relation to the challenges posed by algorithmic discrimination and to present the EU Charter of Fundamental Rights ('the Charter') and the general principles of EU law as potential tools to futureproof it. The two will be presented as potential solutions to fill the gap between what algorithmic discrimination can do and what the EU legal framework offers protection against.

The purpose of this paper is threefold. It first aims to establish the need for futureproofing, by presenting the limitations of the current EU non-discrimination framework in relation to the challenges posed by algorithmic discrimination.

[2] Philipp Hacker and Bilyana Petkova, "Reining in the Big Promise of Big Data. Transparency, Inequality, and New Regulatory Frontiers", (2017) 15 Nw. J. Tech. & Intellectual Property 1, p. 9-11.

Secondly, it seeks to present the general principles of EU law and the Charter as the right tools to use for this process. Finally, it presents concrete ways in which they can be applied, by the Court of Justice of the European Union ('the Court'), for the purposes of futureproofing against algorithmic discrimination.

The first Chapter fulfils the first purpose of this paper, identifying the two main limitations of the current EU non-discrimination framework in the face of algorithmic discrimination as being its restrictive personal and material scope. At the same time, this introductory Chapter also seeks to frame the discussion, presenting not only the risks of algorithmic discrimination but also introducing the general principles of EU law and the Charter as potential futureproofing tools and identifying the Court as the actor that can carry out this process. This Chapter therefore sets out the objectives of the paper and the roadmap to achieving them.

Chapter 2 establishes the metaprinciple of equality[3] as a key tool to be used in the process of futureproofing, after discussing the role of general principles of EU law, the Charter, and the dynamics between the two. The role and application of general principles and of the Charter in the EU framework are also presented, setting the scene for the third Chapter which will present concrete ways in which these tools can be used for the purposes identified, together with the advantages and disadvantages of this approach. Overall, the research question which this paper aims to answer is: How - if at all - can General Principles of EU law and the

[3] Elise Muir, 'EU Equality Law: The First Fundamental Rights Policy of the EU', (Oxford University Press, 2019), p.3.

Charter be used to address the current limitations of the EU non-discrimination framework in relation to issues arising from algorithmic discrimination?

Chapter 1

This first Chapter sets the context for the upcoming discussion, introducing the three key elements necessary to provide an answer to the research question stated above: 1) why is there a need for futureproofing; 2) what are the tools that can be used for these purposes; and 3) who can take over the responsibility of carrying out this process. In doing so, it also identifies the gap in literature that this paper aims to fill.

The Chapter is split into two parts. The first deals with the need for futureproofing, discussing first the negative impacts of algorithmic discrimination on individual rights and societies and the limitations of the current EU non-discrimination framework. The second part presents the general principles of EU law and the Charter as potential tools to be used for these purposes and identifies the Court as the actor who can carry out this process.

Part 1 - The need for futureproofing

I. AI and Weapons of Math Destruction (WMPs)[4]

The last few years have seen an increase in the impact that AI has on society and the lives of people across the world, in both positive and negative ways. In response, the attention it receives and the scrutiny it is placed under have also increased.

[4] Cathay O'Neil, *Weapons of Math Destruction*, (Crown, 2016).

The impact AI has on the daily life of the average individual can easily be underestimated. Among other factors, this is so because of the framing of its effects using future references - the impact of AI over the next 10-20 years vs. the impact it already has[5] -, and because its applications, role, and effects are not always apparent.[6] A careful look shows, however, that AI already has an important impact on our daily lives, being an integral part of social media platforms, email and streaming services, online shopping and navigation systems.[7] While these uses are less contentious, AI is also used for medical diagnoses, to control driverless cars and manufacture autonomous weapons.[8] Moreover, AI is increasingly used by public authorities and private companies in decision-making processes which can have an impact on matters as varied as one's access to benefits or bail, immigration status or employability.

Despite not being a new technology, the term 'artificial intelligence' being coined more than 70 years ago[9], the enthusiasm towards, and progress in, AI have considerably fluctuated throughout the years leading to a number of "AI winters"

[5] See, for example, a survey from the Oxford Internet Institute where respondents were queried on their assessment of the impact of AI over a period of 20 years, Lisa-Maria Neudert, Aleksi Knuutila, Philip N. Howard, 'Global Attitudes Towards AI, Machine Learning & Automated Decision Making', Oxford Internet Institute, 7 October 2020.

[6] For a general discussion see Darell West and John Allen, 'How artificial intelligence is transforming the world', (Brookings, 24 April 2018), <https://www.brookings.edu/research/how-artificial-intelligence-is-transforming-the-world/> accessed 29 July 2021.

[7] See, for example, Woodrow Barfield and Ugo Pagallo (eds), *Research Handbook on the Law of Artificial Intelligence* (Edward Elgar 2020), Chapter 1.

[8] Ibid.

[9] Melanie Mitchell, *Artificial Intelligence: A Guide for Thinking Humans* (Pelican 2019), p.17.

and “AI springs”.[10] What is different about this moment in the history of AI is the speed and intensity of developments, which are unprecedented, due in particular to wider access to large amounts of data, as well as larger investments. Consequently, the current period, more than being another ‘AI spring’ can be seen as the dawn of the ‘age of AI’ and the beginning of the fourth industrial revolution, after the steam engine, electricity, and the internet.[11] Like its three predecessors, the AI revolution has the potential to radically change the world, forcing the limits of existing legal frameworks to evolve.[12]

The benefits of AI are numerous and must not be ignored or underestimated, ranging from saving lives during crises and tackling climate change to helping eradicate poverty.[13] With such an impressive list of benefits, and the perspective of being able to achieve some of humanity’s most ambitious goals, it would be easy to overlook the potentially negative impacts that AI-systems can have. That would, however, be a dangerous mistake, as a technology powerful enough to create such positive changes can also cause significant harm. This has not been lost on policy makers from across the world, tech companies, or NGOs, many of whom have openly called for this technology to be regulated.

[10] Ibid. p.43.

[11] See, for example, Mark Skilton and Felix Hovsepian, *The 4th Industrial Revolution: Responding to the Impact of Artificial Intelligence on Business*, (Palgrave Macmillan 2018).

[12] Barfield and Pagallo (n 7), Chapters 1 and 3.

[13] Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence*, (Penguin 2017), Part 3.

One of the most worrying negative impact of AI-systems, and also one of the most pervasive in society at the moment, is algorithmic discrimination. An important problem of our increasingly algorithmic societies, algorithmic discrimination is the result of more decision-making processes being entrusted to AI-systems, due to the speed and supposed quality of their decision making. In 2016, Cathy O'Neil dedicated a book to the negative impacts of biased algorithms on society, coining the term 'weapons of math destruction' to describe algorithms that are opaque, applied at scale and the application of which has discriminatory or otherwise damaging effects.[14] The book presents a number of examples of algorithms gone wrong, their consequences, from job losses to access to healthcare, and the lack of effective remedies of their victims.

Five years later, weapons of math destruction are even more common, the last few months alone providing numerous examples. In the United Kingdom, the use of algorithms to decide the final grades of A-level students, and therefore their academic future, has led to discriminatory results, especially against children coming from less wealthy backgrounds.[15] In the Netherlands, algorithmic decision making used in the welfare system was eventually held to be violating fundamental rights, after it was found to be biased.[16] On the other side of the Atlantic, algorithms

[14] O'Neil (n 4), Chapter 1.

[15] Daan Kolkman, '"F**k the algorithm"?: What the world can learn from the UK's A-level grading fiasco', (LSE Blog, 26 August 2020), <https://blogs.lse.ac.uk/impactofsocialsciences/2020/08/26/fk-the-algorithm-what-the-world-can-learn-from-the-uks-a-level-grading-fiasco/> accessed 29 July 2021.

[16] See Jon Henley and Robert Booth, 'Welfare surveillance system violates human rights, Dutch court rules' *The Guardian* (5 February 2020), <https://www.theguardian.com/technology/2020/feb/05/welfare-surveillance-system-violates-human-rights-dutch-court-rules> , accessed 29 July 2021.

have been used to create tools for 'predictive policing' which are meant to give police the chance to intervene early, helping mitigate the effects of criminal activity and overall reduce it. However, these tools have been proved to be discriminating and affect certain parts of the population more than others, often based on their race.[17] Consequently, there are increasing calls for algorithmic discrimination to be urgently addressed, before becoming entrenched and endemic in the new algorithmic societies that are emerging across the world.[18]

II. The Road to European AI

From the key global players, the most advanced in this pursuit is the EU, especially in light of the recent publication of the Commission's Artificial Intelligence Act Proposal[19] ('AIA Proposal'). The first of its kind in the world, the Proposal tackles a number of difficult questions, including defining AI and establishing different categories of risk for AI systems,[20] ultimately seeking to foster the development of

[17] Will Heaven, 'Predictive policing algorithms are racist. They need to be dismantled', (MIT Technology Review, 17 July 2020), <https://www.technologyreview.com/2020/07/17/1005396/predictive-policing-algorithms-racist-dismantled-machine-learning-bias-criminal-justice/> accessed 29 July 2021.

[18] See, for example, Michael Kearns and Aaron Roth, 'Ethical algorithm design should guide technology regulation', (Brookings, 13 January 2020), <https://www.brookings.edu/research/ethical-algorithm-design-should-guide-technology-regulation/> accessed 29 July 2021.

[19] Proposal for Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, Brussels, 21.4.2021 COM(2021) 206 final.

[20] Michael Veale and Frederik Zuiderveen Borgesius, 'Demystifying the Draft EU Artificial Intelligence Act', (6 July 2021) <osf.io/preprints/socarxiv/38p5f>, upcoming in Computer Law Review International, August 2021.

'trustworthy AI', understood as AI that respects European fundamental rights and values. The proposal builds upon the White Paper on Artificial Intelligence[21] published in February 2020 by the European Commission, which in its turn was based on a list of ethical principles, released the year before.[22] Despite the proposal being just the first step in a long legislative proposal, which could see it being significantly modified, the challenges of putting it together must not be overlooked, especially considering the numerous difficulties inherent to regulating this technology.[23]

With that in mind, the AIA Proposal can rightfully be seen as an important milestone in the challenging process of regulating AI, but also in the development of new regulatory processes which are fit for the digital age more generally. Nevertheless, the road to regulated AI remains a long one, with some important issues being left out of the AIA Proposal, such as liability issues, which the Commission is planning to approach separately, by the end of 2021, either through a new piece of regulation or through updating the current Product Liability Directive.[24] Even if adopted, the AIA Proposal, as it will be expanded upon below,

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[21] European Commission, 'White Paper - On Artificial Intelligence - A European approach to excellence and trust', Brussels, 19.02.2020 COM(2020) 65 final.

[22] High-Level Expert Group on Artificial Intelligence, 'Ethics Guidelines For Trustworthy AI', 8 April 2019 <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai> accessed 29 July 2021.

[23] Matthew Scherer, 'Regulating artificial intelligence systems: Risks, challenges, competencies and Strategies', [2016], *Harvard Journal of Law & Technology* 353.

[24] European Commission, 'Adapting liability rules to the digital age and circular economy', Inception Impact Assessment, Ares(2021)4266516, 30 June 2021 <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12979-Civil-liability-adapting-liability-rules-to-the-digital-age-and-artificial-intelligence_en> accessed 29 July 2021.

does not directly address the issue of algorithmic discrimination, only mentioning it once, in the Explanatory Memorandum, nor does it create individual rights that can be invoked by those who fall victim to it. As a result, despite being a positive development, it does not extinguish the need for futureproofing.

According to the same Memorandum the '*proposal complements existing Union law on non-discrimination with specific requirements that aim to minimise the risk of algorithmic discrimination*'.[25] This is a reference to the obligations that the AIA Proposal imposes on high-risk AI systems, found in Chapter 2 of Title III. Amongst them, Article 10 - Data and Data Governance, requires high-risk AI systems to use only data sets which are relevant, representative, free of errors and complete. The Commission is therefore taking a rigid, formalistic approach to the issue of algorithmic discrimination, virtually arguing that it can be solved through the quality of the data fed through the relevant AI systems. This is an overly simplistic answer to what is a very difficult issue. Therefore, while the preoccupation with algorithmic discrimination is commendable, the approach is questionable and falls short of properly addressing this issue, therefore reinforcing rather than responding to the need for futureproofing.

First of all, the term 'error' is not defined anywhere in the AIA Proposal. At best, this is a loophole which can be used by providers or users of AI systems to avoid compliance with this strict requirement by arguing for a narrow interpretation.

[25] Proposal for Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, Brussels, 21.4.2021 COM(2021) 206 final p.4.

In turn, this could lead to the opposite result of what this requirement was intended to achieve, leading to a race to the bottom where providers and users invest less time into curating the data sets used and set artificially high standards for what is meant by 'error'. At worst, it leads to more uncertainty, discourages the development of AI, or is so broad that it becomes redundant.

Secondly, algorithmic discrimination does not arise only because of the errors in the data but also, as described in more detail below, from the way in which it is fed into and processed by the relevant AI system. This is what Hacker[26] refers to as 'unequal ground truth', or the way in which an AI system 'sees the world'. To put it more concretely, if an AI system is meant to select the new CEO of an undertaking and the data available, though error-free, is skewed in favour of old, white, male candidates, would the system be right or wrong in picking another candidate with these features? This is a question that the AIA Proposal, in its current form, does not engage with.

Thirdly, the likelihood of a database that is 'entirely free of error' has already been called into question, especially by the developers of AI-systems, some of which see it as technically impossible.[27]

Consequently, rather than looking at the AIA Proposal as a replacement for the futureproofing process discussed herein, it should, instead, be seen as an aid

[26] Philipp Hacker, 'Teaching Fairness to Artificial Intelligence: Existing and Novel Strategies Against Algorithmic Discrimination Under EU Law' (2018) 55 *Common Market Law Review* 1143.

[27] Luciano Floridi, 'The European Legislation on AI: a Brief Analysis of its Philosophical Approach' (2021) 34(3) Philosophy & Technology 215.

to it. This is so because the Proposal highlights the need for futureproofing, warning against the negative impacts of algorithmic discrimination, and refers to a tool that could be used to carry it out, the Charter.

Specifically, with reference to the AIA Proposal, the Preamble warns that aside from the many beneficial uses of artificial intelligence, it can also be used for practices that '*contradict Union values of respect for human dignity, freedom, equality, democracy and the rule of law and Union fundamental rights, including the right to non-discrimination*', while the Explanatory Memorandum, stipulates that the Proposal seeks to '*enhance and promote*' the protection of the rights protected by the Charter, notably mentioning both its Article 21, non-discrimination and Article 23, equality between women and men.[28]

These provisions, despite not being included in the actual text of the Proposal, are important for the current discussion on algorithmic discrimination for three reasons. First, algorithmic discrimination is formally recognised as a risk, for both individuals and the values of the European Union. Second, measures to protect EU citizens from this risk are being envisaged. And, finally, third, the AIA Proposal as a whole aims to '*ensure and enhance'* the protection of the rights laid down in the Charter, including non-discrimination. These three elements of the Proposal are essential in understanding the way in which the European Commission is positioning itself in relation to algorithmic discrimination and

[28] Proposal for Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, Brussels, 21.4.2021 COM(2021) 206 final, p.11.

therefore the tools that could be used to address its negative consequences and to futureproof EU non-discrimination law against them.

Nevertheless, the fact that algorithmic discrimination is completely lacking from the articles of the Proposal is troubling, given its negative impacts, some of which can already be felt by European citizens. However, this approach can potentially be explained by the Commission's reliance on the existing legal framework and the safeguards it provides, expressed through the repeated references to the Charter. Should that be the case, questions arise about the fitness of the existing framework to deal with the challenges raised by AI. The Commission seems to be aware of this, highlighting that the Proposal aims not only to promote but also to enhance existing fundamental rights. A task which seems to fit well with the mandate of the Court of Justice of the European Union ('the Court').

To understand what 'enhance' could mean in this context, and more broadly how EU non-discrimination law needs to evolve to appropriately cover issues arising from algorithmic discrimination, it is first necessary to take stock of the current framework and see where it could potentially fall short when confronted with algorithmic discrimination. Correctly identifying the current limitations is an essential step in devising appropriate solutions.

III. Algorithmic Discrimination and the EU non-discrimination framework

A. Algorithmic Discrimination - The new regulatory frontier[29]

Defining AI is, as briefly mentioned above, far from being straightforward. In a similar vein, there is also no universally accepted definition for algorithmic discrimination. Indeed, the term itself has been described as a misnomer by Hacker.[30]

Leaving aside the definition provided in the AIA Proposal, due to its length, complexity, and technicality, it is perhaps more helpful to see AI as the set of technologies seeking to 'make computers do the sorts of things that human minds can do'.[31] One of the many applications of artificial intelligence is machine learning. This particular AI application is so popular that the terms 'machine learning' and 'artificial intelligence' are sometimes, incorrectly, used interchangeably.[32]

In its turn, machine learning can be defined as the process by which machines, through algorithms, acquire their own knowledge from a set of data, for the purposes of reaching the best possible decisions on the basis of this

[29] Hacker and Petkova (n 2), p.1.

[30] Hacker (n 26), footnote 9.

[31] Margaret Boden, *Artificial intelligence: a very short introduction*, (Oxford University Press 2018), p.1

[32] Mitchell (n 9), Chapters 1-3.

knowledge.[33] This process is often referred to as 'algorithmic decision making'. While the very idea behind algorithmic decision making, and one of the reasons for its appeal, is to improve the quality of the decisions made, for example by correcting the cognitive biases that affect human thinking,[34] its applications so far tell a different story, showing that algorithmic decision-making can sometimes also be plagued by bias.

In his seminal paper on algorithmic fairness in the context of EU law,[35] Hacker refers to two main causes that lead to algorithmic discrimination: biased training data and unequal ground truth, both of which can be divided into various subcategories.[36] On the one hand, biased training data describes instances where the data that is fed to the algorithms - in other words the information they are given to learn from - is either mishandled, for example where the correct answer taught to the machine is biased, or contains historic bias which the algorithms then reproduce and possibly exacerbate.[37] Article 10 of the AIA Proposal has likely been drafted to address this cause of algorithmic discrimination. On the other hand, ground truth, as Hacker explains, refers to the approximation of reality that is provided to a machine learning system, in other words, its sense of reality. If this ground truth is unequal, for example if risks are unevenly distributed between

[33] Karen Hao, 'What is Machine Learning?', (MIT Technology Review, 17 November 2018), <https://www.technologyreview.com/2018/11/17/103781/what-is-machine-learning-we-drew-you-another-flowchart/>, accessed 29 July 2021.

[34] For a discussion on this topic see Daniel Kahneman, 'Thinking Fast and Slow', (Farrar, Straus and Giroux, 2013).

[35] Hacker (n 26).

[36] Ibid. p. 1148.

[37] Ibid. p. 1143.

protected groups, then proxy discrimination is bound to ensue.[38] The AIA falls short of properly addressing this issue.

For all its potential benefits of improving not only the quality of decision-making processes but also the amount of time necessary to reach them, algorithmic decision-making presents, therefore, very serious risks of discriminatory outcomes. It is for these reasons that algorithmic discrimination is recognised in the AIA Proposal as a risk and algorithmic decision making is seen as the 'new regulatory frontier' by Hacker and Petkova.[39]

B. The EU non-discrimination framework - 'Necessary but not sufficient'[40]

The EU non-discrimination framework has often been praised and even recognised as one of the most comprehensive in the world.[41] As it will be expanded upon below, non-discrimination has been a cornerstone of this framework since its very beginning, growing ever more important over the years. As it currently stands, the EU non-discrimination framework is composed of four directives: the Racial Equality Directive (2000/43/EC),[42] the Gender Equality

[38] Ibid. p. 1149.

[39] Hacker and Petkova (n 2), p.1.

[40] Frederik Zuiderveen Borgesius, 'Price Discrimination, Algorithmic Decision-Making, and European Non-Discrimination Law', (2020) 31(3) *European Business Law Review* 401, p. 422.

[41] See, for a general discussion, *Elise Muir, EU Equality Law: The First Fundamental Rights Policy of the EU*, (Oxford University Press, 2019).

[42] Council Directive 2000/43/EC of 29 June 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin OJ L 180, 19.7.2000, p. 22–2.

Directive (recast) (2006/54/EC),[43] the Gender Access Directive (2004/113/EC),[44] and the Employment Directive (2000/78/EC)[45], all of which have been invoked in front of, and interpreted by, the Court on numerous occasions.

Algorithmic discrimination raises a number of challenges for this well-established framework. Challenges which the current framework, for all its merits, might not be able to meet. While the literature on the subject is still developing,[46] several papers presenting and analysing these challenges have been released over the course of the last couple of years. One such paper, which presents a particularly detailed analysis of the challenges raised by algorithmic discrimination in the context of the EU non-discrimination framework, has been authored by Borgesius.[47] In it, he identifies and discusses to some length, five specific challenges: (1) Algorithmic discrimination can remain hidden meaning that its victims could remain unaware that they have been subjected to it; (2) The narrow personal scope of the EU non-discrimination framework defined by a limited number of protected characteristics; (3) The possibility of justifying algorithmic discrimination, under the current framework, in certain circumstances; (4) An

[43] Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast) OJ L 204, 26.7.2006, p. 23–36.

[44] Council Directive 2004/113/EC of 13 December 2004 implementing the principle of equal treatment between men and women in the access to and supply of goods and services OJ L 373, 21.12.2004, p. 37–43.

[45] Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation OJ L 303, 2.12.2000, p. 16–22.

[46] Frederik Zuiderveen Borgesius, 'Strengthening legal protection against discrimination by algorithms and artificial intelligence', (2020), 24(10) *The International Journal of Human Rights* 1572, p.1573.

[47] Ibid.

increase in social inequality; and (5) The possibility of algorithmic discrimination which is based on wrong predictions to fall completely outside of the current framework.[48] In light of these challenges, Borgesius concludes that the current non-discrimination framework is 'necessary but not sufficient' to deal with algorithmic discrimination.[49]

Borgesius' comprehensive analysis is a helpful starting point, as other authors have identified similar challenges, which can be better understood if framed using his analysis. To contextualise these challenges and understand why they are limitations of the current framework, therefore creating the need for futureproofing, it is useful to divide them into three categories, or levels. It must be noted that the boundaries between these levels are not rigid, in particular those between the first two levels, given the connections between scope and enforcement.

The first level contains challenges related to the scope of the current non-discrimination law, which could impede a consumer from seeking remedies. Looking back at Borgesius' analysis, the second challenge on his list, the narrow personal scope of the current framework, and the fifth fall within the ambit of this level. The second level covers enforcement challenges, those which would occur once a claim is already in front of a court. The first and third challenges identified by Borgesius, related to the opacity of algorithmic discrimination and the possibility for it to be objectively justified in certain circumstances under the current law, fall

[48] Zuiderveen Borgesius, Price Discrimination, (n 40), pp. 421-422.

[49] Ibid.

within this category as they would arise only once a claim is considered by a court of law, as opposed to raising issues about the possibility of formulating a claim in the first place, as it is the case of first-level challenges. Finally, the third level encompasses challenges related to the effects of algorithmic discrimination, such as increasing social inequality, the fourth challenge identified by Borgesius, or reinforcing and exacerbating bias.

The vast majority of non-specialised literature, such as news from media outlets, is focused on third-level challenges. Conversely, legal scholarship has mostly been focused, so far, on the second level. For example, Hacker's paper, referred to above, provides a number of carefully constructed solutions for issues related to enforcement, such as using data protection law, in particular the enforcement tools contained in the General Data Protection Regulation ('GDPR'),[50] to address the opacity of algorithmic decisions - which makes it very difficult, if not impossible, for those who believe they have been the victim of algorithmic discrimination to bring a claim seeking remedy.[51]

[50] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance)
[51] Hacker (n 26)

Despite being one of the first to present this approach, Hacker is by no means the only one to do so. Indeed, Brkan,[52] Castets-Renard,[53] Mann and Matzer[54], to name but a few, have also looked into how data protection tools could be used as potential solutions for second-level challenges. This line of arguments, albeit popular, has been met with certain scepticism. Borgesius has highlighted the limitations of this approach, including a potential conflict between non-discrimination and data protection law, an argument which has been later reinforced by Ebers, who concluded that data protection law is not a 'cure-all against discrimination' and that further research is needed into the extent to which data protection law can contribute to the fight against algorithmic discrimination.[55]

Nevertheless, notwithstanding the predominant focus on second-level challenges, most of the authors mentioned so far also present and discuss challenges falling in the other two levels. This paper focuses on first-level challenges, namely those related to the narrow scope of the current EU non-discrimination framework. In doing so, its purpose is to fill an existing gap in the current literature, by providing an in-depth analysis and potential solutions for

[52] Maja Brkan, 'Do algorithms rule the world? Algorithmic decision-making and data protection in the framework of the GDPR and beyond*',* (2019) 27(2) *International Journal of Law and Information Technology* 91.

[53] Céline Castets-Renard, 'Accountability of Algorithms in the GDPR and beyond: A European Legal Framework on Automated Decision-Making' (2019) 91 *Fordham Intellectual Property, Media & Entertainment Law* 91.

[54]Monique Mann and Tobias Matzner, 'Challenging algorithmic profiling: The limits of data protection and anti-discrimination in responding to emergent discrimination', (2019) *Big Data & Society* 1, doi: 10.1177/2053951719895805.

[55] Martin Ebers and Susana Navas (eds), *Algorithms and Law*, (Cambridge University Press 2020), p. 81.

challenges of this level, rather for those which fall within the second level, purporting mostly to enforcement. Given the close interplay between the two levels, the solutions presented herein could also be relevant in addressing second-level issues, by potentially making the burden of proof put on the victims of algorithmic discrimination seeking remedies easier to discharge.

C. The personal scope - A limited list of protected characteristics

One of the first-level challenges identified by Borgesius concerns the narrow personal scope of the current non-discrimination framework. Borgesius explains that the four EU non-discrimination directives which make up the EU non-discrimination framework only protect people against discrimination on the basis of a limited number of protected characteristics, such as ethnicity or gender.

Although so far the current framework has proven to be effective and withheld most of the challenges it has faced, this might change with the advent of algorithmic discrimination. That is so not because algorithms cannot discriminate on the basis of these characteristics - they can certainly do, if so programmed, but rather because they can discriminate in ways that are more complex, difficult to understand and opaque. Concretely, algorithmic discrimination can arise on the basis of seemingly innocuous characteristics, such as web-browser preferences, Internet Protocol ('IP') addresses and postal codes, or more complicated and intricate categories, which combine different data points, for example by combining the three characteristics previously mentioned.[56] These characteristics, in turn, can be associated with different traits, for example a web browser can

[56] Zuiderveen Borgesius (n 40), p. 422.

indicate a higher willingness to pay, or be a proxy for protected characteristics, as it is the case for postal codes and race.

More precisely, discrimination by proxy occurs when an apparently neutral characteristic is used as a stand in - or proxy - for a protected characteristic. In the context of algorithmic discrimination, a useful example comes from the United Kingdom. There, an AI-based system meant to assist judges in deciding who should be given bail was found to be discriminating using postal codes as a proxy for race.[57] While discrimination by proxy is an issue that the Court has dealt with, the risks going forward, as Wachter et. al. argue, is that new and counterintuitive proxies for traditionally protected characteristics will emerge, potentially remaining undetected.[58]

Under EU law, indirect discrimination occurs where an apparently neutral provision, criterion or practice would put persons of one protected group at a particular disadvantage compared with other persons, unless that provision, criterion or practice is objectively justified by a legitimate aim and the means of achieving that aim are appropriate and necessary. As a result, indirect discrimination has three elements: formally equal treatment; disparate results; and lack of a justification.[59] That being the case, indirect discrimination is a highly

[57] Robin Allen and Dee Masters, 'Artificial Intelligence: the right to protection from discrimination caused by algorithms, machine learning and automated decision-making', (2020) 20(4) ERA Forum 585, p.590.

[58] Sandra Wachter, Brent Mittelstadt and Chris Russell, 'Why Fairness Cannot Be Automated: Bridging the Gap Between EU Non-Discrimination Law and AI' (2020) 41 C*omputer Law and Security Review* 1, p.6.

[59] Hacker (n 26)

relevant tool to address algorithmic discrimination[60] but, building upon the arguments put forward by Wachter et. al., it should not be seen as a one-stop solution for all issues arising from it, given its limitations, nor should it be seen as extinguishing the need for the personal scope to be extended.

First, as Borgesius has argued, some instances of discrimination will simply escape it.[61] Algorithms could end up categorising people on the basis of a characteristic that is simply not protected by itself, nor a proxy for one that is. Here, perhaps a better term to use would be 'reasonable proxy', meaning that a criterion could be more or less directly associated with a protected characteristic. This precision is necessary because, to a certain extent, a wide variety of criteria could be ultimately linked to a protected characteristic, although the strength of the said link would be questionable. For example, one could envisage an example where algorithms classify people, for the purposes of their priority access to medicine, on the basis of their favourite sport. Here it could be argued that preference for a certain sport can be linked to socio-economic background, with differences, for example between golf and football. Nevertheless, this could prove to be a strenuous link to make, which could be far from accurate, leading to people falling between the cracks - say in the case of people who prefer golf despite coming from a less wealthy background.

[60] Raphaële Xenidis and Linda Senden, 'EU non-discrimination law in the era of artificial intelligence: mapping the challenges of algorithmic discrimination' in Ulf Bernitz, Xavier Groussot, Jaan Paju and Sybe De Vries (eds), *General principles of EU law and the EU digital order*, (Kluwer Law International, 2020), pp. 151-182.

[61] Zuiderveen Borgesius (n 40)

By not being able to link the criterion to a protected characteristic, such a categorisation would escape the current limits of the EU non-discrimination framework. This emphasises another point made by Wachter et. al., who have argued that the biggest risk of having a narrow list of protected characteristics in the age of algorithmic discrimination is its potential to be used as a loophole. More concretely, if the list of protected characteristics is seen as exhaustive and rigid, algorithms can - and will - be trained to make decisions on the basis of other characteristics. The result could still be discriminatory, but there will be no effective remedy against it.[62]

The current limits of the EU non-discrimination framework are the result of a long iterative process that started at the beginnings of the European Project, with Article 119 of the Treaty of Rome, which required Member States to ensure equal pay for equal work for men and women,[63] and has evolved together with it. This transpires, among others, from the jurisprudence of the Court, which has, in time, extended the scope of non-discrimination on the basis of gender from equal pay to employment, social security and self-employment.[64]

In 1999, the Treaty of Amsterdam revolutionised the scope of EU equality law, paving the way for new protected characteristics, adding age, disability, race and ethnicity, religion or belief, and sexual orientation, introducing the provision

[62] Wachter et. al. (n 58), pp.11-12.

[63] Article 119 of the Treaty establishing the European Economic Community (EEC) (Treaty of Rome)

[64] Elise Muir, 'EU Equality Law: The First Fundamental Rights Policy of the EU', (Oxford University Press, 2019), p. 147

that is today Article 19 TFEU.[65] Less than one year later, two of the four directives that from the non-discrimination framework have been adopted, addressing the newly recognised protected characteristics - the Racial Equality Directive[66] and the Employment Directive.[67] The same year saw the Charter being ratified. The year 2000 therefore represents a paradigm shift in EU equality law, so much so that O'Cinneide separates protected characteristics into two categories, pre and post-2000.[68]

This iterative process, which has involved all the EU institutions, including the Court which has played a significant role in the promotion of non-discrimination between The Treaty of Rome and the Treaty of Amsterdam, highlights the organic growth of the EU non-discrimination framework, the evolution of which has been correlated with the evolution of European societies. This is in line with the argument put forward by Muir who argues that the goal of EU equality law is to 'transform societal habits and contribute to interpersonal equality per se'.[69] It is also in line with the nature of the European Union which must take account of the diversity of its Member States and their societal progression. However, it is not

[65] Treaty of Amsterdam amending the Treaty on European Union, the Treaties establishing the European Communities and certain related acts OJ C 340, 10.11.1997, p. 1–144, Article 13 TEU.

[66] Council Directive 2000/43/EC of 29 June 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin OJ L 180, 19.7.2000, p. 22–2.

[67] Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation OJ L 303, 2.12.2000, p. 16–22.

[68] Colm O'Cinneide, 'Uniformity or Variation: Should the CJEU 'Carry Over' its Gender Equality Approach to the Post-2000 Equality Grounds?' in Thomas Giegerich (ed.) *The European Union as Protector and Promoter of Equality* (Springer, 2020), pp.116-117.

[69] Elise Muir, 'EU Equality Law: The First Fundamental Rights Policy of the EU', (Oxford University Press, 2019), p. 147.

helpful in predicting or assessing what could be the new protected characteristic, in the absence of a more comprehensive and practical litmus test than societal views on equality.

By contrast, such a test exists in anti-discrimination law in the United Kingdom, where, Malleson argues, every protected characteristic needs to satisfy three conditions, therefore providing a clear and easy-to-apply test, they must: have some definitional and categorial stability; broadly reflect people's understanding of social reality and lived experienced, and align with the most significant axes of discrimination in society.[70] However, Malleson concludes that these conditions are becoming increasingly difficult to satisfy, recognising that the future might require a context-based approach, similar to the approach in the EU.[71]

Second, it might be impossible to link an apparently neutral criterion to a protected characteristic, due to their potentially complex nature. Wachter et. al. discuss the emergence of complicated criteria, which could combine various data points, giving them different weights in different circumstances. This is also an issue that is relevant in the context of second-level challenges. In this case, trying to link a criterion to a protected characteristic to bring it within the material scope of the non-discrimination framework would be very difficult if not, at least in certain circumstances, impossible. As a result, by extending the list of protected characteristics, some second-level challenges would be addressed too.

[70] Kate Malleson, 'Equality Law and the Protected Characteristics', (2018) 81(4) The Modern Law Review 598, pp. 598-599.

[71] Ibid.

Concretely, rather than asking claimants to prove how their anxiety or depression is a proxy for a protected characteristic, this could be seen as a protected characteristic by itself. That would also mean that the three elements of indirect discrimination would not have to be proven, which is particularly important in view of the third element of indirect discrimination, objective justification. If the issue is framed as one of direct discrimination, the deployers of the algorithm would not be able to justify the discriminatory effects by arguing economic benefits, which could be the case if the issue is framed as one of indirect discrimination.

Third, algorithmic discrimination could lead to the frontier between direct and indirect discrimination become increasingly blurry. Xenidis and Senden argue that situations of algorithmic discrimination could be conceived of as either direct or indirect, depending on the role of the algorithmic operation in the decision-making process. Their argument seems to revolve around the element of intention, which, according to them, would be added where there is human oversight involved, but would be missing where this is not the case.[72] Whether this is likely to happen in practice or not, it is a helpful illustration of how the boundaries between the two concepts could end up becoming blurred. This is not the first time a discussion on the 'blending' of the two comes into the spotlight. In *Bougnaoui*, Advocate General ('AG') Sharpston, responding to claims that 'the rules governing indirect discrimination may be noticeably more flexible than those relating to direct discrimination', indicated that arguments could be put forward that the rules

[72] Xenidis and Senden (n 60).

concerning the latter are unnecessarily rigid and that some 'blending' of the two categories would be appropriate".[73]

Nevertheless, although not being the silver bullet for all algorithmic discrimination issues, indirect discrimination is an important element of the futureproofing process, being a vehicle for the application of both tools discussed in this paper. Concretely, when faced with issues arising from algorithmic discrimination, the Court will likely have to turn to indirect discrimination and consider not only how the general principles and the Charter apply in such circumstances but also how its three elements, identified above, should be interpreted. In particular, the objective justification element will be of significant importance.

This is a timely discussion because using algorithms for this type of characterisation is not a hypothetical scenario. Indeed, there are examples of customers being offered different prices on the basis of the web browsers they use as early as 2013.[74] Assuming that the browser preference is not a proxy for a protected characteristic, such a differentiation would not amount to a discrimination falling within the scope of the EU non-discrimination framework. Ebers provides other tangible examples of characteristics that can be used to sort people into different categories, which at the moment would escape the

[73] Opinion of AG Sharpston, *Asma Bougnaoui and Association de défense des droits de l'homme (ADDH) v Micropole SA*, 13 July 2016 EU:C:2016:553, para. 65.

[74] Stephanie Clifford, 'Keeping an Eye on Bouncing Prices Online', *The New York Times* (27 January 2013) <https://www.nytimes.com/2013/01/28/business/new-online-price-trackers-alert-shoppers-to-good-deals.html> accessed 29 July 2021.

boundaries of EU law, such as their choice of pets or running shoes.[75] Expanding this list with some examples that are easier to picture and put into perspective, algorithms could discriminate on the basis of physical appearance, psychological traits, use of language, such as the vocabulary and grammar used, accent, or location in a country (by region) or in the EU (giving, for example, priority to the people located in western states). Such categorisations push the boundaries of the current non-discrimination framework, giving rise to difficult conversations about whether they should be seen as proxies or protected characteristics in themselves and ultimately putting the principle of equality, a core tenant of the European Project, under strain. The issue of algorithmic discrimination can then be perceived not only as a challenge to the protection of individual rights in Europe but also as a threat to European values and goals, and the ideal of an 'ever closer Union'.

As the use of AI in decision-making processes, from recruitment to insurance, increases, algorithmic discrimination will occur on the basis of newer, more complicated characteristics. It therefore seems reasonable to wonder for how long the current personal scope, narrow and limited, can remain effective.

D. The material scope - Sometimes in, sometimes not

Xenidis and Senden identify another important first level challenge. In contrast with the approach taken by Borgesius, who focuses on the personal scope of the current non-discrimination framework, they consider its limited material scope.[76]

[75] Ebers and Navas (n 55).

[76] Xenidis and Senden (n 60), p. 10.

The limitations, they argue, are the result of the different levels of protection given by the four directives, ranging from the most comprehensive in relation to the labour market, to the most limited in the consumption market.[77] Furthermore, some areas fall outside the scope of the four directives altogether. One example showcasing these limitations is advertising, which is explicitly excluded from the Gender Goods and Services Directive, together with education and media content.[78]

This is problematic because advertisement is one area on which the advent of AI has had significant impact, from defining better audiences to tailoring every ad to the preferences of the consumer to which it is addressed, a practice known as 'microtargeting'.[79] As a result, high budget advertisements could be reserved for categories that are more demanded and therefore more attractive, while other categories might be shown only low budget advertisements. There can also be a gender correlation, women falling within the former category and men in the later. Based on these examples, targeted advertisements, through what essentially is 'algorithmic stereotyping', could lead to discrimination by offering less opportunities, or products and services of inferior quality, to certain marginalised groups.[80]

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[77] Ibid. p. 10.

[78] Council Directive 2004/113/EC of 13 December 2004 implementing the principle of equal treatment between men and women in the access to and supply of goods and services OJ L 373, 21.12.2004, p. 37–43, Preamble, para. (13).

[79] Tom Dobber, 'Is political microtargeting a threat to democracy?' (University of Amsterdam Blog, 20 July 2020), <https://www.uva.nl/en/shared-content/faculteiten/en/faculteit-der-maatschappij-en-gedragswetenschappen/news/2020/07/microtargeting.html?cb> accessed 29 July 2021.

[80] Xenidis and Senden (n 60) p. 17.

Algorithmic discrimination through targeted advertisements could also have negative impacts on the job market generally, and the employment opportunities of individuals in particular. Xenidis and Senden quote recent studies showing evidence of substantial risks that targeted advertisements for job positions could end up discriminating against certain users as well as reinforcing stereotypical labour divisions in society.[81] Fortunately, algorithmic discrimination in job-related advertising would, in line with current jurisprudence of the Court, fall within the scope of the Gender Recast Directive and the Employment Equality Directive.[82] That being the case, advertising is a good example of the rigid boundaries of the current framework, which allows for a single practice, in this case advertisement, to be treated in different ways depending on the way in which it occurs.

While these rigid boundaries might have been appropriate until now, technological development, and in particular AI-based systems, create a need to rethink them and ensure they remain fit for purpose.

Hacker has also considered the limits of the material scope of the current non-discrimination framework.[83] Like Wachter et. al. and Xenidis and Senden, he recognises the good level of protection awarded to employment situations, but highlights several issues. Focusing on the protection offered in the access to the supply of goods and services, which he identifies as aiming to extend the principle

[81] Ibid. p.13.

[82] Ibid.

[83] Hacker (n 26), p. 1154.

of non-discrimination into general contract law, he is critical of the current framework arguing that it creates a bottleneck for algorithmic discrimination as well as numerous loopholes.[84] His argument is based on the interpretation of the conditions which must be met in order for the framework to apply, namely that algorithms would need to be deployed for (i) access to/supply of goods and services that are (ii) available to the public.[85] In his view, contemporary algorithmic decision-making is often difficult to square with these conditions.[86]

In relation to the first, under EU law, services, to be considered as such, must be remunerated. This is a requirement which was introduced in the law at a time significantly different from the present, making it seem '*completely dislodged from the realities of the digital market and the business models of most digital platforms, for the services of which users usually pay with their data'*.[87] The current law is silent as to whether this type of exchange could be considered as payment. Given the popularity of this business model, which is at the very core of the modern digital economy, as well as the benefits which can be derived in algorithmic societies from having access to large amounts of data, there is certainly a case to

[84] Ibid. p. 1155.

[85] Council Directive 2000/43/EC of 29 June 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin OJ L 180, 19.7.2000, p. 22–26, Article 3(1)(h) and Council Directive 2004/113/EC of 13 December 2004 implementing the principle of equal treatment between men and women in the access to and supply of goods and services OJ L 373, 21.12.2004, p. 37–43, Article 3(1).

[86] Hacker (n 26), pp. 1156-1157.

[87] Ibid.

be made for the current system to evolve so as to also include service-against-data business models.[88]

In relation to the second requirement, the practice of microtargeting, discussed above, becomes relevant. As ads become more personalised, so do contracts, offering every individual consumer different terms or prices. The highly targeted personalisation of contracts, ads and services can be seen as a hallmark of the AI-driven economy; but it could also be at odds with the idea of availability to the public, leading to the following dilemma - if a product or service is offered to every person in a tailored fashion, can it still be considered as being 'available to the public'?[89]

Scholarship is divided on this point. Hacker argues that the current digital economy, powered by machine learning, makes it necessary to focus on the broader focus of a practice rather than on its application. The argument put forward is that one must look at the purpose behind entities offering certain types of goods and services to the general public rather than at the specific conditions on which these are offered, which could differ from offeree to offeree.[90] Following this approach could lead to targeted advertisement and the potential algorithmic discrimination that flows from it to fall within the material scope of the current framework. Taking the opposite approach would risk rendering the current system inapplicable to a practice which is constantly getting more popular, leaving

[88] Ibid. p.1156.

[89] Ibid. p.1157.

[90] Ibid.

individuals across Europe exposed and therefore failing to serve its intended purpose.

Considering all of the above, the material scope of the current anti-discrimination framework presents serious limitations that can render it ineffective in the face of some of the challenges raised by algorithmic discrimination. More precisely, it provides for different levels of protection in different areas, some being excluded altogether despite being particularly relevant in the digital economy. Moreover, even where a certain level of protection is awarded by the current framework, a narrow interpretation could render it inapplicable for cases involving algorithms, therefore extending the gap between technology and the law.

In light of these two substantial limitations, Borgesius' assessment that the current framework is necessary but not sufficient is certainly fitting and accurate. That is so because, as discussed so far, AI-systems and algorithmic decision-making put considerable strain on the boundaries between discrimination which is prohibited by the law and discriminatory categorisation which is not (yet) covered by the law. Overall, the current framework, placed under constant pressure by new technological developments is already falling short of keeping up the pace of the transition to the digital age because of the limitations to its personal and material scope.

Having taken stock of these significant first-level challenges, this paper will aim to find potential solutions for addressing them by looking within the EU

constitutional order, as the Explanatory Memorandum and the Preamble of the AIA Proposal suggest.

This paper draws a distinction between the "EU non-discrimination framework" which is used to refer to the framework composed of the four directives discussed above and "EU non-discrimination law", which also includes the general principles of EU law, the Treaties and the Charter. With this in mind, it will look towards the Court of Justice of the European Union as the institution that seems to be best placed to address the shortcomings of the non-discrimination framework discussed so far, and therefore to futureproof EU non-discrimination law, for the following reasons: first, new legislation meant to fill some of the existing gaps seems unlikely, taking into account that a proposal of the Commission for a general non-discrimination directive has been stuck in interinstitutional negotiations since 2008.[91] Second, even if a piece of legislation will be adopted, it seems unlikely that it can cover all the numerous and different ways in which algorithmic discrimination could occur. Third, any piece of legislation runs the risks of becoming quickly outdated given the sheer speed at which AI develops and evolves, this being one of the main obstacles to regulating AI. Fourth, some of the existing gaps can be addressed through judicial interpretation, as Hacker has outlined.[92] Finally, the Court has the experience and the tools necessary to address these challenges in the form of the general principles of EU law and the Charter.

[91] European Commission, Proposal for a Council Directive on implementing the principle of equal treatment between persons irrespective of religion or belief, disability, age or sexual orientation COM(2008) 426 final.

[92] Hacker (n 26), p.1157.

Part 2 - The General Principles and the Charter in the Digital Age

I. Futureproofing Tools

The doctrine of general principles of EU law has been a cornerstone of the EU legal order since its very beginnings. Even though its use has fluctuated over the years, its importance cannot be overstated, especially considering that it was the tool used by the Court to recognise the protection of fundamental rights as an essential characteristic of a system which, up to that point, was focused almost exclusively on economic matters. This transformation of the EU legal system has been gradual, with two of the most important moments being the judgment in *Stauder,*[93] in which the Court referred to fundamental rights as being '*enshrined in the general principles of* [EU] *law*' and the landmark decision in *Internationale Handelsgesellschaft*[94] where it held that fundamental rights are an '*integral part*' of the general principles of EU law.

At this stage, it is also important to recall that non-discrimination, other than being a fundamental right protected under the Charter, is also a general principle of EU law,[95] one which the Court has been particularly reliant upon. Furthermore, it is also worth noting that Article 21 of the Charter, which covers non-discrimination, provides for a wide list of protected characteristics that, judging by the language used, is non-exhaustive: '*Any discrimination based on* any ground

[93] C-29/69 - *Stauder v Stadt Ulm*, 12 November 1969, EU:C:1969:57.

[94] Case C-11/70 - *Internationale Handelsgesellschaft mbH v Einfuhr- und Vorratsstelle für Getreide und Futtermittel* 17 December 1970, EU:C:1970:114.

[95] Xenidis and Senden (n 60), p. 2.

such as *[emphasis added] sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited*'. This comprehensive list is important in the context of futureproofing because it goes much beyond the characteristic protected by the non-discrimination framework and therefore, if robustly applied, could address the issues arising from the interplay between algorithmic discrimination and its limited personal scope.

These features of the EU legal framework provide some clarity over the decision of the Commission to reference the rights in the Charter in the Explanatory Memorandum and the Preamble of the AIA Proposal, as well as reasons to believe that both the general principles of EU law and the Charter could be used as tools to address the challenges identified above and therefore as tools to futureproof EU law against algorithmic discrimination. The next Chapter will consider in detail the evolution of the doctrine of general principles in the jurisprudence of the Court, the way in which new general principles are recognised, their interaction with the Charter as well as their role in the EU law framework today.

One question which must be addressed beforehand however purports to the relevance of these two tools for the digital age, and particularly in relation to AI, algorithmic discrimination and the first level challenges described above. Specifically, in the context of this paper, it is necessary to consider why these two tools in particular are being discussed as potential solutions to futureproof EU law

and what, concretely, is their added value to the current discussion. As it will be expanded on below, the Charter and the general principles are both meant to evolve together with societies, have a degree of flexibility, and are cornerstones of the EU legal framework, all characteristics which make them suitable for the task at hand.

Groussot et. al. have addressed the idea of general principles in the digital age and have identified four main ways in which the doctrine of general principles will be affected by emerging technologies and their development.[96] The first effect is related to '*the limits inherent to legislation dealing with the digital society*'.[97] The argument made is that digital technologies, given the quick pace at which they develop, render the current 'notice-and-comment' tools of rulemaking outdated.[98] Building on an argument initially put forward by Colonna,[99] Groussot et. al. argue that the law is unable to keep up with the pace at which technology is being developed and improved, therefore leading to a '*growing gap between the rate of technological change and management of that change through legal*

[96] Xavier Groussot, Anna Zemskova and Eduardo Gill-Pedro, 'Towards General Principles 2.0: The Application of General Principles of EU Law in the Digital Society', (2019), Lund University Legal Research Paper Series, Paper No 02/2019, <https://www.academia.edu/43321931/Towards_General_Principles_2_0_the_Application_of_General_Principles_of_EU_Law_in_the_Digital_Society> , accessed 29 July 2021, p.4.

[97] Ibid.

[98] Ibid. p.5.

[99] Liane Colonna, 'Reconciling Privacy by Design with the Principle of Transparency' in Ulf Bernitz, Xavier Groussot, Jaan Paju and Sybe De Vries (eds), *General principles of EU law and the EU digital order* (Kluwer Law International, 2020)

mechanisms'.[100] This assessment is particularly cogent in light of the analysis of the challenges raised by algorithmic discrimination provided above.

The potential solution for this issue is the doctrine of general principles of EU law, given their elasticity, which could allow them to evolve and tackle the problematic facets of digital technologies.[101] This approach is supported by the very purpose of general principles, which is to develop and evolve together with societies, this being the reasoning behind their flexibility. As a result, they are more appropriate to address newly emerging challenges than the normal legislative process, which is generally slower and more rigid. Against this backdrop, general principles are mooted as having the potential to be the '*backbone of digitalisation governance in the EU*'.[102]

The Charter is also part of the suggested solutions. Indeed, the same authors put forward the argument that the Charter could also be relevant in filling the gaps created as a result of the difference in pace between technological development and regulation,[103] building upon an idea expressed by Lang[104] who argued that the possible implications of digitalisation are so numerous and unforeseeable that a comprehensive approach based on the Charter is likely to be needed, if not across the board then at least in certain specific circumstances.

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[100] Groussot et. al. (n 96), p.5.

[101] Ibid.

[102] Ibid.

[103] Ibid. p.6.

[104] John Lang, 'The Principle of Sincere Cooperation, the Charter and Digitalisation', in Ulf Bernitz, Xavier Groussot, Jaan Paju and Sybe De Vries (eds), *General principles of EU law and the EU digital order* (Kluwer Law International, 2020)

Having defined the role that general principles could play in the digital age and established their importance in addressing the challenges arising from it as the first effect, the other three effects identified are focused on concretely how the doctrine of general principles will have to evolve to remain relevant and effective. One such change, discussed as the second effect, is the transformation of this doctrine from one inherently related to judicial review and applied *ad hoc* to one that shapes the way in which digital technology is created. Following this approach, the ultimate goal would be to create 'general principles by design'[105], which AI providers would have to follow throughout the process of development of such systems. This would therefore lead to a complete reinvention of the general principles, which will become socio-technical rather than legal. A discussion on whether this is desirable or realistic falls outside the scope of this paper.

By contrast, the third and fourth effects identified are highly relevant for the current discussion. The third effect of the digital age on the doctrine of general principles is that of creating a need for 'general principles 2.0', a new and expanded set of general principles.[106] This new set would be better equipped to deal with challenges raised by high technologies, such as blockchain or AI. The argument surrounding the need for new general principles will be addressed in Chapter 3,[107] after Chapter 2 will consider what are the criteria that the Court takes

[105] Groussot et. al. (n 96), p.6.

[106] Ibid. p.7.

[107] Chapter 3, Part 1, Looking for new General Principles.

into account when deciding whether to recognise new general principles of EU law and its history of doing so.

Finally, the fourth effect is an increased use of general principles in horizontal issues.[108] Recognising the key role of private parties in the digital age and the ongoing increase in disputes between private parties, Groussot et. al. argue that the use of general principles in horizontal issues will increase as a result.[109] In making this argument, they recall that, just like the Charter, secondary legislation must also always be interpreted in accordance with the general principles. Furthermore, secondary legislation must also be interpreted in line with the Charter, including when it concerns private parties.[110] This fourth and final effect is important because it presents the Charter and the general principles as futureproofing tools, as well as describing concrete ways they can be used as such.

So far, this Chapter has identified the need to futureproof EU non-discrimination law by presenting the challenges it faces from the perspective of algorithmic discrimination, as well as potential tools that can be used for these purposes. What is missing is the element connecting the tools to the process, or in other words, the actor who can apply the potential solutions to the existing issues. Given its mandate and functions, that actor is the Court.

[108] Groussot et. al. (n 96) p.9.

[109] Ibid.

[110] Ibid. p.10.

II. The Key Role of the Court

The general principles have always been the prerogative of the Court.[111] It is the Court alone who decides whether and how they apply to each particular case. Not only does the Court decide how they are to be applied, it also decides what amounts to a general principle and what does not, having the power to recognise new ones.[112] While general principles are supposed to be inspired from the 'common constitutional tradition' of the Member States, this requirement does not seem to drastically reduce the flexibility that the Court enjoys in deciding what amounts to a general principle, as it will be developed upon in the next Chapter.[113] Consequently, if one follows the argument put forward by Groussot et. al. according to which the general principles will emerge as the backbone of digital age governance, it follows that the Court will emerge as the key institution in the pursuit of regulating high technologies, and therefore the key institution in addressing issues related to algorithmic discrimination.

The elastic nature of the general principles is only truly meaningful and valuable if it can be used to model them to tackle the existing gaps. Modelling and evolving the general principles would not be a new task for the Court, which has vast experience interpreting both the general principles and the Charter, sometimes arguably extending their scope of application. The Court's experience

[111] See Takis Tridimas, 'Fundamental Rights, General Principles of EU Law, and the Charter', (2013) 16 *Cambridge Yearbook of European Legal Studies*.

[112] Ibid.

[113] Chapter 2, Part 1, Legal Dark Matter.

using these tools can be seen as a benefit of using the general principles and the Charter as futureproofing tools in the face of algorithmic discrimination.

The main process through which the Court can fill existing gaps is legislative interpretation. As already discussed, secondary legislation, such as the directives that make up the current non-discrimination framework, must be interpreted in line with both general principles and the Charter. Another benefit of this approach to futureproofing is quicker harmonisation. If the Court provides a certain interpretation for how a non-discrimination directive should be read together with the general principles of EU law or the Charter, national courts will be bound by it immediately. This could also prove to be beneficial for the protection against algorithmic discrimination in the EU, bringing legal certainty and ensuring that each Member State offers at least some protection against it. It could also mean that problems of algorithmic discrimination are pre-empted. For example, the Court could decide that a practice occurring in one Member State is problematic, precluding it therefore from being put in use in other Member States.

The speed at which the futureproofing can be carried out by the Court is an important consideration. The differences in the pace of technology and law have been discussed above. Colonna has further emphasised this idea by arguing that while technology is ‘hastening at an astonishing pace, the legislative framework that society depends on to govern technological innovations is failing to change at the same speed’. This problem, according to her, requires new forms of

governance, and, more concretely, a way to embed legal rules into a technology from the very beginning of its development.[114]

While there is certainly merit to this idea, it appears to be a potential solution only in the long run and only for technologies that will be developed in the future. This is problematic in the context of algorithmic discrimination, because, as discussed above, its negative effects are already present. For these reasons, the role of the Court becomes even more important. While it is true that for the Court to get involved it needs to be presented with a relevant case, given that algorithmic discrimination is already proving problematic it might not take too long for it to have to consider issues related to it.

In the context of first-level challenges more specifically, a short-term solution is necessary not only because the negative impacts are present but also because it seems that a legislative proposal addressing these issues is unlikely. Not only is the proposal for the 'Horizontal Directive', meant to cover all discrimination grounds and even out the levels of protections awarded to each of them, stuck in a legislative process limbo since 2008[115] but also the AIA Proposal, as discussed, fails to fully address the issue of algorithmic discrimination. That being the case, and considering the current priorities of the Commission, it would seem that the involvement of the Court could be the only short-term solution available.

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[114] Colonna (n 99).

[115] Anti-Discrimination Directive, Legislative Train Schedule, <https://www.europarl.europa.eu/legislative-train/theme-area-of-justice-and-fundamental-rights/file-anti-discrimination-directive> accessed 29 July 2021.

Assuming that there are only advantages to this approach would, however, be misjudged. First, the Court will likely face a considerable amount of political pressure and could face accusations of judicial activism.[116] Second, a legislative act, despite shortcomings such as the time it will take to be adopted, as well as the fact that it could quickly become outdated, also presents a number of benefits. One of them is increased legitimacy and avoiding difficult conversations on "judge-made law". A legislative instrument would, at least in theory, also receive more support from each individual member state and would provide more legal certainty and clarity. Here the AIA Proposal could play an important role in giving legitimacy to addressing issues arising from high-risk AI systems, as well as the relation between them, the Charter and general principles.

Third, the decisions of the Court dealing with algorithmic discrimination are unlikely to be straightforward. As already discussed, the Courts will face several considerable challenges in enforcing the non-discrimination framework, described above as second-level challenges. Perhaps Wachter et. al. present the most accurate analysis of how the thinking process of the Court might have to change to address the particularities and peculiarities of machine learning. Indeed, the overall objective of their paper is to highlight the need for Court to use more statistical evidence in its thinking process as well as to adopt conditional disparity as its golden standard in cases dealing with algorithmic discrimination.[117]

[116] For a discussion on judicial activism in the European Court of Justice see Takis Tridimas, 'The Court of Justice and Judicial Activism' [1996] EUR. L. REV. 199.

[117] Wachter et. al. (n 58).

Finally, although the intervention of the Court has been described as a more ‘immediate’ solution, this needs to be put into context. Cases in front of the Court take time and there is no guarantee that the Court will meaningfully engage with any question on algorithmic discrimination in the foreseeable future. Taking into account both the positives and the negatives, it is nevertheless clear that the Court can, and should, use the general principles and the Charter as tools to futureproof EU non-discrimination law, and ensure it can meaningfully address issues arising from algorithmic discrimination. To understand how that can happen, it is first necessary to take a closer look at these two potential tools and consider the traits that make them suitable for the task of futureproofing EU law.

Chapter 2

Introduction

The previous Chapter has established that the current EU non-discrimination framework presents two limitations that render it unsuitable to deal with issues arising from algorithmic discrimination - its limited personal and material scope. The purpose of this Chapter is to engage into a deeper analysis of the suitability of the general principles of EU law and of the Charter to address these limitations and confirm these two concepts as suitable tools for the futureproofing task at hand.

To do so, an in-depth analysis of the nature and role of both tools will be carried out, together with a discussion on their use in the jurisprudence of the Court and the controversies which have arisen from it. Subsequently, particular attention will be given to the principle of equality which, other than being a cornerstone of the EU legal order,[118] is also the most relevant tool to consider in the overarching discussion about meeting the challenges that algorithmic discrimination will pose to the EU non-discrimination framework.

This Chapter is divided into three parts. The first is dedicated to an analysis of the complex and elastic nature of the general principles and their role within the broader EU legal framework, which make them particularly relevant for addressing the two limitations identified, as well as potentially problematic, giving rise to

[118] See for example the Opinion of Advocate General Sharpston in Case C-427/06 - *Bartsch*, 22 May 2008, EU:C:2008:297.

concerns about ‘judge-made law’ and the separation of powers between EU institutions on one hand, and the EU and its Member States on the other.[119]

The second part builds upon the first, presenting the role of the Charter within the EU legal order and the relation it has with the general principles; a relation which has grown increasingly more dynamic through the activity of the Court since the Treaty of Lisbon.[120] This discussion is necessary to understand whether these two tools can be used cumulatively in the process of futureproofing, framing therefore the discussion in Chapter 3, which will go more in depth about the ways in which this process could unfold.

The third and last part is dedicated to the metaprinciple of equality, which emerges as the best-suited tool to futureproof the current EU non-discrimination framework against the specific challenges posed by algorithmic discrimination that have been identified in the previous chapter. As equality, also expressed as non-discrimination, is both a general principle and protected under the Charter, this final section will also bring together the previous two.

[119] Sacha Garben, ‘Sky-high controversy and high-flying claims? The Sturgeon case law in light of judicial activism, euroscepticism and eurolegalism’, (2013) 1 *Common Market Law Review* 15.

[120] See Koen Lenaerts and Jose Antonio Gutierrez-Fons, ‘The constitutional allocation of powers and general principles of EU law’, (2010) 47(6) Common Market Law Review 1629; Takis Tridimas, 'The General Principles of Law: Who Needs Them?', (2015) 52 Les Cahiers de Droit, 419; and Takis Tridimas, ‘Fundamental Rights, General Principles of EU Law, and the Charter’, (2014) 16 Cambridge Yearbook of European Legal Studies, 361.

Part 1 - Legal dark matter

Numerous authors have made use of creative metaphors to describe the general principles of EU law. As a result, general principles have been labelled 'the dark matter of EU law',[121] 'exotic creatures',[122] or '*enfants terribles*',[123] as well as being compared to the Trojan horse and Pandora's box.[124] This list of associated adjectives is telling of the level of interest that general principles attract, their complex nature, and the polarised reception that their use tends to receive.

Out of all of the above, Cuyvers' 'dark matter of EU law'[125] best portrays the versatility of general principles, which makes them suitable as futureproofing tools, as well as the concerns over the lack of legal certainty that can arise from their use. Indeed, Cuyvers provides two reasons for choosing this label. The first is that the overall purpose of the general principles within the EU constitutional framework is to unify the law, fill any existing gaps and lend weight and legitimacy to the EU legal framework as a whole. The second reason is related to their elusive nature, general principles being inherently difficult to pin down, given their flexibility and fluidity,[126] arguably also one of the reasons for which commentators have chosen to engage in such creative exercises as those described above.

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[121] Armin Cuyvers, 'General Principles of EU Law', in Emmanuel Ugirashebuja, John Eudes Ruhangisa, Tom Ottervanger, and Armin Cuyvers, *East African Community Law: Institutional, Substantive and Comparative EU Aspects*, (Brill Nijhoff, 2017), p. 217.

[122] Constanze Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value', (2013) 19(4) European Law Journal 457, p. 459.

[123] Takis Tridimas, *General Principles of EU Law*, (Oxford University Press, 2006), Chapter 6.

[124] Ibid.

[125] Cuyvers (n.120), p. 217.

[126] Ibid.

The flexibility and fluidity of general principles can be seen as both an advantage and a problematic feature. Looking on the positive side first, it is this very flexibility that makes general principles strong candidates to be at the core of the EU's governance of the digital age,[127] as well as being a potentially viable solution for the challenges raised by algorithmic discrimination. By contrast, fluidity and flexibility come at a cost. Semmelmann argues that because of their unwritten and loose nature, general principles are a 'controversial' source of law which is inherently contentious.[128] Moreover, she also argues that they are 'exotic creatures' from the perspective of traditional legal sources, being based on '*fuzzy criteria of validity [and] lack[ing] precise contours*'.[129]

Semmelmann's arguments highlight another reason for which the 'dark matter' label is fitting - the lack of a clear definition of general principles. Although they are far from being the only important EU law concept to remain undefined, Semmelmann argues that, in this case, the lack of a definition is problematic because it gives the Court virtually complete freedom over the general

[127] Xavier Groussot, Anna Zemskova and Eduardo Gill-Pedro, 'Towards General Principles 2.0: The Application of General Principles of EU Law in the Digital Society', (2019), Lund University Legal Research Paper Series, Paper No 02/2019, <https://www.academia.edu/43321931/Towards_General_Principles_2_0_the_Application_of_General_Principles_of_EU_Law_in_the_Digital_Society> , accessed 29 July 2021.

[128] Constanze Semmelmann, 'General Principles of EU Law: The Ghost in the Platonic Heaven in Need of Conceptual Clarification', (2013) 2(10) Pittsburgh Papers on the European Union 1.

[129] Constanze Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value', (2013) 19(4) European Law Journal 457, p. 469.

principles.[130] This is a source of significant concern for a number of other authors who are critical of the way in which the Court uses general principles in an 'activist' way.[131] The fluidity and flexibility of general principles, has also come under - particularly harsh - criticism from AG Mazak. Using another creative way to express his opinion, he argued that discussing the concrete content of general principles can be like 'discussing the shape of a ghost'.[132]

Contributing to the debate on the definition of general principles, or better said the lack thereof, Tridimas has argued that the issue remains a problematic one, despite the long history of general principles as part of the European Project.[133] Adding to the confusion, he argues, is the fact that they are referred to under different names in the case law of the Court, including 'particularly important' or 'essential' principles.[134] This problem also applies to individual principles, the principle of equality, for example, being addressed under various terms, in particular non-discrimination.[135]

[130] Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value', (n 122).

[131] See discussion below.

[132] Opinion of Advocate General Mazák in Case C-47/07 P, *Masdar (UK) Ltd v. Commission of the European Communities*, 12 June 2008, EU:C:2008:342, para 45.

[133] Takis Tridimas, 'The general principles of EU law and the Europeanisation of national laws', (2020) 13(2) Review of European Administrative Law 5.

[134] Ibid.

[135] Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value', (n 122), p. 465.

Concretely, moving away from metaphors, the most straightforward way to describe general principles is as a '*sui generis* creature of EU law',[136] much like the European Union as a whole is often described as a '*sui generis*' organisation.[137] The flexibility and fluidity that flows from the nature of this doctrine present both opportunities, such as ensuring a 'constant renewal' of EU law[138], and challenges, such as the fear that the Court could be abusing the power of this tool.[139]

Having discussed their elusive nature, it is important now to look at the role of the general principles within the EU legal framework to evaluate whether, and if so how, concretely, they could act as futureproofing tools. General principles fulfil a triple function: (1) filling gaps - they enable the Court to address any gaps left either by the authors of the Treaties or by the EU legislator; (2) aid to interpretation, requiring both EU and national law, where applicable, to be read, as far as possible, in accordance with them; and (3) grounds for judicial review.[140]

A paper written by Keon Lenaerts, the current president of the European Court of Justice, in his non-official capacity, and Gutierrez-Fons considers these

[136] Ibid, p. 462.

[137] See, for example, William Phelan, 'What Is Sui Generis About the European Union? Costly International Cooperation in a Self-Contained Regime', (2012) 14(3) International Studies Review, 367.

[138] Koen Lenaerts and Jose Antono Gutierrez-Fons, 'The constitutional allocation of powers and general principles of EU law', (2010) 47 Common Market Law Review, 1629.

[139] Thomas Papadopoulos, 'Criticizing the Horizontal Direct Effect of the EU General Principle of Equality', (2011) 4 European Human Rights Law Review 437.

[140] Lenaerts and Gutierrez-Fons (n 138), p.1629.

three functions in some detail.[141] After doing so, the authors conclude that general principles serve the overarching role of 'putting the flesh of common European values on the bones of the Treaties, facilitating the constant renewal of the EU legal order and epitomising the EU's living constitution'.[142] Without going yet into any more criticisms levelled against general principles, the conclusion reached by Lenaerts and Gutierrez-Fons plays a key role in the discussion on futureproofing in response to algorithmic discrimination. That is so because, as the tools facilitating the renewal of the EU legal order and the epitome of EU's living constitution, general principles must be seen as a potential solution for the limitations described before, and, more generally, for futureproofing EU law and ensuring it keeps pace with technological development and the evolution of European societies.

In other words, if the limitations previously described are the result of the existing framework being rendered outdated by the speed of technological development, which this paper argues is the case, then general principles are, necessarily, part of the discussion about potential solutions. This is coherent with the arguments put forward by Groussot et. al.[143] and outlined in the previous Chapter, which essentially argue that general principles, due to their flexibility and

[141] Ibid.

[142] Ibid. p. 1669.

[143] Xavier Groussot, Anna Zemskova and Eduardo Gill-Pedro, 'Towards General Principles 2.0: The Application of General Principles of EU Law in the Digital Society', (2019), Lund University Legal Research Paper Series, Paper No 02/2019, <https://www.academia.edu/43321931/Towards_General_Principles_2_0_the_Application_of_General_Principles_of_EU_Law_in_the_Digital_Society> , accessed 29 July 2021.

fluidity, can help solve the issues arising from the gap between the pace of evolution of technology and that of the law.

Going back to the functions of the general principles more generally, it is worth mentioning, in order to further highlight their versatility, that scholarship has identified various other functions than they can perform, other than the three already discussed. Tridimas, for example, argues that general principles can also serve as normative standards, the violation of which may lead to a right to claim compensation.[144] In another paper, he talks about their role in 'Europeanising' national law,[145] the idea of general principles as a federalising tool being also discussed by Lenaerts and Gutierrez-Fons.[146] In his turn, and similar to Tridimas' first argument, Cuyvers also argues that general principles can serve as an independent basis for Member State liability.[147]

In this paper, the focus is on the three main functions identified above - gap-filling, interpretation, and judicial review - discussed at length by Lenaerts and Gutierrez-Fons, as they all play an important role in making general principles suitable to act as a futureproofing tool. In this context, particular focus will also be given to the idea that the overarching goal of the general principles is to ensure the constant renewal of EU law.

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[144] Takis Tridimas, 'The General Principles of Law: Who Needs Them?', (2015) 52 Les Cahiers de Droit, 419

[145] Takis Tridimas, 'The general principles of EU law and the Europeanisation of national laws', (2020) 13(2) Review of European Administrative Law 5.

[146] Lenaerts and Gutierrez-Fons (n 138), p. 1630.

[147] Cuyvers (n.121), p.220.

Function 1 - Gap-filling

Lenaerts and Gutierrez-Fons, Cuyvers, and Tridimas all describe the framework established by the Treaties as needing fleshing out through the use of the general principles.[148] Indeed, Lenaerts and Gutierrez-Fons make the argument that the Treaty on the Functioning of the European Union ('TFEU') is a *traité-cadre*, with broadly drafted provisions, which enables the Court to develop a 'common law' that prevents constitutional or legislative gaps from impeding the achievement of Union objectives.[149] This argument is important for the current discussion because it unequivocally establishes the general principles as a tool meant to be used to ensure that the objectives of the Union are achieved. As it will be expanded in Part 3 of this Chapter, equality is a core value of the European Union, and its promotion and protection are part of its goals.

Also as a consequence of the way in which the Treaties are drafted, Lenaerts and Gutierrez-Fons make the argument that it is one of the fundamental duties of the Court to engage in a process of 'finding the law'. In other words, a two-stage process composed of identifying the gap and finding a suitable filler for it. New general principles, Lenaerts and Gutierrez-Fons argue, arise out of this process.[150] Gualco expressed a similar view about this function of the general principles, putting forward the idea that the gap-filling function can be boiled down

[148] Lenaerts and Gutierrez-Fons (n 138), p.1631.

[149] Ibid.

[150] Ibid.

to the principle that judicially driven norms, which are 'spontaneously inferred' by the Court, are used to complete the legal order established by the Treaties.[151]

By contrast with these arguments, Semmelmann casts doubt on the alleged legitimacy that the Treaties confer to the use of general principles. According to her, general principles lack a legal basis in the Treaties, their existence flowing instead from the mandate of the Court.[152] She also argues that, as their genesis remains largely unexplored at EU level, their legitimacy must be further put into question.[153]

The specific gap-filling function has come under severe criticism from Beck, who accused the flexibility of general principles as enabling and even encouraging the Court to engage in judicial activism and reach pro-EU decisions without a sound legal basis.[154] What is seen as being a 'pro-EU' judgment, or indeed a 'pro-integration' judgment, remains largely unexplained.[155] Any substantial discussion on the limits between a justiciable and non-justiciable judgment and what

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[151] Elena Gualco, 'General principles of EU law as a passe-partout key within the constitutional edifice of the European Union: are the benefits worth the side effects?', (2016) Institute of European Law, Birmingham Law School, University of Birmingham, Working Papers, 05/2016, <http://epapers.bham.ac.uk/2188/1/IELWorkingPaper2016No5.pdf> accessed 29 July 2021.

[152] Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value' (n 121), p.462.

[153] Ibid.

[154] Gunnar Beck, 'Judicial Activism in the Court of Justice of the EU' (2017) 36 U Queensland LJ 333

[155] Anthony Arnull, 'Judicial Activism and the Court of Justice: How Should Academics Respond?' (2012) Maastricht Faculty of Law Working Paper No. 2012-3, <https://www.researchgate.net/publication/228151038_Judicial_Activism_and_the_Court_of_Justice_How_Should_Academics_Respond> accessed 29 July 2021.

separates the two is also missing. Overall, this type of criticism often lacks substance, being primarily based on the possibility that the Court could engage in a certain behaviour, seen as by the author as detrimental or negative, without however providing any argumentation about what makes the behaviour undesirable or why engaging in it goes beyond the mandate of the Court.[156]

Function 2 - Canons of interpretation

Tridimas describes general principles as canons of interpretation, given that both EU law and national law falling within its scope must be interpreted, as far as possible, in a way that ensures compatibility with them.[157] Gualco argues that this function has sometimes been used by the Court to extend the limits of EU law.[158] One potential example, which Tridimas also considered to be an instance where the principle of equality has led the Court to adopt a 'particularly wide interpretation'[159] of a regulation, is the judgment in *Sturgeon*[160], which followed the perhaps even more controversial decision in *Mangold*.[161]

In *Sturgeon*, the Court decided that, in line with the general principle of equal treatment, passengers whose flight is delayed are in a comparable situation with passengers whose flight is cancelled and therefore Regulation No. 261/2004

[156] See for a more in-depth discussion on the topic Elise Muir, Mark Dawson and Bruno de Witte, 'Introduction: the European Court of Justice as a political actor', in Elise Muir, Mark Dawson and Bruno de Witte (eds.) *'Judicial Activism at the European Court of Justice'*, (Edward Elgar, 2013).

[157] Tridimas, 'The General Principles of Law: Who Needs Them?' (n 143)

[158] Gualco (n 151)

[159] Ibid.

[160] Case C-402/07 - *Sturgeon and Others*, 19 November 2009, EU:C:2009:716.

[161] Case C-144/04 - *Mangold*, 22 November 2005, EU:C:2005:709.

must be interpreted in such a way to treat both categories of passengers equally. This judgment is also a relevant example of the special nature of the principle of equality and its breadth. The decision has faced much criticism, including being labelled as an example of judicial activism.[162] To this point, the term 'judicial activism' deserves some attention, as it is often used in relation to general principles. Arnull has attempted to define what is an 'activist court', arguing that it is '*a court that has behaved improperly by straying beyond the limits of the judicial function, by misusing its powers*'.[163] He further argues that civil law traditions are, to a certain extent, particularly sensitive to this, although the debate is also very active in common law countries where the limits of 'judge-made' law seem far from certain.[164]

In response to the criticisms directed to the decision in *Sturgeon*, Garben has engaged in an in-depth analysis of the judgment as well as of the idea of 'judicial activism'. According to her, judgments where general principles are used to reach outcomes which are seemingly circumventing the European legislature - such as *Sturgeon* or *Mangold* - give rise to 'activism' criticisms, the core of which is the idea of separation of powers.[165] This idea is expressed under two forms - as a criticism to unelected judges making the law (separation of powers between the institutions of the EU) or as a breach of the principle of conferral, upsetting the balance between the competences of the EU and the competences of Member

[162] Garben (n 119).

[163] Arnull (n 155).

[164] Ibid.

[165] Garben (n 119), p.23.

States.[166] Looking back at Beck's arguments, Garben's analysis accurately describes the main concerns that his thesis has attempted to convey. She subsequently defends the decision. Admitting that it is far from an example of judicial self-restraint, she highlights the differences between judicial self-empowerment and judicial activism, as well as the fact that the intervention of the court is an essential feature of the judicial review process. She then goes further, presenting arguments that put the decision in a different context, framing it as, at least compared to others, quite deferential.[167]

The differences in the approach taken towards this judgment are important not only because they highlight the blurred limits between the Court engaging in judicial review, as it is empowered and compelled to do by its mandate, and acting in an 'activist' manner, but also because it shows the different ways in which its intervention can be framed, from judicial activism to judicial self-empowerment, one's choice of approach being largely dependent on one's legal background, understanding of EU constitutional law and political beliefs.[168] Indeed, Beck's reasoning for using the term 'judicial activism' seems to be overwhelmingly based on a political ideology and a particular understanding of EU constitutional law. That being the case, it would appear difficult for the Court to make use of the general principles in a way that could completely shield it from all types of criticism.

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[166] Ibid.

[167] Ibid.

[168] Bruno de Witte, 'European Union Law: A Unified Academic Discipline?' (2008) EUI Working Paper RSCAS 2008/34, 2, <https://cadmus.eui.eu/handle/1814/10028> accessed on 29 July 2021, p. 10.

Finally, Garben presents the positive effects of the decision, including the protection awarded to consumers.[169] She makes the case for the need to take these effects into account when levelling criticisms, as an alternative to what she calls the 'cynical perspective' of judicial activism.[170] While the ends excusing the means is not a strong defence in the face of claims of judicial activism - Beck robustly dismissing what he calls the 'apparently humane' effects of the decisions he takes issue with [171] - it is an important perspective to keep in mind when assessing whether a Court is activist, at least when judged against the definition proposed by Arnull.

The limits between gap-filling and interpretation are far from rigid. Indeed, the gap-filling process requires the interpretation of the existing framework to best assess how the existing gap can be filled, while, conversely, the need to interpret the law usually arises because there is a gap, if not in the legal framework itself then in the way in which it is seen, understood, or applied. For practical reasons, the two functions are nevertheless kept distinct. That can be explained by considering gap-filling as a process of creation and the interpretation as a process of extension. Both are relevant for futureproofing and both have a role to play in it, as it will be expanded upon in Chapter 3 when discussing the concrete ways in which the Court can carry this process out.[172]

[169] Garben (n 119), pp. 15 – 45.

[170] Ibid.

[171] Beck (n 154).

[172] Chapter 3, Part 1.

Function 3 - Grounds for judicial review

Given the position of the general principles of EU law, at the apex of the EU legal order together with the Treaties, EU legislation which breaches them is to be declared void and national law falling within the scope of EU law that contravenes a general principle must be set aside. This function could be decisive in setting the pace and rhythm of futureproofing, as well as having the most immediate and incisive impact. That is so considering that, taking into account all 27 Member States, chances increase that national legislation on algorithmic discrimination or algorithmic decision-making could be adopted, especially in countries where such systems have already been used, such as the Netherlands. That being the case, the Court could be confronted with requests to review domestic legislation addressing algorithmic decision-making, its decision in such cases setting the tone not only for the Member State in question but for all Member States of the EU. This is an illustration both of the power of the Court to pre-empt issues related to algorithmic discrimination, as discussed in Chapter 1,[173] and of the Europeanisation effect of general principles discussed above, with reference to Tridimas.

These three functions highlight the power and the significant role that general principles have within the EU constitutional order. Their ability to reshape EU law, and implicitly domestic law, makes general principles a potential vehicle for competence creep, as Prechal has argued.[174] Competence creep is a term

[173] Chapter 1, Part 2, The Key Role of the Court.

[174] Sacha Prechal, 'Competence Creep and General Principles of Law', (2010) 3(1) Review of European and Administrative Law 5.

used to describe situations in which EU law is made despite the EU not having the necessary competence for it, therefore unsettling the balance between it and its Member States.[175] Perchal argues that, on a broad reading of this concept, general principles can be seen as a vehicle for it, asking therefore that the Court takes into account the 'constitutional realities' and the relation between the EU and its Member States when making use of this tool.[176] Prechal's arguments are an accurate representation of the sensitivity around the use of general principles, which must be considered together with their functions for an accurate understanding of their limits.

Establishing New General Principles

Having discussed their role, it is now important to consider how general principles are established, or, as Gualco puts it, created[177], as the best way to address the existing limitations could be through the adoption of new general principles. Bearing in mind that the Court is always entitled to recognise new ones, the list of general principles remains perpetually a 'work in progress', to the concern of certain commentators, such as Semmelmann.[178]

Gualco argues that there are two ways in which general principles are created. The first is through an exogenous process, with the Court drawing inspiration from the common constitutional traditions of the Member States as well

[175] Ibid., p.20

[176] Ibid., p.22

[177] Gualco (n 151), p. 2.

[178] Semmelmann, 'General Principles in EU Law Between a Compensatory Role and an Intrinsic Value', (n 121).

as the European Convention on Human Rights ('ECHR').[179] The second, conversely, is through an endogenous process, which allows the Court to find general principles within the values and rights protected by the Treaties themselves. Here, Gualco provides non-discrimination on grounds of nationality and sex as examples of general principles that have been inferred from the Treaties.[180]

These two processes of creation are particularly relevant for addressing the limited personal scope of the current non-discrimination framework as the Court could use the endogenous process to establish new general principles of EU law to address potential issues arising from algorithmic discrimination. From a different perspective, Lenaerts and Gutierrez-Fons argue that the process of discovering new general principles can actually be seen, in light of the exogenous process, as resulting in 'mutual cross-fertilization'.[181] An important consideration here, they argue, is that when discovering general principles, the Court is not looking for the lowest common denominator from national constitutions, but instead follows an 'evaluative approach' according to which it incorporates the solution provided by national law that fits best or is most in line with the objectives and structure of the Treaty.[182]

[179] Council of Europe, European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14, 4 November 1950.

[180] Gualco (n 151), p. 2.

[181] Lenaerts and Gutierrez-Fons (n 138), p. 1656.

[182] Ibid.

While algorithmic discrimination is still too new of a phenomenon to be directly covered by national law, all Member States have equality laws in place[183] and equality, as already discussed, is widely seen as a cornerstone of the EU constitutional order. Even if the characteristics on the basis of which algorithmic discrimination might occur are not specifically mentioned, it remains to be seen whether the Court will decide that discovering general principles in this sense is possible, especially in light of the objectives of the Treaties and the values on which the EU is built. Moreover, certain countries are already discussing the idea of a 'digital rights charter'[184], which, one would expect, address the issue of algorithmic discrimination. Should such documents be adopted at national level, they could inform and shape the Court's evaluative approach.

Lenaerts and Gutierrez-Fons also look at a concrete example of the Court recognising a new general principle, the judgment in *Mangold*.[185] In this case, the Court deducted from the principle of equality, so through the exogenous process described by Gualco, the principle of non-discrimination on grounds of age. Lenaerts and Gutierrez-Fons recall some of the criticisms that the Court has faced in the wake of this judgment, coming from Herdegen and AG Geelhoed, who both argued that it falls to the EU legislature, or to the national legislature where

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[183] Opinion of Advocate General Sharpston in Case C-427/06 - *Bartsch*, 22 May 2008, EU:C:2008:297.

[184] In July 2021, Spain was the first EU Member State to publish a Digital Rights Charter. La Moncloa, 'Sánchez presents the Digital Rights Charter with which "Spain is at the international forefront in protecting citizens' rights"', Moncloa Palace, Madrid, Wednesday 14 July 2021, < https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2021/20210714_digital-rights.aspx> accessed 29 July 2021.

[185] Case C-144/04 - *Mangold*, 22 November 2005, EU:C:2005:709.

appropriate, to identify the criterion on which differentiation between individual situations could be said to amount to discrimination.[186] Their response to this criticism is that the Court, in reaching the conclusion that it did, has taken inspiration from the Charter, which in its Article 21(1) mentions age as a protected characteristic, also quoting the decision in *Parliament v. Council*[187], where the Court held, for the first time, that the Charter could operate as a source of inspiration for the establishment of general principles.

Building upon this argument, it is then possible and legitimate for the Court to deduct other general principles from the principle of equality, at the very least where a basis to do so can be found in the Charter. Interestingly, Article 21(1) of the Charter contains, as described above, a generous, non-exhaustive list of protected characteristics, a tool that the Court could use for futureproofing purposes. Concretely, the Court could start making use of characteristics such as genetic features, social origin or property, all of which are present in Article 21(1), but outside the scope of the current non-discrimination framework.

This does not make the position of the Court any easier, however. Following the criticism towards its decision to recognise the non-discrimination on the basis of age as a general principle, despite 'age' being specifically mentioned in article 21(1), it is possible that the Court would be reluctant to fully use or extend the list included in the same article, especially in light of the complicated dynamics between the Charter and the general principles which is described in detail in the

[186] Lenaerts and Gutierrez-Fons (n 138), p. 1656.

[187] Case C-540/03 - *Parliament v. Council*, 27 June 2006, EU:C:2006:429.

following section. Indeed, such reluctance can arguably be seen in the Court's decision in *Kaltoft,* where it decided that there is not a sufficient 'degree of connection with EU law' to consider obesity as a free-standing ground of discrimination on the basis of the EU Charter.[188]

Part 2 - The EU's Bill of Rights

The fact that the Charter is used as a source of inspiration for the establishment of new general principles stands as proof of the close relationship between the two. Lenaerts and Gutierrez-Fons emphasise this point by explaining that since the decision in *Parliament v Council*, the Court has continued the trend of looking to the Charter in its application of general principles, often citing articles of the Charter as a source of inspiration for general principles of EU law.[189] In their view, this is a positive development, given the role of the Charter within the EU constitutional order, which is to embody contemporary European values and meet challenges of social and technological change.[190] This being its role, the Charter is an obvious option when considering futureproofing tools. In support of this argument comes not only the jurisprudence of the Court but also the drafting of Article 21(1) of the Charter, which appears to leave room for the Court to intervene in order ensure that the Charter, and consequently EU law, keeps pace with technological and social changes. Moreover, the Explanatory Memorandum and

[188] Sara Benedi Lahuerta, 'Case C-354/13 Kaltoft v Municipality of Billund –Can obesity be a disability under EU equality law?', (*European Law Blog*, 9 April 2015) <https://europeanlawblog.eu/2015/04/09/case-c-35413-kaltoft-v-municipality-of-billund-can-obesity-be-a-disability-under-eu-equality-law/> accessed 29 July 2021.

[189] Lenaerts and Gutierrez-Fons (n 138), p. 1656.

[190] Ibid.

the Preamble of the AIA Proposal, as presented in Chapter 1 of this paper,[191] repeatedly reference the Charter, highlighting that the Proposal aims to promote and enhance the rights contained therein. The Charter emerges therefore as a particularly important tool in tackling algorithmic discrimination, an example of technological change that it seems to have been specifically designed to tackle.

To a certain extent then, the Charter can be described as a 'gap-filler for the gap-fillers'. Rather than limiting the creativity of the Court, the Charter can be seen as a legitimate and ambitious source of inspiration that the Court could rely on to extend the limited personal scope of the current non-discrimination framework and, where necessary, recognise new general principles in response to the risks posed by algorithmic discrimination. Unfortunately for the Court, as it has been discussed, and emphasised by Lenaerts and Gutierrez-Fons, relying on the Charter for the discovery of new general principles does not protect it from being accused of judicial activism.

Moreover, the Charter and the general principles serve similar purposes. As discussed above, the general principles are meant to facilitate constant renewal and embody the EU's living constitution. At the same time, the Charter is meant to meet challenges of social and technological change and embody contemporary European values.[192] The dynamic between general principles and the Charter is not limited to these aspects. Lenaerts and Gutierrez-Fons argue that the Charter, like the general principles, serves a triple function. The first, is to

[191] Chapter 1, Part 1, The Road to European AI.

[192] Lenaerts and Gutierrez-Fons (n 138), p. 1655.

serve as inspiration for the general principles, as already discussed. The other two functions are as an aid to interpretation, like the general principles, and provide grounds for judicial review, again, like the general principles.[193] The overlap between the two is therefore apparent, as is the approach of the Court to use them together.

Tridimas has also considered the role of the Charter. In his view, since the Treaty of Lisbon, which granted it the same value as that of the Treaties, the Charter has become the primary source of EU fundamental rights.[194] However, Tridimas adds, that does not mean that fundamental rights are exhausted in the Charter. That is so, he argues, especially in light of the fact that general principles will be used to interpret the Charter, or in his words, to 'influence and morph the interpretation of the Charter'.[195]

The dynamic between the Charter and the general principles is therefore a complex one. The Charter is a source of inspiration for the recognition of new general principles, while in their turn, general principles can be used to influence and morph the interpretation and application of the Charter. Behind this two-way process is the Court, which looks at the Charter for inspiration to establish new general principles and at the general principles to interpret the Charter. As a result, if general principles and the Charter are potential solutions to the limitations described above, then the Court is the institution responsible to use them as such.

[193] Ibid.

[194] T. Tridimas, 'Fundamental Rights, General Principles of EU Law, and the Charter' (2014) 16 Cambridge Yearbook of European Legal Studies, 361.

[195] Ibid. p. 377.

Taking into account their functions, it is clear that the Charter and the general principles are powerful tools, which could lead, as discussed above, to unsettling the balance of powers between EU institutions and between the EU and its Member States. It is, therefore, perhaps not surprising that the way in which the Court uses these tools comes under serious scrutiny. In the most extreme form of this criticism the Court is cautioned not to replace the rule of law with a 'rule of the judges' and the existing institutional framework with a *gouvernement des juges.*[196]

The Charter is a powerful tool in the hands of the Court, which, together with the general principles, can be used to futureproof the EU non-discrimination framework in particular and the EU constitutional order more broadly. But in using them in such a way, and despite the fact that they have been convinced with such purposes in mind, the Court will nevertheless have to tread carefully, having already been harshly criticised for its interpretation of the principle of non-discrimination in the past and being always under scrutiny not to overstep the limits of its power and replace the will of the legislative with 'judge-made law'. The next, and final section of this Chapter focuses on the metaprinciple of equality, its special place within the EU legal order and the mandate of the Court to expand it.

[196] Matthias Herdegen, 'General Principles of EU Law - The Methodological Challenge', in Ulf Bernitz, Joakim Nergelius, and Cecilia Cardner (eds), *General Principles of EC Law in a Process of Development*, (Kluwer, 2008), 2.

Part 3 - The Metaprinciple of Equality[197]

Having discussed both the general principles of EU law and the Charter in general terms, it is now necessary, for the purposes of this paper, to zoom in and focus on the specific elements which can be used to address the limitations discussed in the first chapter. Considering the nature of algorithmic discrimination and the risks it raises, in particular to the value of equality and the right not to be discriminated against, the focal point is the metaprinciple of equality.

Case law has established the principle of equality as one of the foundations of EU law, as Muir notes.[198] In her book dedicated to this subject she further adds that the principle of equality is a cornerstone of European integration, while equality between the peoples and states of the EU is a primary objective of the European project. Thus, the EU as a whole can be said to be founded upon the value of equality.[199]

In EU law, the principle of equality is referred to in different ways, the terms non-discrimination and equality being often used interchangeably. Yet, Muir argues, regardless on the way in which they are formulated, these references are always grounded in the same '*metaprinciple of equality*' which she traces back to a version of the classic Aristotelian formula adjusted in the context of EU law: '*compliance with the principle of non-discrimination requires that comparable*

[197] Elise Muir, 'EU Equality Law: The First Fundamental Rights Policy of the EU', (Oxford University Press, 2019), p.3.

[198] Ibid.

[199] Ibid.

situations must not be treated differently, and that different situations must not be treated in the same way unless such treatment is objectively justified'.[200]

In her opinion in *Bartsch,*[201] AG Sharpston engages in a profound analysis of the 'metaprinciple of equality' in EU law, also tracing it back to Aristotle. She argues that the maxim expressed by Aristotle remains an empty rule until what is meant by 'different' is defined in each relevant situation. This will happen, AG Sharpston adds, in accordance with the fundamental moral outlook of a person or a society.[202] Consequently, acceptable differential treatment and discrimination are separated by what society deems reasonable and what arbitrary.

This raises key questions for the debate on algorithmic discrimination as a whole. Will algorithmic discrimination be an inherent part of the new algorithmic society, its members simply being forced to adapt to it? If not, which of its effects will be deemed unacceptable and which will be allowed? Can one expect society to deem discrimination on the basis of sport shoes or musical taste as justified, simply because of the apparent triviality of the criteria used? The same opinion of AG Sharpston offers some guidance on finding some potential answers for these questions. She argues that, ultimately, the response to the broader questions 'who is covered by the principle of equality' and 'what aspects of economic, social, political, civic and personal life are encompassed by that principle?' are not immutable. Instead, they evolve together with society, and as they do, the law

[200] Ibid., p.4

[201] Opinion of Advocate General Sharpston in Case C-427/06 - *Bartsch*, 22 May 2008, EU:C:2008:297.

[202] Ibid.

must also evolve, so as to reflect the relevant changes and explicitly state what is no longer tolerated.[203] In doing so, she argues, new expressions of the general principle of equality are materialised. This is further proof of the need for general principles to evolve with society, so as to meet their purpose of reflecting the changes it is subjected to. None of the criticisms levelled against general principles discussed herein seem to dispute this.

Nevertheless, the precise ways in which the metaprinciple of equality should evolve to futureproof the personal scope of the current non-discrimination framework in the face of the challenges posed by algorithmic discrimination are not always clear and uncontentious. One reason why this is the case is that, at least in certain circumstances, it will be extremely difficult to assess what society deems to be unacceptable when it comes to algorithmic discrimination. Indeed, algorithmic discrimination challenges the idea of clear-cut boundaries between contentious and uncontentious criteria to be used for categorisation, showing that even those widely seen as trivial and uncontentious, say musical preferences, could result in unfair results. Consequently, the 'public opinion test' is unlikely to be the right filter or source of inspiration, as the public could find the criterion used acceptable but the result unacceptable at the same time. This is different from instances of indirect discrimination where the apparently neutral criterion is ultimately deemed to be a proxy for an unacceptable one.

The personal scope of the current non-discrimination framework is much more restrictive than Article 21(1) of the Charter, therefore leading a gap between

[203] Ibid.

the potential of the metaprinciple of equality and its current form. As it will be expanded upon in the next Chapter,[204] there is currently little way of knowing how the Court will go about expanding the personal scope of the non-discrimination framework. However, the expansion is likely to unfold organically, powered by the cases and questions that will be put in front of the Court, which will likely operate on a 'know it when you see it' basis, with reliance on the Charter. While emphasising the importance of the Court not shying away from considering this approach, for all the reasons discussed so far, there are also two avenues which the Court could itself explore to devise new protected characteristics, both anchored in the list in Article 21(1) of the Charter.

The first is by using all the categories contained therein fully. The differences between this list and the current non-discrimination framework are stark. One characteristic contained in Article 21(1) that could be particularly relevant for algorithmic discrimination is property. Given the way in which algorithmic discrimination works, and the examples discussed in Chapter 1 coming from the Netherlands and the United Kingdom,[205] making use of this protected characteristic could potentially address a number of algorithmic discrimination cases. Unfortunately, what is meant by 'property' and how different this is from socio-economic background remains unknown, partially because the Court has not extensively engaged with this characteristic in the context of non-discrimination. This is, admittedly, a sensitive issue and the Court, should it decide

[204] Chapter 3, Part 1.

[205] Chapter 1, Part 1, The Need for Futureproofing, AI and Weapons of Math Destruction (WMPs)

to engage with it, will have to embark on a difficult journey, where the opinion of the public, although not impossible to assess, could be extremely divided.

The second is by using the built-in expansion mechanism in Article 21(1) and extending the list contained therein with new characteristics the Court deems relevant. Although the list itself is quite comprehensive, some important characteristics could still fall outside its scope. One such characteristic is appearance, which could easily become relevant in the age of algorithms used to evaluate beauty.[206] There have been arguments that this characteristic could fall within the scope of disability, but doing so would mean reading it very restrictively.[207] At the same time, genetic features, another characteristic mentioned in Article 21(1) could also be relevant, however it is unclear whether this would be sufficient, given the lack of clarity of what this characteristic would entail and the aspects of beauty which are not genetically determined, such as the application of make-up.

As a result, one approach to recognising new protected characteristics that the Court could follow, other than through organic development, is to evaluate the limits of the characteristics already mentioned in Article 21(1) and consider what seems to fall just off their limits. If one imagines every characteristic in 21(1) as

[206] Sam Levin, 'A beauty contest was judged by AI and the robots didn't like dark skin' *The Guardian* (San Francisco, 8 September 2016) <https://www.theguardian.com/technology/2016/sep/08/artificial-intelligence-beauty-contest-doesnt-like-black-people> accessed 29 July 2021.

[207] Andrew Mason, Francesca Minerva, 'Should the Equality Act 2010 Be Extended to Prohibit Appearance Discrimination?', (2020), Political Studies, <https://journals.sagepub.com/doi/full/10.1177/0032321720966480> accessed 29 July 2021.

building blocks of an edifice, they will not be perfectly connected, gaps existing in between. A good example is to consider the limits of 'genetic characteristics' and consider whether discrimination on the basis of physical appearance would fall within them.

Another example is psychological characteristics. AI systems are already being deployed for emotion recognition,[208] despite serious criticisms about the science behind this application of AI.[209] Chances are, therefore, that algorithms will be used to determine whether one person is suffering from - or is predisposed to - depression or anxiety. Here, the Court will arguably look at the limits of 'disability' and 'genetic features', none of which seem to properly address psychological characteristics as the ones described above, therefore showing the existing gaps in Article 21(1). Indeed, it seems difficult to determine at which point depression or anxiety become a 'disability'. Even in that case, protection would likely be limited only to exceptional circumstances,[210] therefore creating a space where people could be discriminated against, for example in the process of looking for a job, on the basis of either their genetic predisposition or current mental state. The Court should aim to fill all such gaps making use of the expansion mechanism built in the same article.

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[208] Kate Crawford, 'Time to regulate AI that interprets human emotions', (Nature, 6 April 2021) <https://www.nature.com/articles/d41586-021-00868-5> accessed 29 July 2021.

[209] Lisa Feldman Barrett, Ralph Adolphs, Stacy Marsella, Aleix M. Martinez, and Seth D. Pollak, 'Emotional Expressions Reconsidered: Challenges to Inferring Emotion From Human Facial Movements', [2019] *Psychological Science in the Public Interest* 20(1) 1.

[210] See Chapter 3, Part 1 for a discussion on disability as a protected characteristic and the judgment in Kaltoft.

Both AG Sharpston, in the same opinion and in relation to *Mangold*, and Muir, talk about the differences between the formation (or discovery) of new general principles and the emergence of new expressions of the principle of equal treatment. In AG Sharpston's case, she argues that the Court would have had an easier time justifying the reasoning in *Mangold* as non-discrimination on the basis of age being an expression of the general principle of equality rather than a self-standing general principle. In her turn, Muir explains that the prohibition of discrimination on the basis of sex and age - following *Mangold* - should be considered as general principles, although they can also be seen as expressions of the principle of equal treatment.[211] Coupled with the different ways in which the general principle of equality is itself expressed, one can indeed have legitimate concerns about the complexity and intricacies of this fundamental principle and the negative effect they have on legal certainty.

This differentiation can be important in addressing algorithmic discrimination. The Court could hold that, as society and technology evolve, so does the general principle of equality and the way in which it must be expressed, without however necessarily recognising new self-standing general principles. This is an important aspect which will be considered in-depth in the next Chapter,[212] when discussing the ways in which the Court could make use of these tools for futureproofing purposes.

[211] Muir (n 197).

[212] Chapter 3, Part 1.2.

The Principle of Equality in the Charter

Highlighting its special place in the EU legal order, equality is part of the general principles, the Treaties, and of EU secondary legislation. This multi-layered set of rules can give rise to problematic instances, in particular in relation to the institutional balance. Amongst the written legal instruments in which equality plays an important rule, the Charter is, undoubtedly, one of the most important.

The Charter provides several manifestations of the principle of equality. The first, in its Article 20, which states that everyone is equal before the law, arguably fulfilling an 'umbrella' function.[213] Three more specific expressions of the principle of equality complement this 'umbrella' provision. First, Article 21(1), already discussed, which provides, as Muir also emphasises, for an open-ended list of protected grounds of discrimination.[214] The list of characteristics mentioned is also quite exhaustive, going much beyond the characteristic protected by the four non-discrimination directives and including social origin, genetic features and property. Second, Article 21(2) addressed discrimination on the grounds of nationality, while Article 23, is specifically devoted to equality between women and men in all areas.[215]

The importance of this open-ended list has been addressed above, as it provides the Court with the opportunity to add other elements to it, so as to reflect the current state of the European society and, in the words of AG Sharpston, to

[213] Muir (n 197), p.62.

[214] Ibid. pp.62 – 63.

[215] Ibid.

make clear what is no longer deemed permissible. Moreover, it also provides the Court with a number of characteristics that it could use to extend its non-discrimination decisional practice. If the Court decides to make use of them, this will have a significant impact on enlarging the personal scope of the non-discrimination framework.

The Court and the Principle of Equality

Having already briefly touched upon the ways in which the Court applies and shapes the principle of equality, it is important to turn to jurisprudence to better understand these phenomena.

According to Tridimas, the principle of equal treatment can be, and indeed has been, used by the Court to promote specific policy outcomes.[216] As examples, he cites *Sturgeon*, already considered to some extent above, and the decision in *Test-Achat.*[217] In both cases, Tridimas argues, the Court has shown 'constitutional empathy' and seen its role as being to 'contribute to the realisation of substantive values'.[218] Despite some arguments advanced to the contrary, there are limits to the powers of the Court when it comes to general principles. Lenaerts and Gutierrez-Fons use the decisions in *Audiolux*[219] and *NCC Constructions Danmark*[220] to argue that beyond constitutionally prohibited forms of discrimination

[216] T. Tridimas, 'Fundamental Rights, General Principles of EU Law, and the Charter', (n 194) p. 371.

[217] Case C-236/09 - *Association Belge des Consommateurs Test-Achats and Others*, 1 March 2011, EU:C:2011:100

[218] T. Tridimas, 'Fundamental Rights, General Principles of EU Law, and the Charter', (n 194) p. 371

[219] Case C-101/08 *Audiolux and Others*, 15 October 2009, EU:C:2009:626.

[220] Case C-174/08 *NCC Construction Danmark*, 29 October 2009, EU:C:2009:669.

the general principle of equality cannot be relied upon to replace legislative choices.[221] As such, they argue that the principle of equality does not allow the Court to interfere with the prerogatives of the EU legislature, the Court therefore staying well within the limits of its mandate.

What is meant by 'constitutionally prohibited forms of discrimination' is, however, not entirely clear. That is so first because of Article 21(1) of the Charter not being used to its full capacity[222] and because of its drafting, giving the Court the power to add criteria to the list which, given its presence in the Charter, would presumably automatically acquire a constitutional level. The two decisions discussed are not helpful either, given that they would have required a very particular interpretation of the principle of equality, one in relation to the rights of minority shareholders and the other to levels of VAT. They are therefore not significant in attempting to predict how the Court could interpret the principle of equality and the current list of protected characteristics in response to issues arising from algorithmic discrimination. More instructive is the decision in *Kaltoft* in which the Court held that, in certain circumstances, obesity discrimination can fall within the EU concept of 'disability discrimination'.[223] There, even though the Court refused to establish obesity as a specific protected characteristic, it did recognise

[221] Lenaerts and Gutierrez-Fons (n 138) p. 1662

[222] See for a more in-depth discussion Chapter 3 and Angela Ward, 'The Impact of the EU Charter of Fundamental Rights on Anti-Discrimination Law: More a Whimper than a Bang?', (2018) 20 Cambridge Yearbook of European Legal Studies 32.

[223] Benedi Lahuerta (n 188)

that this could be an expression of the general principle of non-discrimination on the basis of a disability.[224]

In light of the above, the Court shows itself to be keenly aware of the need to review and rethink the principle of equality so as to keep it up to date with the evolution of the European society. While there is certainly a positive side to this, Muir argues that there might be significant drawbacks. One of them is that through its decisions, which are expanding the scope and/or impact of EU equality legislation on domestic legal orders, the Court might be discouraging the EU legislative from taking action in the field of equality, a directive on this topic being, as discussed in the previous Chapter, stuck in an interinstitutional limbo since 2008.

Nevertheless, Muir presents other factors which might have played a part in the current lack of regulatory work on equality, such as the economic and financial crises or the rise of Euroscepticism. More recent crises can be added to this list, such as Brexit or the COVID-19 pandemic. In light of this, it would seem that the work of the Court, instead of pre-empting the work of other institutions, is actually necessary to fill a void left by their inactivity in this field.

The next Chapter will seek to apply general principles and the Charter to the problem of algorithmic discrimination specifically and, going further than considering whether they are relevant in this sense, which was the objective of

[224] Ibid.

this Chapter, to consider whether, and if so, how the Court should use these tools to address the issues arising from algorithmic discrimination.

Before doing so, it is useful to highlight that the general principles and the Charter can and should be seen as futureproofing tools for the EU's non-discrimination framework. The one institution that can use them as such is the Court, which has vast experience in using them to renew and evolve the EU legal framework as a whole.

Finally, the metaprinciple of equality, which is at the core of the discussion on algorithmic discrimination, is widely seen as a cornerstone not only of the EU legal framework but also of the European Project as a whole. With time, it has gone through several substantial modifications, evolving to reflect changes in society, just like AG Sharpston has argued it must do. As European society is entering its 'digital decade',[225] the Court will have to look again at the principle of equality to ensure it accurately reflects the challenges of the new digital age.

[225] European Commission, 'Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions: 2030 Digital Compass: the European Way for the Digital Decade', COM/2021/118 final, Brussels, 9 March 2021.

Chapter 3

Introduction - Futureproofing: Applying the tools to address the limitations

Chapter 1 has identified the two main limitations of the current EU non-discrimination framework in the face of algorithmic discrimination, as being its personal and material scope; subsequently, Chapter 2 has presented the general principles of EU law and the Charter as suitable futureproofing tools that could be used to address these limitations. This third and final Chapter seeks to test the feasibility of using the tools presented in Chapter 2 for the issues identified in Chapter 1. More precisely, this Chapter aims to consider how the Court could develop the interpretation of the principle of non-discrimination and of the Charter to expand the list of protected characteristics under EU non-discrimination law as well as the number of instances where they are applicable.

This question will be answered with reference to the case law of the Court and its approach both to the metaprinciple of equality, which the previous Chapter has shown plays a key role within the EU legal framework, and the Charter. This is the first of the two main questions around which this Chapter revolves. The second arises as a result of the space in which the Court operates and the internal (from other EU institutions or the Member States) and external (from academia) scrutiny to which its decisions, especially those which evolve the law, are subjected to and asks whether the Court should get involved at all with these issues. In answering this second question, the mandate of the Court will be

considered together with the limits of the general principle of equality and the recent AIA Proposal.

Algorithmic discrimination, EU law and EU values

Issues of algorithmic discrimination, as presented in the first Chapter of this paper, raise considerable challenges not only for EU law, seen as the normative framework of rules and regulations on which the EU is based, but also the values that underpin the European project as a whole. Equality that is not only present but also seen to be respected and promoted, is a prerequisite for the internal equilibrium of the EU. Indeed, the idea of removing any discrimination against foreign (here with the sense of originating in a different Member State) goods, services or workers has been the engine of European integration and consequently at the very core of the development of EU law. Given the importance of equality, EU law has evolved in a way that ensures its centrality. As shown in Chapter 2, equality, often expressed in EU law as non-discrimination, is a general principle of EU law, a fundamental right recognised in the Charter and a principle underpinning several pieces of primary and secondary legislation. The attitude of the Court towards this principle was also presented, showing the importance of the metaprinciple of equality in the jurisprudence of the Court.

Most recently, as discussed in detail in Chapter 1, the Commission has published the AIA Proposal, a landmark development which, if adopted, will have a significant effect not only on the way in which AI is developed and used (in the EU and to a certain extent globally) but also on the EU law framework as a whole. Indeed, previous documents released by the Commission have highlighted the

need for a number of existing legislative documents to be evaluated in order to check their fitness for the age of AI.

Despite only addressing the issue of 'algorithmic discrimination' once in its Explanatory Memorandum, the Proposal remains relevant, in particular in relation to the application of the Charter and extending the limited material scope of the current non-discrimination framework, issues which will be discussed in Part 2 of this Chapter, after Part 1 considers the potential solutions available for addressing the limitations of the personal scope.

Part 1 - Futureproofing the personal scope

1.1 Article 21(1) of the Charter and its open-ended list of protected characteristics

The *Kaltoft*[226] decision was briefly touched upon in the previous Chapter but deserves an in-depth analysis here, as it is one of the most recent instances in which the Court has been confronted with arguments in favour of extending the list of protected characteristics in Article 21(1); recognising new general principles and extending the scope of the general principle of non-discrimination. The Court robustly rejected the arguments in favour of recognising a new general principle, concluding that a principle of non-discrimination on the basis of obesity does not exist under EU law. The Court also refused to engage with the scope of the open-

[226] Case C-354/13 - *FAO,* 18 December 2014, EU:C:2014:2463.

ended list present in Article 21(1) of the Charter, holding that obesity cannot be seen as being part of it.[227]

On both issues, the reasoning of the Court is far from comprehensive. To reject the general principle argument, the Court simply refers to the lack of protection given to obesity, under either primary - with reference to Articles 10 and 19 TFEU - or secondary, with reference to Directive 2000/78, legislation. Addressing the scope of the Charter, and in particular Article 21(1), the Court is even more scarce with the details of its reasoning, relying on a jurisdictional point, holding that the case at hand contained '*nothing to suggest that the situation complained of fell within the scope of EU law*'.[228] The Court therefore avoids what would have been an intricate issue, holding that the Charter was not applicable in light of the *Åkerberg Fransson*[229] doctrine, steering clear of any discussions on the purpose behind the wording of Article 21(1), the non-exhaustive list it provides and its capacity to be extended.

After swiftly settling these issues, the Court moves on to deal with another question of the referring court, whether obesity can be seen as falling within the scope of another protected characteristic, disability.[230] Here the approach of the Court is different, as it shows itself more willing to engage with the question and its implications. Despite ultimately concluding that obesity by itself cannot fall

[227] Ibid. paras. 38-40.

[228] Ibid. para. 38

[229] Case C-617/10 - Åkerberg Fransson, 26 February 2013, EU:C:2013:10

[230] Case C-354/13 - *FAO,* 18 December 2014, EU:C:2014:2463, para. 42

within the scope of 'disability',[231] the Court presents several arguments in support of this conclusion.[232]

The Court then goes further with its analysis and concludes that under certain circumstances, the obesity of a worker, '*which entails a limitation which results in particular from physical, mental or psychological impairments that in interaction with various barriers may hinder the full and effective participation of that person in professional life on an equal basis with other workers, and the limitation is a long-term one*' can be covered by the concept of 'disability' within the meaning of Directive 2000/78.[233]

These two approaches seem relatively divergent. The Court is reluctant to extend the personal scope of the current non-discrimination framework or to make use of the list in Article 21(1) but, nevertheless, shows itself willing to give a broad interpretation to a characteristic that is already protected. The final result is substantially similar, the list being virtually extended indirectly, but the approach taken limits the extent of the criticism that can be brought against the Court, while at the same time undermining the value of the Charter. While 'judge-made law' or 'judicial activism' criticisms can still be formulated, their scope is naturally more limited than in the alternative, the Court, at most, standing to be accused of an overly-broad interpretation rather than creating new legal principles. That is not to

[231] Ibid. para. 58

[232] Case C-354/13 - *FAO,* 18 December 2014, EU:C:2014:2463, paras. 55-56

[233] Ibid. para. 59

say, however, that this consideration played any part in the decision-making process of the Court.

There are two issues flowing from this approach to the current non-discrimination framework. First, the ability of the Court to reinterpret the existing list could play a key role in the reluctance to extend it, if only by using the more comprehensive list in Article 21(1) of the Charter. Against the backdrop of the discussion in Chapter 2, the Court, to shield itself against criticisms of judicial activism or judge-made law, could prefer what appears to be the safer, or at least less contentious, approach of reinterpreting the current non-discrimination framework rather than try to extend it in any way. This is the approach taken in *Kaltoft*, which, despite ultimately reaching a decision that pushes forward the protection of fundamental rights in the EU, does so only to a limited extent, in very specific circumstances. The natural limit of this approach appears when adding a new characteristic to the list is more reasonable (to be read here as proportionate and justifiable) than reinterpreting one of the existing ones. Two potential scenarios where that would be the case can be identified: when the characteristic in question simply cannot be reasonably assimilated to any of the already existing ones or when the Court decides that its mandate and EU law as a whole dictate that this is the case. Both these scenarios depend on the will of the Court, being therefore difficult to pin down which exactly would be the factors that the Court would deem to be persuasive enough to change its position from reinterpretation to extension.

It is difficult to assess to what extent the Court is concerned about being criticised for judicial activism. While such criticism is normal and perhaps, to a certain extent, even necessary in democratic societies, acting as a reminder for the Court of the limits of its mandate, even in cases where its intentions are of the most noble, it should not preclude the Court from doing its job, which by its very nature involves certain stakeholders being left disappointed. Considering the purpose behind the general principles and the Charter to provide a mechanism that can be used to advance EU law and the jurisprudence of the Court which shows it as understanding its role in evolving EU law, and carrying it out diligently and responsibly, this approach should not be abandoned now, at a crossroads in the development of European societies.

The second issue flowing from this approach is what renders a characteristic worthy of being protected in and of itself rather than being assimilated to an existing one. Unlike the seemingly rigid limits of the non-discrimination framework, the wording of Article 21(1) provides for a lot of flexibility. This wording, and the intentions behind it, would be completely redundant if the list is not used by the Court, or is seen as being closed in all but name. There must be, therefore, a characteristic which meets the necessary threshold to be included in the said list. What that threshold is and how it can be met remains however a mystery, which the *travaux preparatoires* and the explanatory notes of the Charter do not help elucidate.[234]

[234] Marc Steiert and Niall Coghlan(eds.), *The Charter of Fundamental Rights of the European Union: the 'travaux préparatoires' and selected documents*, (European University Institute, 2020)

The answers to these two issues are closely intertwined and highly dependent on each other. As a result, the Court risks being caught in a ‘Catch-22’ situation where it will wait for a characteristic special enough to be added to the list to determine which are the requirements necessary for a characteristic to be awarded this special status. Until that moment, it will seem that the only test that the Court can rely on is focused on the principle ‘you will know when you will see it’.

There are no easy solutions to establish what characteristics could meet this test. Similarity to other characteristics seems like an obvious test, but it would likely be an imperfect one. That is because, as discussed at length in Chapter 1, the characteristics on which algorithms can discriminate can seem trivial or too complex, making a comparative analysis inappropriate. A more accurate test could be the proximity to protected characteristics, as discussed in Chapter 2. In Chapter 1, when discussing indirect discrimination, it has been argued that in some cases any criterion can be ultimately traced back to a protected characteristic, the problem being the number of levels separating the actual criterion used for categorisation from the protected characteristic. One way to complement the existing approach and potentially soften the limits of direct discrimination is to extend the list of protected characteristic to include ‘close proxies’.

Even more straightforward, the Court could be more reliant on the list provided in Article 21(1) of the Charter and give more attention to characteristics such as ‘property’, ‘political or any other opinion’, or ‘genetic features’ as they are likely to open up new perspectives about what are the essential features of a

protected characteristic. Moreover, as discussed in the previous Chapter, the Court could consider the gaps between the characteristics listed in Article 21(1) and consider how they could be filled. Appearance, for example, could be a characteristic worthy of being included, which could have also potentially been relevant in *Kaltoft*, as well as psychological characteristics.

As touched upon above, in *Kaltoft*, the Court chose an easier route, avoiding these complex dilemmas altogether. As the facts of the case were related to an employment scenario, the Court decided that obesity, where it prevents a person from working, can be said to amount to a disability. While this approach is tenable in this case, given the factual background, it does little to answer the overarching issues described above as well as to provide any indication, let alone clarity, about the approach that the Court might take in the future. Given the intricacies and complexity of algorithmic discrimination, the Court might not find a similarly elegant way out of complex issues in the future. While the approach in this case does not amount to a trend in the case law of the Court, it remains important for the current discussion as it highlights some of the ways in which the Court could choose to tackle issues arising from algorithmic discrimination.

In turn, this leads to a more profound discussion on the real purpose behind and the impact of Article 21. Ward writes that although this Article was expected to be a '*motor for broader, deeper and firmer enforcement of EU anti-discrimination measures has failed short of making a real impact, at least so far,*

on the expansion of EU non-discrimination law'.[235] She then goes on to describe the effect of this article, as well as of Article 20 of the Charter, on EU equality law as a 'muted' one, putting the responsibility for this on the Court which, she argues, has failed to make use of these tools, either by 'policing' their interpretation or refraining from referring to them at all, even in cases where they were directly mentioned by the referring court.[236] The approach of the Court towards Article 21 of the Charter seems hard to reconcile not only with the importance of equality as a value of the European project but also with the role of the Charter as the EU's 'bill of rights' and its stated purpose of ensuring that EU law keeps pace with technological development and societal changes. Ward goes further, arguing that the way in which the Court has so far interpreted Article 21 can be seen as giving rise to gaps and inconsistencies as well as disconnecting it from the rest of the Charter.[237] The rise of algorithmic discrimination can therefore be a turning point for the attitude of the Court towards Article 21 and its effect on EU's non-discrimination law and the protection and promotion of the principle of equality more broadly. In turn, this could have an important impact in reshaping both the essential features of a protected characteristic and the limits between direct and indirect discrimination.

[235] Angela Ward, 'The Impact of the EU Charter of Fundamental Rights on Anti-Discrimination Law: More a Whimper than a Bang?', (2018) 20 Cambridge Yearbook of European Legal Studies 32. p. 33.

[236] Ibid.

[237] Ibid. p. 60.

Going back to *Kaltoft*, AG Jääskinen's opinion[238] provides a deeper, although by no means exhaustive, analysis of Article 21. Unlike the Court who, as discussed, was quick to dismiss it, AG Jääskinen engages with the wording of Article 21, acknowledging that the list provided therein is an open-ended one[239] the words 'as such' making it reasonable to believe that EU law could cover discrimination based on grounds not explicitly mentioned in the list, such as '*appearance or size, psychological characteristics such as temperament or character, or social factors such as class or status*.'[240]

Without going any further with a discussion on what would take for these grounds to be added to the list, or indeed why he mentioned these particular grounds to begin with, the AG swiftly moves to a different point - the limits of the Charter. The AG recalls that in accordance with Article 6(1) TEU and its own Article 51(2), the Charter cannot extend 'in any way the competences of the European Union as defined in the Treaties'.[241] According to AG Jääskinen, these provisions set out 'an outer-boundary of EU fundamental rights law'.[242]

The AG then moves on to another topic and another provision of the Charter, invoking Article 51(1) to highlight the fact that it only binds Member States when they are implementing EU law, with reference to the *Åkerberg Fransson*

[238] Opinion of Advocate General Jääskinen, Case C-354/13 *FAO*, 17 July 2014, EU:C:2014:2106, para.18.

[239] Ibid, para.17.

[240] Ibid.

[241] Ibid. p.19.

[242] Ibid.

Doctrine. After engaging in a short analysis of the requirements necessary to establish that the Charter applies, the AG concludes that in the case at hand it did not. Although the AG returns to the issue of Article 21(1) a few paragraphs later, to say that it does not alter the extent of powers granted under Article 19 TFEU, he fails to engage with this point and balance this idea against the outer boundary of EU fundamental rights law that he described above. This analysis seems to be conflating a number of issues failing, in the process, to address several crucial points, ultimately leading to more confusion than clarity.

First issue that fails to be addressed properly is the way in which Article 19 TFEU limits the application of Article 21(1) of the Charter, as the list of protected characteristics in Article 19 TFEU is substantially shorter than the one in Article 21(1) of the Charter.

The second crucial point missing from this analysis is the reasoning behind the wording of Article 21(1) of the Charter. Reading the Opinion of AG Jääskinen and the way in which he formulates the limits of the list in Article 21(1), one cannot help but wonder what would be the purpose behind allowing for an open-ended list if in practice it turns out that it cannot be extended. It seems difficult to believe that this wording was a mistake or a happenstance. As mentioned above, the *travaux preparatoires* are unfortunately not helpful in this regard, AG Jääskinen avoiding this issue altogether.

The third and last element lost from this analysis is what would happen in cases where the Charter does apply. Much like the Court has done, and potentially

providing the inspiration for it doing so, AG Jääskinen has avoided difficult questions by relying on procedural points. While the broad principles stemming from the *Åkerberg Fransson* jurisprudence are clear, what remains problematic is what would happen if the Charter was actually held to be applicable. Would the Court have engaged to a deeper level with the questions related to Article 21, the extended list of characteristics contained therein and the possibility of further expanding it? Ward asks a similar question in her paper and concludes that the Court would have had little choice but to engage with these difficult questions in those circumstances.[243]

These three important issues, by being left unaddressed, throw the potential of Article 21(1) and the open-ended list it contains into the realm of uncertainty. It remains to be seen whether the Court will decide to engage with these aspects at a later stage and if so, how. Given the role of the Charter as the 'EU's Bill of Rights', the importance of non-discrimination as a value in the EU and the increasing number of cases of algorithmic discrimination, these questions could end up before the Court relatively quickly.

As Ward points out, Article 21(1) has not, at least for the time being, been used to its full capacity but rather left out of the important decisions of the Court, perhaps because, rather than despite, its potential. Algorithmic discrimination cases will present the Court with a difficult choice, use Article 21(1) to its full potential, where applicable in light of the *Åkerberg Fransson* doctrine, or run the risk of the EU non-discrimination framework becoming increasingly less effective

[243] Ward (n 235), p.39.

in the face of technological development. The latter approach would be problematic not only considering the purpose of the Charter and of the general principles, as outlined in the previous Chapter, to futureproof EU law and ensure it remains applicable as society changes and develops, but also in relation to the effectiveness of EU law more generally. It could also lead to a fragmentation in the law, each Member State taking different steps to address issues of algorithmic discrimination.

It is certainly not too late for Article 21 to become the motor for broader, deeper, and firmer enforcement of EU anti-discrimination measures. Indeed, from a certain perspective, this might be the perfect moment for it to be used as such, providing answers for a challenge that is both complex and urgent. Consequently, this can be seen as exactly the type of situation that was envisaged when this mechanism has been built into the Charter. It depends on whether the Court decides to use it as such. The first important step in this direction has arguably already been taken in *Egenberger*[244], where the Court has attributed horizontal direct effect to Article 21, using it to invalidate a national provision which violated the right to protection against discrimination based on religious belief in a dispute arising between two private parties.[245]

[244] Case C-414/16 - *Vera Egenberger v Evangelisches Werk für Diakonie und Entwicklung e.V.,* 17 April 2018, EU:C:2018:257.

[245] Hanna Eklund and Claire Kilpatrick, 'Article 21 EU Charter of Fundamental Rights', EUI Academy of European Law AEL 2021/01 Working Paper, pre-print of H. Eklund and C. Kilpatrick, 'Article 21 EU Charter of Fundamental Rights' in S. Peers, T. Hervey, J. Kenner and A. Ward (eds) The EU Charter of Fundamental Rights: A Commentary (2nd edition, Hart Publishing, forthcoming 2021).

Should that be the case, Article 21(1) would be a very useful futureproofing tool for the current non-discrimination framework, not only adding a number of established protected characteristics, but also leaving open the possibility of adding more, such as appearance or psychological characteristics. Considering the issues on a case-by-case basis and analysing how algorithmic discrimination occurs and evolves, the Court could expand the list as it sees fit, keeping the pace of technological development and intervening where necessary and proportionate, for example by adding some of the characteristics mentioned by AG Jääskinen in his opinion in *Kaltoft*. As far as practicable, to ensure legal certainty, the Court should consider setting out a clear test or process for adding new characteristics, expanding upon the attributes that make a particular characteristic suitable to be protected.

Other than the Charter, another instrument that can be used to address the limited personal scope of the current EU non-discrimination framework and thus futureproof EU non-discrimination law, are the general principles of EU law. The previous Chapter has shown how general principles are used to interpret the Charter, while the Charter in its turn can be used to recognise or interpret general principles, in a rather complicated and intricate dynamic. In *Kaltoft*, the Court looked, *inter alia*, at the Charter and held that there is no general principle of non-discrimination on the basis of obesity under EU law. But for other potentially protected characteristics, the process could be reversed. In other words, the Court could recognise a general principle of non-discrimination on the basis of a new

protected characteristic, and should it choose to do so, then work that general principle into the scope of the Charter.

1.2 Utilising the dark matter of EU law

The first Chapter has considered the work of Groussot et. al on general principles, revolving around the idea of creating 'general principles 2.0'[246] which would be fit for the digital age and shape its development. There are two different, but not mutually exclusive, roads towards general principles 2.0 - creation and reinvention. The first is more revolutionary, as it involves the recognition - or creation - of new general principles, which despite taking inspiration from the current EU legal framework would bring something inherently new to it. In Groussot et. al.'s edited volume, there are arguments in favour of recognising new 'general principles by design', such as transparency or privacy by design.[247] This first avenue is referred to as 'Creation' and will be dealt with in the next section.

The second road, although not necessarily less innovative, focuses not on creating new tools but rather on repurposing already existing ones. More concretely, it focuses on the reinvention of current protected characteristics through an alteration of their interpretation and scope. This second avenue will be referred to as 'Reinvention' and will be dealt with in the section following the one on Creation. These two avenues mirror, to a certain extent, the approach in

[246] Xavier Groussot, Anna Zemskova and Eduardo Gill-Pedro, 'Towards General Principles 2.0: The Application of General Principles of EU Law in the Digital Society', (2019), Lund University Legal Research Paper Series, Paper No 02/2019, <https://www.academia.edu/43321931/Towards_General_Principles_2_0_the_Application_of_General_Principles_of_EU_Law_in_the_Digital_Society> , accessed 29 July 2021.

[247] Ibid.

Kaltoft, where the first argument was in favour of a self-standing general principle, 'Creation', while the second was for the 'Reinvention' of the scope of an existing general principle. The limits between reinvention and creation are, in practice, not fixed or clear-cut, so a certain degree of overlap must be expected. Indeed, it would not be misplaced to argue that the process of reinvention is in itself a creative one. Leaving these arguments aside, this distinction is necessary for the framing of the current discussion, and, thinking about the decision in *Kaltoft*, it is also important in the thinking processes of the Court.

Looking for new general principles - The Creation of new general principles

The previous Chapter has presented Gualco's analysis of the two processes through which new general principles are created, one exogenous, with the Court drawing inspiration from the common constitutional traditions of the Member States as well as the ECHR, and the other endogenous, allowing the Court to find general principles within the values and rights protected by the Treaties.[248] For the exogenous process, an important feature to be considered was presented by Lenaerts and Gutierrez-Fons, who argued that the Court does not search for the lowest common denominator when looking at the constitutions of the Member States but instead seeks to find the solution that would work best in the relevant circumstances.[249] Given the power of general principles to advance EU law and

[248] Elena Gualco, 'General principles of EU law as a passe-partout key within the constitutional edifice of the European Union: are the benefits worth the side effects?', (2016) Institute of European Law, Birmingham Law School, University of Birmingham, Working Papers, 05/2016, <http://epapers.bham.ac.uk/2188/1/IELWorkingPaper2016No5.pdf> accessed 29 July 2021

[249] Ibid.

the power of the Court to recognise new ones, the question of whether new general principles can be created to address the limited personal scope of the current non-discrimination framework arises naturally.

The short answer to this question is yes. On the surface, the Court has the power to recognise new general principles and it can decide to do so to award protection to new characteristics on which algorithms might be found to be discriminating, including appearance or psychological characteristics. But the reality, of both algorithmic discrimination and EU law is far more complex and therefore the answer to the question is less straightforward.

While the Court is empowered to recognise new general principles its creativity in doing so is not boundless. Indeed, all the general principles, regardless of the process through which they are recognised, be it exogenous or endogenous, need to be anchored in already existing legislative acts, either of the Member States, of the EU or in the ECHR - as interpreted by the European Court of Human Rights. As algorithmic discrimination is such a novel phenomenon, largely defying the limits of non-discrimination law generally, a narrow reading of the existing provisions is unlikely to allow a lot of space for new general principles to bloom. Without engaging in a review of all constitutions of the Member States, it seems reasonable to assume that none of them prohibits discrimination on the basis of the browser used to access a certain public service, IP addresses, or online spending habits. However, it would be wrong to assume that constitutional traditions will be completely unhelpful. One particular aspect on which they could play an important role is where the discrimination occurs on the basis of traits

related to a specific region - accent, dialect or location, property and mental health, as these tend to be protected under national constitutional frameworks.

Leaving the exogenous process to one side and focusing instead on the endogenous one, the Court could take an expansive interpretation of the Treaties by looking at their objectives, rather than a narrow one based on a literal interpretation of their provisions. This could be particularly helpful in the cases of proxies, for examples those for gender or race, where the Court could justify its approach on the fact that discrimination on these grounds is always prohibited, even if they are not, on the surface, the basis for the discriminatory classification done by an AI-system. The Court could choose to go even further with its interpretation and recognise new general principles of law, taking a creative approach to finding anchors in relevant provisions of the Treaties, for example Article 3 of the Treaty on the European Union which outlines EU's values, and includes the following: *'It shall combat social exclusion and discrimination, and shall promote social justice and protection, equality between women and men, solidarity between generations and protection of the rights of the child'.*

Consequently, the recognition (or creation) of certain general principles will be less contentious than the recognition of others. This is where the expertise of the Court will play a crucial part. The Court is the best-placed institution to consider every emerging issue on a case-by-case basis, place it within the EU law framework, balance trade-offs, analyse justifications and decide on the best ways to find a balance between innovation and human rights protection. Indeed, the

Court has a rich history in addressing tensions that might appear between different values or objectives.

Same, same... but different - Reinvention

Moving on to the second avenue identified above - Reinvention - it is useful to start with AG Sharpston's opinion in *Bartsch*[250], which was also discussed to some extent in the previous Chapter. There, AG Sharpston criticises the approach taken by the Court in *Mangold*, where it established a new general principle - non-discrimination on the basis of age, engaging therefore in the process of creation, as defined above.

AG Sharpston considers that instead of creation the Court should have focused on reinvention. In her words, discrimination on the basis of age should have been considered by the Court as a '*manifestation of discrimination'*[251] which is prohibited by the general principle of equality. A similar approach was taken later by the Court, two years after this opinion, in its decision in *Kücükdeveci.*[252]

In putting forward this argument, AG Sharpston also addresses Article 19 TFEU - which AG Jääskinen dubbed the outer-boundary of EU fundamental rights protection - arguing that it does not, by any means, limit the evolution of the general principle of non-discrimination. That is so, AG Sharpston argues, because

[250] Opinion of Advocate General Sharpston in Case C-427/06 - *Bartsch*, 22 May 2008, EU:C:2008:297.

[251] Ibid. para. 59.

[252] Case C-555/07, *Seda Kücükdeveci v. Swedex GmbH & Co. KG*, 19 January 2010, EU:C:2010:21, para.50.

of its wording - '*without prejudice to the other provisions of [the] Treaty*',[253] which she takes to also mean without prejudice to the general principles. Going one step further, AG Sharpston argues that Article 19 TFEU encourages the evolution of the general principle of non-discrimination rather than inhibit it because, in her words, it '*enables specific manifestations of that general principle to be developed more effectively*'.[254]

The opinion of AG Sharpston is also helpful in establishing what a manifestation of the general principle of non-discrimination is. With reference to another one of her opinions, in *Lindorfer*,[255] she suggests in *Bartsch* that discrimination on grounds of age has 'a*lways been precluded by the general principle of equality that forms part of EU law*'.[256] In support of her position, she puts forward a scenario where in 1960 a Member State had permitted free movement of workers from other Member States except for those aged between 28 and 29 and between 52 and 53. She argues that such an arrangement would surely have been caught by the general principle of equal treatment that has always formed part of EU law. She further adds that differentiating between workers in accordance with those two age bands would have been regarded as arbitrary and unjustifiable. What has happened over the intervening years is that society's perception of more subtle forms of differential treatment on grounds of

[253] Ibid. para. 53.

[254] Ibid.

[255] Opinion of Advocate General Sharpston in Case C-227/04 P *Lindorfer v Council*, 30 November 2006, EU:C:2006:748.

[256] Opinion of Advocate General Sharpston in Case C-427/06 - *Bartsch*, 22 May 2008, EU:C:2008:297.34.

age has changed from unthinking acceptance to focussed examination. Finally, AG Shaprston argues that Article 19 TEFU should be seen as playing its allotted part by recognising explicitly certain specific (new) types of discrimination and empowering the [Union] legislator to act to combat them in particular ways and particular contexts.

The opinion in *Bartsch* and the one in *Kaltoft* provide diametrically opposed interpretations of the role of Article 19 TFEU in advancing EU non-discrimination law. The former sees it as facilitating this process, the latter as limiting it. What approach the Court will take the next time it has to look at it remains to be seen.

The analysis in the opinion in *Bartsch* also provides a blueprint for one specific way in which the Court could build its approach to reinterpreting the general principle of non-discrimination to make it relevant in cases of algorithmic discrimination. Depending on the characteristics in question, the Court could engage in an exercise similar to the one that AG Shaprston engaged with and imagine what would have happened if discrimination on the basis of the characteristic in question would have occurred at an earlier stage of the European project. While obviously not fool proof, this test could help the Court decide which manifestations of discrimination are caught by the general principle of non-discrimination.

To a certain extent, some of the thinking process of AG Sharpston has been followed by the Court in *Kaltoft*. As discussed above, in that case the Court decided that discrimination on the basis of obesity can be seen, under certain

circumstances, as a discrimination on the basis of disability, or, in other words, as a *manifestation* of discrimination on the basis of disability. Therefore the 'manifestation' approach could be a useful tool for the Court in analysing algorithmic discrimination cases and placing them in the right context, evolving its interpretation of the currently protected characteristics where necessary.

It is difficult to say which limits are stricter, those imposed on the Creation process or those imposed on Reinvention, as well as to determine how the Court could tackle the existing issues while at the same time being mindful of them. While for the former any development must be anchored in the constitutional tradition of Member States, or, according to Lenaerts and Gutierrez-Fons, at least in one national constitution, the latter is bound to the Treaties, which are for the Court to interpret. AG Sharpston has been able to find a creative way to address the limits imposed by the Treaties, through her exercise of going back in time and perform a counterfactual analysis, but it seems highly unlikely that this exercise will prove useful in all situations, not least because some of the characteristics on which discrimination can be based are related to the digital era and need to be considered within this context. As a result, one must question the limits of the 'manifestations of discrimination' approach.

On an abstract level, these limits seem diffuse, being inherently related to the principle of equality itself - as it evolves and grows, its manifestations multiply. On a more practical approach, boundaries to what the Court can and cannot recognise as manifestations are bound to exist, rooted in the idea of separation of powers expressed through the mandate of the Court and the systems of checks

and balances at EU level. Consequently, just like in the case of the Creation avenue discussed above, some characteristics will be easier to include under the scope of a general principle than others.

1.3 Choosing the right one?

This first part of the current Chapter has so far presented four ways in which the personal scope of the current non-discrimination framework could be extended, or, in other words, how new protected characteristics could be recognised by the Court as an answer to algorithmic discrimination, two based on the Charter, specifically on its Article 21(1), and the other two on general principles. Both in the case of the Charter and the general principles, the two approaches are focused first on using what currently exists and secondly on a process of creating something new. The dividing lines between these four avenues are more theoretical than concrete, especially in light of the close interplay between the Charter and the general principles and the nature of the dynamic between them which was considered in some detail in the previous Chapter. These imaginary lines should therefore not be taken as an encouragement for these paths to be considered as mutually exclusive.

On the contrary, they must be regarded as complementary, especially looking at non-discrimination on the basis of age and *Mangold*, about which Lenaerts and Gutierrez-Fons, argued was based on the Charter, while AG Sharpston explained how non-discrimination on the basis of age could have been recognised as a manifestation of the general principle of non-discrimination rather than a general principle in and of itself.

Moreover, different characteristics on the basis of which algorithms discriminate will likely need different approaches. *Kaltoft* is a telling example, the Court considering various approaches to how discrimination on the basis of obesity could be deemed to be prohibited under EU law. The fact that the Court has all four options as its disposal should be seen as a reassuring sign of its ability to futureproof the EU non-discrimination framework in the face of algorithmic discrimination.

Part 2 - Material Scope - The Impact of the Artificial Intelligence Act

Having dealt so far with the first limitation identified back in Chapter 1, related to the personal scope of the non-discrimination framework, it is now time to address the other, related to the material scope. Similarly with the discussion on the personal scope above, this part will also focus separately on the Charter and on the general principles, with the reminder, once again, that the two are closely interlinked and that in practice the limits drawn here are much less prominent.

The AIA Proposal is remarkable for a number of reasons, some of which have already been discussed. One of the reasons not covered so far is the impact it will have on EU law as a whole and in particular on the scope and implementation of the Charter. In its current version, the Proposal identifies, in its Annex III, eight areas where the use of AI systems will be deemed to be high-risk: critical infrastructure; educational and vocational training; safety components or products; employment, workers management and access to self-employment; essential

private and public services; law enforcement; migration, asylum and border control management and the administration of justice and democratic processes. Should the proposal be adopted in its current form, it will mean that all AI systems used in any of these eight fields will fall within the scope of EU law, and therefore within the scope of the Charter. An argument could also be made that, given the broad definition of AI-systems, all such systems, not only the high-risk ones, will fall within the ambit of EU law.[257]

The material scope of the EU non-discrimination law will therefore be significantly increased, although not directly, through a new non-discrimination directive, but through the application of the Charter to all these applications of AI systems. While the Court could issue a new decision similar to the one in *Åkerberg Fransson*, re-drawing the scope of the Charter, there seem to be no reasons for which the Court should not enjoy jurisdiction over the enforcement of this regulation and why the Charter should not be applied. Indeed, the Charter being applied seems to be the only way to explain why this regulation in itself does not create any individual rights. Again, with reference to the Explanatory Memorandum and the Preamble, the scope of the Proposal is not to create new rights but to enhance the already existing ones, bringing the use of AI systems deemed to be high-risk within the scope of EU law and therefore of its Bill of Rights, the Charter.

[257] Michael Veale and Frederik Zuiderveen Borgesius, 'Demystifying the Draft EU Artificial Intelligence Act', (6 July 2021) <osf.io/preprints/socarxiv/38p5f>, upcoming in Computer Law Review International, August 2021, pp. 20-22.

In addition to the eight fields identified in Annex III, the Proposal also provides, in Article 6, that all systems that meet two cumulative conditions will be deemed high-risk. These conditions are that 1) the AI system is intended to be used as a safety component of a product, or is itself a product, covered by the Union harmonisation legislation listed in Annex II and 2) the product whose safety component is the AI system, or the AI system itself as a product, is required to undergo a third-party conformity assessment with a view to the placing on the market or putting into service of that product pursuant to the Union harmonisation legislation listed in Annex II.

Other than through the AIA and the Charter, the material scope would be extended if more general principles will be recognised. The importance of general principles and their complex role within the EU law framework have been covered in detail in the previous section. Should new general principles, or new manifestations of existing general principles be recognised, the material scope of non-discrimination would be further extended, as part of what would essentially be a revamping of the EU non-discrimination framework.

Conclusions - Should the Court get involved?

This question is heavily influenced by the AIA proposal. In its current form, as it has already been discussed, the proposal seems to be relying on the Court to enforce and enhance the Charter. Should this position, or a similar one, be translated into the final version of the AIA, and should it be adopted, then the Court will have little choice than to get involved in issues of algorithmic discrimination

and therefore in wrestling with the current limitations of the non-discrimination framework and the full potential of the list in Article 21(1) of the Charter.

Moreover, and leaving the AIA Proposal aside, the Court has a number of tools at its disposal that it has a lot of experience using - the general principles and the Charter. Using these tools is for now a possibility, but as the cases of algorithmic discrimination multiply, it will likely become a necessity. Ward's paper highlights the ways in which the Court has come short of using the potential of the Charter to evolve the EU non-discrimination framework. While the failure of the Court to act in this sense might have not caused a lot of concern thus far, the more AI systems seem to put in danger the very value and idea of equality the more necessary it will be for the Court to act.

In all the decisions it makes the Court must be aware that it faces the risk of being criticised. This can be the case, depending on the circumstances, even when the law is clear. A perfect example is the case of *Coman*,[258] where despite the fact that the legal questions raised were quite uncontentious in light of the Court's jurisprudence, the political repercussions were significant. It is the Court's mandate and obligation to engage with difficult questions of law and settle them one way or the other. As it does so it is virtually impossible to please everybody. Arguments of judicial activism or competence creep can, as discussed in the previous chapter, be highly influenced by political opinions, personal beliefs or values. Going back to the case of *Coman*, academics from more conservatives states have used just this sort of argument against the Court.

[258] Case C-673/16 - *Coman and Others*, 5 June 2018, ECLI:EU:C:2018:385.

The need for futureproofing the current non-discrimination framework is apparent, as discussed in Chapter 1, becoming more acute each time an algorithmic decision-making system is implemented in one of the Member States of the European Union. Fortunately, the EU legal order has built-in mechanisms which can be used to ensure it keeps pace with technological advancements in particular and with the evolution of society more generally. Chapter 2 has identified two such mechanisms, which within the context of this paper have been labelled as 'futureproofing tools' - the general principles of EU law and the Charter, as suitable to address the current limits of the non-discrimination framework. The same Chapter also addresses the importance of the metaprinciple of equality for the European project more generally, emphasising that algorithmic discrimination is a challenge not only for the non-discrimination framework but also for the value of equality and the way in which it is seen and adopted in European societies. Finally, the last Chapter discusses concrete ways in which the Court could make use of both futureproofing tools to address the existing limitations, starting from Article 21(1) of the Charter and at the general principle of non-discrimination.

The adoption of the AIA Proposal would bring all high-risk AI applications under scope of EU law, giving the Court the chance, as well as putting on it the responsibility, to engage with the challenges raised by algorithmic discrimination. As a result, the Court will shape the emergence of the European algorithmic society and oversee the transition of EU non-discrimination law to the digital age. Fortunately, it has the necessary tools for the job and a rich history protecting the value of equality and the integrity of the European project.

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