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At the Conceptual Crossroads of Politics and Technology: An Exploration Into EU Digital Policy

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Abstract

As the EU pursues digital sovereignty and defines its role in the global digital era, this article examines the conceptual politics that shape EU technology policy. By conceptual politics, we refer to how the meanings and applications of core political concepts are actively contested, shaped, and renegotiated within policy discourse and practice. While existing scholarship has examined discursive strategies and technocratic tendencies in EU digital policy in isolation, this article distinctively analyses their paradoxical interplay. We do so by employing a conceptual politics framework that emphasises temporality, drawing insights from conceptual history. We focus on how foundational concepts, including rights, governance, and agency, are being renegotiated at the intersection of EU politics and rapid technological change. Specifically, we examine the conceptual shifts related to two cases—fundamental democratic concepts (digital rights) and those prompted by specific technologies (blockchain)—to illuminate how the discursive framing of digital technologies performs political work. Through our analysis of policy documents, we identify a central tension: as the EU utilises expansive future-oriented discourse to frame its digital policy, this simultaneously tends to narrow the horizon of expectations and make politics more technocratic. This dynamic risks obscuring the contested nature of politics by framing technological development as inevitable.

Keywords

citizenship; concepts; democracy; European Union; governance; policy; technology; temporality

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1. Introduction

Recently, the EU has strengthened its stance on the regulation and adoption of technology. Under Ursula von der Leyen's first Commission, between 2019–2024, the EU developed and passed a substantial amount of legislation addressing the development and deployment of digital technologies. This so-called regulatory wave introduced distinct political expressions and conceptualisations, ranging from trustworthiness to ethics-by-design. Simultaneously, the academic and political debates in Europe and beyond have become more nuanced in their analyses of how digital technologies, especially big data, blockchain, and AI, affect democratic societies (see e.g., Coeckelbergh, 2020; Smuha, 2021; Ulnicane & Erkkilä, 2023). In response, a risk-based approach to the regulation of such technologies has been consolidated through legislation such as the AI Act (Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, 2024). This approach, in turn, introduces novel concepts and topics, including the digital divide, discriminatory biases, risks of disinformation to the public sphere, as well as the concentration of power to a few technology giants.

The political investment into digital technologies from all aspects, such as their development, deployment, and social and political impacts, has been codified into a programmatic approach known as the EU digital policy. This article explores how the EU digital policy is conceptualised and developed by analysing its conceptual politics. Using policy documents as our main sources, our approach is grounded on the research traditions in conceptual history and the history of ideas (see e.g., Koselleck, 2002; Skinner, 1999; Steinmetz et al., 2017) and their contemporary applications. Our research questions are rooted in an exploration of temporality, by which we refer to time as a key dimension in structuring and experiencing social, political, and historical phenomena. A central focus is how time can be constitutive of politics through concepts, rhetoric, and language. This approach is inspired by previous literature on time and politics (Palonen, 2003, 2006, 2008) and the temporalisation of concepts (Koselleck, 2000, 2004; Jordheim, 2012, 2017; Jordheim & Wigen 2018). By conceptual politics, we mean an approach which focuses on studying "the political and rhetorical moves, strategies, debates and their actors, that coin, shape or reflect political concepts in institutional and social reality and its perception, as well as over time" (Wiesner, 2023, p. 2). Central to this framework is understanding concepts as nodal points for key controversies in social, material, and political reality (Wiesner, 2023, pp. 3–4). We recognise that concepts are not static; rather, their meanings and political functions are constantly renegotiated, meaning they are actively contested and redefined through formal utterances, in this case through policy documents. A key to understanding concepts here is to accept temporality and historicity as their key characteristics, especially evident in technological progress.

Yet, applications of conceptual politics have remained underdeveloped in the context of contemporary EU digital policy, where different historical concepts and potentially conflicting values are frequently invoked, ranging from democracy to competitiveness. While scholars have examined technical aspects of regulation, institutional processes, and discursive strategies individually, less attention has been paid to their intersecting temporal dynamics. Examining these temporalities can reveal how core political concepts are reshaped through policy discourse and, in turn, how these reshaped concepts influence political practice.

To address this research gap, we ask how foundational political concepts are being renegotiated within recent EU digital policy discourse, and how this process of conceptual renegotiation, with its inherent temporal shifts, affects the nature of politics and governance in this domain. To answer these research

questions, we conduct an analysis grounded in conceptual politics, with a specific focus on the temporalisation of key concepts in selected policy documents. This involves treating time not merely as a backdrop but as a central resource and tool for political action embedded within conceptual language. We examine key EU policy documents related to digital rights and blockchain strategy, thereby covering both technology-neutral and technology-specific policies. This allows us to analyse the temporalities of technology governance that shape political concepts and their use, thereby influencing our social and material realities. Our contribution is twofold: First, we demonstrate the utility of the conceptual politics approach, with an emphasis on temporality as an integral component, for analysing how digital technologies forge political action within and through EU discourse. Secondly, we identify a paradoxical tension between the EU's future-oriented rhetoric on digital technologies and the simultaneous potential for this discourse to narrow political debate and reinforce technocratic governance patterns.

In the next section, we sketch out the contextual background for our argument, both in terms of the development of the EU digital policy and the key concepts we focus on in our analysis. The third section introduces our methodological approach to analysing technology governance through the lens of conceptual politics and its temporal dimensions. In the fourth section, we utilise these tools to examine the conceptual shifts in European digital policy by analysing both digital rights and blockchain as paradigmatic cases. Finally, we reflect both on the substantive findings of our analysis and how our conceptual approach can serve future research in understanding the conceptual and temporal shifts related to digital technology and politics.

2. The Contextual Backdrop: Dynamics of the EU Digital Policy

The EU's intensifying political engagement with digital technologies and their governance provides a well-documented context for studying the evolution of key concepts in politics. It is important to acknowledge, however, that this recent focus builds upon several decades of prior EU engagement with digitalisation, including foundational work on concepts such as e-democracy and e-participation, which inform the current landscape. Concepts central to European polity, such as sovereignty, rights, and governance, are inherently at stake and are being actively redefined within the specific context of European integration in general (Wiesner, 2023), but also in EU technology politics. With a perspective of political concepts and language, we analyse the rich selection of debates, reports, legislative documents, press releases, and working documents from differing, albeit complementary, angles: by focusing on classical key concepts in politics like democracy or citizenship; or by centring on a specific technology (AI or blockchain), or a technologically driven issue (standards, open-source, etc.). Therefore, the question of how key concepts are changing when they are used as objects and tools of politics is only one side of the coin, since technology, by its nature, alters our concepts. This is evident in how the meaning of privacy has shifted to focus primarily on the digital sphere with technological progress.

Authors across the fields of philosophy, sociology, political thought, and history have analysed the transformative role of technological development. From a temporal perspective, these analyses have typically focused on progress or acceleration as central categories. A well-known reference point is *Sattelzeit* (see Angster, 2024; Koselleck, 1967), i.e., a period of democratisation and modernisation between 1750 and 1850, and its impact on the experiences and concepts of that time, including progress and acceleration. Furthermore, Rosa, in analysing the interlinkages between social and technological acceleration, argues that the development of digital technologies has increased the dominance of time over space in our social

realities (Rosa, 2003, pp. 6–7). In Rosa's words, technological acceleration is an example of "acceleration *within* society" (2003, p. 7; emphasis in the original). A related strand of literature focuses on the concept of sociotechnical imaginaries (e.g., Jasanoff & Kim, 2015; Konrad et al., 2016), which has focused on analysing visions underpinning technology policy. From the current EU perspective, the development of digital technologies can arguably be understood as a form of temporalisation, in which disruption and apparent risks challenge progress and acceleration as key categories for describing social and political experiences, though not necessarily the development of technology itself. In other words, the impact of digital technologies on individuals' everyday lives—through, for example, changes in the information environment or the negative effects of social media—has raised criticism of the determinism of progress and social acceleration. At the same time, progress and acceleration still seem to be influential categories broadly across contexts in the sense that the belief in technology still prevails.

The EU has increasingly framed its digital policy through ambitious future-oriented narratives in the context of technologies, such as big data, blockchain, and AI. Central to this is the concept of digital sovereignty, a term deployed rhetorically to signify the EU's aspiration for greater autonomy, control over critical infrastructure, and normative influence in the global digital landscape (Falkner et al., 2024). This narrative aims to position the EU as a distinct actor capable of shaping technological development according to its values and interests, impacting diverse areas from security integration (Bellanova et al., 2022) to the governance of emergent sectors like digital finance (Donnelly et al., 2024). The articulation of digital sovereignty thus functions not only as a political goal but also as a tool used to construct a particular vision of Europe's digital future. This also aligns with the EU's efforts to leverage the "Brussels effect"—its ability to shape global standards by making compliance with EU regulations attractive for foreign companies, even beyond its borders—as a way to position itself as a regulatory superpower in technology (Bradford, 2020). Relatedly, the EU has also spearheaded initiatives for international coordination on responsible and ethical technology, evident in UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021) and the Council of Europe's Framework Convention (2024), for instance.

However, there may be inherent tensions between the expansive rhetoric of sovereignty and the practical realities of its implementation (Falkner et al., 2024). This is particularly relevant now that the EU is implementing and enforcing enacted legislation such as the Digital Services Act, the Digital Markets Act, and the AI Act (European Commission, 2022a; Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022, 2022; Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, 2024). While the debates on sovereignty often emphasise democratic values, the agreed policy measures to implement these values and political choices tend to gravitate towards technocratic modes of governance (O'Donovan, 2024), narrowing the range of perceived technological futures. This dynamic highlights a recurring challenge within the politics of "the digital" (Kaufmann & Jeandesboz, 2017), where technically complex issues are at risk of becoming depoliticised as inevitable trajectories, despite their significant societal implications. Similarly, debates over strategic technologies like AI expose competing visions of sovereignty, raising crucial questions about who this autonomy serves, which goals it advances, and who ultimately benefits, with the EU digital policy increasingly embracing the global technology race narrative (Mügge, 2024). This places digital sovereignty and its underlying economic and security motivations in potential friction with fundamental rights like data protection. Indeed, the ambiguous nature of digital sovereignty contributes to its political efficacy at the discursive level by masking underlying disagreements between EU actors.

These temporalities and the contested future expectations are particularly prominent with distributed ledger technology (DLT) and blockchain. Since its inception in the 1990s, blockchain has been subject to significant hype cycles, framed as a disruptive technology that allows one to reshape economic and political institutions to overcome issues such as distrust and corruption. Blockchain has been viewed as a crypto-anarchist, even neoliberal innovation, due to its connection to Bitcoin and other cryptographic currencies (Herian, 2018). Proponents of the technology present visions about revolutionary Web3 and 4 paradigms and radical political restructuring like the "network state," driven by speculative investments and techno-optimism. The EU has explored harnessing these technologies for a "public good" framed in a more institutionally grounded future (Hassan et al., 2020), generating significant ideological friction. Thus, the EU's digital policy grapples with leveraging blockchain technologies that are, by design, hostile to its centralised authority (De Filippi & Hassan, 2016). Therefore, the prevailing EU stance seems to assign future agency primarily to industries, research actors, and existing public institutions, in an attempt to steer the technology towards established policy horizons, despite the hyper-individualistic values underlying it. In contrast, only downstream concepts like digital rights focus on the constitution and practices of individual citizenship and the democratic basis of the EU as a polity, as discussed in Section 4.1.

The temporal nature of technology is also reflected as an inherent tension in developing regulation, especially in terms of the conflict between anticipatory regulation and the pace of technological development. According to the commonly referenced Collingridge dilemma, the effects of emerging technologies are hard to predict and govern early in their development, but once those societal impacts become clear, the technologies are often too entrenched to be regulated effectively (see Genus & Stirling, 2018). This temporal dynamic renders several conceptual and political openings, which revolve around balancing between technological innovations and risk mitigation. Namely, the EU has embraced the concept of future-proof regulation, referring to legislation that is flexible enough to stand the test of time without becoming obsolete or distorted (Colomo, 2022). One of the main instruments to achieve this is the principle of technology neutrality, which stands for regulating the effects of technologies broadly rather than favouring or discriminating against any particular technology itself. In practice, "what holds offline should also hold online" in terms of regulation, regardless of the technology underneath (Koops, 2006). In EU policy, technology neutrality is expected to lead to future-proof regulation by allowing the legislation to adapt to technological changes over time, rather than being tied to already obsolete technologies. This highlights how expectations of technological progress shape and influence regulatory and policy discourse and vice versa.

3. Temporality and Concepts as Heuristic Tools

In our analysis of the EU digital policy as conceptual politics, we emphasise its inherently temporal nature. This is to consider the different ways time can be perceived or articulated through concepts and their use, and how such temporal expressions shape politics. As an analytical frame to this article, we follow Palonen's (2003, 2006, 2008) and Wiesner's (2023) distinction between "politics as sphere" and "politics as activity" as an established way of understanding politics. The temporality of both dimensions can be explicated when we consider them through the concept of politics, broken down into four constitutive perspectives of policy, polity, politicking, and politicisation (Palonen, 2003). Within this group, policy and polity signify politics as a sphere, while politicking and politicisation constitute corresponding figures for politics as an activity. When analysing key concepts in EU policy documents on digital technologies, we are interested in both ways to understand politics from a temporal perspective. This choice allows us to study the context of a polity

(the EU), where a significant political push has occurred recently to generate a remarkable number of laws and regulation forming a policy (the EU digital policy), and understand what kind of possibilities for politicisation and politicking (political agency) this entails for different actors. In other words, we are interested in a temporal reading of digital technologies as conceptualised through the EU digital policy (politics as sphere) and agency in relation to it (politics as activity).

A central question in this approach is how digital technologies open up new possibilities for playing with time and temporality in politics, and how this conditions and enables agency, concerning both politics as a sphere and politics as an activity. Much of the politicisation of technology as a controversial issue for the EU has been successfully turned from a policy to a set of established regulations, while the implementation phase now opens up a horizon for politicking within the policy and for the politicisation of new issues in relation to that policy. The momentum of "digitalisation" and "digital technology" as politicised issues also allows for several sub-momenta and agendas to be pushed. In general, this temporal reading of politics, grounded in the analytical tools of conceptual politics, enables the identification of alternative, and often co-existing, temporal categories. By recognising concepts as inherently historical and temporal nodal points, conceptual politics offers a framework for a more detailed analysis of the temporal politics of digital technology in the EU. This concerns both the politics as sphere and politics as activity dimensions from two perspectives: First, in the sense of polity–policy, the EU is centred around key political concepts such as democracy, citizenship, sovereignty, or rights, codified into a legal order, and organised through a partly shared infrastructure including calendars and administrative systems. Second, in the sense of politicisation–politicking, agency within this context is thereby constituted through these key concepts, where the three classical dimensions of past, present, and future act as key elements for doing politics.

The EU as an evolving, contingent polity (Wiesner, 2023, p. 19) is not just a political, legal, and economic order, but also a temporal order. As Jordheim and Wigen (2018) argue in their analysis of the international order and its temporality, one way to produce a temporal synchronisation is through technological innovations such as clocks or infrastructure, while another way is to use concepts to order events and objects politically. Understood as a polity, the EU marks "a metaphorical space that demarcates the 'political sphere' from other spheres" (Palonen, 2003), which then also signifies a paradigm and horizon for politicking. The EU digital policy directs political action within an "extended present"—such as an electoral cycle or another defined timeframe—based on an assumption of temporal linearity. It emphasises a future-oriented perspective that prioritises the future over the present and, as such, carries implicit normative commitments. In Palonen's (2003) temporal reading, a policy also includes a dichotomy of realisability and a fixed moral desirability, which are inherently in opposition to one another. As the recently enacted EU digital regulations are now being implemented, this interplay between realisability and desirability remains a relevant point of political action in the coming years.

For our analysis, the use of the past, present, and future concerning political agency is especially relevant, as is the tension between experience and expectation. Koselleck (2004) famously builds his conceptual analysis on the categories of experience and expectation, which he describes as a couple "redoubled upon itself" (Koselleck, 2004, p. 257). Koselleck goes on to analyse the temporal relationship between these two categories, emphasising their interconnection while also insisting on their distinctiveness in relation to each other. In temporal terms, he argues that an expectation cannot be entirely deduced from experience, which according to him "once made is as complete as its occasions are past; that which is to be done in the future, which is anticipated in terms of expectation, is scattered among an infinity of temporal extensions" (p. 260).

The outcome of Koselleck's analysis is the two spatio-temporal analytical categories, namely the space of experience (*Erfahrungsraum*) and the horizon of expectation (*Erwartungshorizont*).

The categories of experience and expectation remain relevant in the context of the politics of the EU digital policy, especially in the way they can be used to consider the interplay between the past, present, and future, and the balance between these categories in policy documents. If one believes that technology politics is rendering politics more future-oriented, Friberg's (2021) development of the horizon of expectations towards the direction of utopias offers another option for linking the hype and future-heaviness of technology discourses from an alternative perspective. Focusing especially on Ernst Bloch's work, she argues that the concept of the utopian has not been sufficiently developed, and seeks to link politics with long-term visions, utopias, and political imaginaries, ending up with a proposal on the reading of concrete utopias.

Our analysis deals with an ongoing political momentum involving key political concepts, rapidly advancing technological development and a recently constructed political-legal apparatus with yet unrealised political consequences. To support an understanding of the temporality generated through key concepts in context, we refer back to the directionality of the conceptual, political, social, and cultural movements (for an elaboration, see Wiesner et al., 2018, p. 6; see also Wiesner, 2023). Building on literature from the history of ideas and conceptual history, it is possible to differentiate between four main ways in which concepts and our historical, political, and social realities are interlinked. These include situations in which (a) no change is happening and both concepts and the political, social, and institutional realities are developing jointly; (b) the realities are changing before the concepts, generating discrepancies between the lived experiences and languages; (c) the concepts precede changes in these realities when pushed and developed by influential actors; and (d) the concept and lived realities are moving in opposite directions, where there are not yet aptly developed concepts to match or some new concepts are not reflected by the realities. Since this division allows for a discussion of the interlinkages between institutional, social, and conceptual change in reference to both politics as sphere and politics as activity dimensions of politics, it supports the analysis of politics in all four senses (policy, polity, politicking, and politicisation) in our context.

4. Analysing the Conceptual Politics of the EU Digital Policy

In this section, we examine how technology shapes political concepts temporally through two distinct yet interconnected cases: digital rights and blockchain. We employ these cases as entry points to the potential controversies and struggles over digital technology as a political issue in the EU: how is it politicised, which kind of framings end up as policy-level utterances, how are key political concepts used in these framings, and how can we understand political agency in this context? Drawing on the conceptual politics approach, we therefore focus on complementary cases that, first, operate with one of the basic legal, political, and conceptual categories in democracy (digital rights); and second, open a window to a specific technology (blockchain). Comparing the discourse in policy documents surrounding digital rights, rooted in citizenship and participation, with blockchain, framed through technology governance, economics, and infrastructure, allows us to illuminate these crucial dynamics. This contrast is analytically valuable because it highlights: (a) how established concepts adapt versus how new ones are forged; (b) the interplay of different temporal logics (appeals to past versus future expectations); and (c) the inherent tensions between granting agency to citizens versus institutions within the EU's overall digital policy. Methodologically, our analysis adopts a conceptual politics approach, drawing inspiration from frameworks like Wiesner's (2023), which focuses on

concepts as sites of political struggle and examines the actors, concepts, and controversies (implicitly via policy documents) involved in shaping policy narratives.

To unpack these temporally-attuned conceptual politics, we analyse how key political concepts (e.g., democracy, governance, rights, and agency) are framed and deployed differently across the digital rights and blockchain as policy domains. Our analysis concentrates on publicly available EU policy documents, including strategies, communications, legislative proposals, press releases, and related materials. Following Palonen's (2003) temporal reading of policy and Wijermars and Makhortykh (2022), we treat these documents not merely as descriptive outputs but as performative interventions that attempt to articulate specific political visions, codify past struggles, and shape future possibilities. By examining the language, framing, and underlying assumptions within these texts through the contrasting lenses of digital rights and blockchain, we aim to understand the "how" behind particular conceptual choices and rhetorical strategies (Wiesner, 2023, p. 8), thereby exposing the political activity involved in constructing Europe's digital future. The paradoxical application of blockchain—a technology with individualistic decentralised roots—within the EU's technocratic and institutional framework provides a particularly compelling illustration of these conceptual tensions when contrasted with the rights discourse.

4.1. Digital Rights as a Technology-Neutral Concept

In 2022, the Commission, the European Council, and the European Parliament signed a Joint Declaration on Digital Rights and Principles for the Digital Decade (European Commission, 2022c). The driver for this was the von der Leyen Commission's choice to develop a distinctively European approach to digital policy with European values as a key frame. We base our examples here on the Declaration, the Commission communications, the staff working document on public consultation, and the monitoring report from 2024. This provides a temporally condensed entry point into the extended present of the EU digital policy through the concept of digital rights. Since the Declaration, the Commission has also adopted an EU Citizenship Package, which has been introduced as a tool for strengthening European citizenship rights. The effects of the Declaration and the potential introduction of further regulations have been evaluated in the Evaluation Reports (European Commission, 2024a), which were established as a monitoring tool in connection with the Declaration. These evaluations provide an entry point to politicise new issues, repoliticise something that has been sidelined, or depoliticise a previously controversial topic.

The Declaration on Digital Rights and Principles is explicitly building on the Treaty of the European Union and European values. The opening statement from the Communication by President von der Leyen (European Commission, 2022c, p. 1) highlights "human-centred digital transition," which "is about who we want to be, as Europeans." The Declaration introduces a set of principles: (a) Putting people and their rights at the centre of the digital transformation; (b) supporting solidarity and inclusion; (c) ensuring freedom of choice online; (d) fostering participation in the digital public space; (e) increasing safety, security, and empowerment of individuals (especially young people); and (f) promoting the sustainability of the digital future (European Commission, 2023). These principles are not legislative initiatives, which suggest politicking with the interplay between digital technologies and European citizenship, and add meaning to how rights can be articulated and practised in the EU.

Emphasising the EU Treaty and European values also suggests a reference to a shared past, which the Commission redefines as a response to a contemporary political challenge. This implies that the political and social developments around digital technologies challenge and politicise the basic elements of the EU polity—its values and key categories of democracy, rights and citizenship—and that they therefore are now an integral part of the political struggle and controversy within and beyond the EU. Indeed, the Commission communication frames the digital principles as "essential concepts, based on common European values, and serving as guidance for a human-centred, secure, inclusive, and open digital environment, where no one is left behind" (European Commission, 2022c, p. 1). Emphasising the future beyond the extended present of the policy, it refers to the 2030 Digital Compass and to "a digitally transformed Europe of 2030 in line with European values" with "empowered citizens and innovative businesses," which reinforces "our digital leadership" and makes "the digital transformation the engine of sustainable economic growth, and social well-being in Europe" (European Commission, 2022c, pp. 1–2).

The documents also demonstrate the EU's political agency within the international order, referring again to a historical condition where the EU "has always been at the forefront of the promotion of fundamental rights on the global stage, including at the United Nations" (European Commission, 2022c, p. 8). Generating a temporal horizon towards the future with a moral codification, the Declaration argues that the EU is "in a position to retain this role as responsible global leader of a human-centred and value-based approach model in the digital age" (European Commission, 2022c, p. 8). As part of the future horizon of expectation, technology is expected to offer "significant opportunities for a better quality of life, economic growth and sustainability," even if digital transformation also challenges democratic societies (European Commission, 2023). The Declaration includes explicit expressions for temporality, namely "acceleration" and "the time has come" to argue for political action by linking the established (past) agreements (values and fundamental rights) with the ongoing controversy (politics) to ensure a normatively desired future (a digitally transformed Europe):

> With the acceleration of the digital transformation, the time has come for the EU to spell out how its values and fundamental rights applicable offline should be applied in the digital environment. The digital transformation should not entail the regression of rights. What is illegal offline, is illegal online. This Declaration is without prejudice to 'offline policies,' such as having access to key public services offline. (European Commission, 2023)

The quote stresses the continuity in securing fundamental rights also in the context of digital technologies, which implies an interpretation of technology neutrality (see Koops, 2006). In this reading, future technologies should not affect how the rights protect European citizens, even if the future of that development is open-ended. Therefore, the possibility of a contingent reading of fundamental rights is closed, and their meaning is fixed to the present and the past. Instead of describing the future through any specific technological innovation, the Declaration articulates the horizon of expectation for the future as "a dynamic, resource-efficient, and fair economy and society in the EU" (European Commission, 2023). Moreover, this future should be taken to mean "digital sovereignty in an open manner, respect for fundamental rights, rule of law and democracy, inclusion, accessibility, equality, sustainability, resilience, security, improving quality of life, the availability of services, and respect of everyone's rights and aspirations" (European Commission, 2023). This aspirational language tends to gloss over the tensions and trade-offs inherent to the governance of digital technologies. It presents technological development as seamlessly aligned and conceptually interwoven with rights and citizenship while downplaying the potential

for economic and political conflicts and exclusions that may arise in practice.

The public consultation process between the Commission Communications and the final Declaration was an official opportunity to challenge and introduce new elements to the principles. The Staff Working Document (European Commission, 2022b) summarises the consultation process for a range of stakeholders, with the note that, while the overall recommendations received support across the groups, additional suggestions were also put forth. The conceptual choices and their use were not entirely clear, since "the concepts of 'rights' and 'principles' were used in an interchangeable manner in some of the responses" (European Commission, 2022b, p. 11), which shows potential controversy in how the Declaration was interpreted concerning rights. The role and purpose of the Declaration were also contested with requests for additional clarity on this, especially on its relation to the existing rights and principles in legal or other frameworks (European Commission, 2022b, p. 11). Thus, there was a lack of clarity both about the definition of the basic concept of "rights" in this context and how this reinterpretation of rights would change the already established polity of citizens' rights in the context of digital policy. This can be read as a case where a conceptual innovation (digital rights) is being pushed forward without the everyday experiences of citizens fully aligning with its meaning or use. This reading becomes more prominent when combined with the concerns raised in the Staff Working Document's analysis of the results, which concludes that there is a need to inform EU citizens better about their rights in the online environment (European Commission, 2022b, p. 22), as the consultation process revealed a lack of understanding of those rights on the part of citizens.

The claims for adding the right to opt out, the right to disconnect, and the right to articulate digital technology as a means rather than an end indicate arguments for an active and informed practice of citizenship and rights (European Commission, 2022b, pp. 19–22). According to the Staff Working Document, the right to opt out was proposed by several respondents who "elaborated on the need to have principles that would set out the possibility of alternatives (or choice) in a digital society" (European Commission, 2022b, p. 19). This principle also represents playing with the temporality of opportunity and occasion, where the individual can choose how to act on a case-by-case basis. It also allows one to contest the power of the technology giants, in which such an option would already be included in a codification of future policies as a temporally singular act (opting out). Arguments in support of this right were also linked to the horizon of possibilities through a need to "specify that persons should not be overly dependent on certain digital technologies (from large corporations) to determine their future or actions" (European Commission, 2022b, p. 21) in a way that citizens would have the right to end their contract with a digital platform whenever they so choose.

The digital rights outlined above display a certain resistance to a future, while simultaneously taking the continuous interlinking of individual agencies with digital technology for granted. The ambitious and aspirational language embedded in the Declaration is rather aligned with the EU's push for digital sovereignty and respect for the technology-neutral realisation of fundamental rights as a democratic backbone. Yet, as the rather uncritical nature of the Declaration and the Staff Working Document analysis showcase, there remains a threat of technocratic governance, which can limit the horizon of expectations at the cost of citizens. These tensions between temporality and technocracy are arguably even more apparent in the context of blockchain technologies.

4.2. Blockchain as a Technology-Specific Concept

The strategy and regulation of blockchain are technology-specific issues in the broader context of the EU digital policy, representing a more reactive approach to technology policy. As noted, the economic and technological momentum and opportunism heavily informed the introduction of DLTs and blockchain by the Commission. The Commission's Blockchain Strategy forms a background for regulatory packages such as Markets in Crypto-Assets regulation (Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023, 2023) and the launch of the European Blockchain Regulatory Sandbox as part of the European Blockchain Services Infrastructure. Mostly driven by the first von der Leyen Commission, the Blockchain Strategy (European Commission, 2024b) itself is a rather brief output of outspoken ambitions and entries on its website, which describe a set of activities and actors involved. Here, we base our analysis on a selection of relevant policy documents, news, declarations, and other publicly available documents of the Commission's Blockchain Strategy. The EU's blockchain policy and politics reach into various dimensions—from international relations and the EU's global position in emerging technologies to the efficiency of public administration, the free mobility of EU citizens, and the development of digital markets. In a conceptual and political sense, this constructs a nexus between (public) governance as a historically formatted complexity of processes, practices, and institutions in Europe, and DLTs as a part of the "digital revolution."

In this case, blockchain technology comes with a degree of associated meanings to it, generated by both its technological roots and the translation of these into different contexts. The narrative and technological development of blockchain derives from the development of a cryptographically secured chain of blocks (see e.g., Haber & Stornetta, 1991) into increasingly applied technology that can be used to contest centralised power. The technology has since opened up new dimensions in business development and, more recently, in economic policy (for original proposals in practical application, see Haber & Stornetta, 1991, pp. 452–453). The ethos of increasing trustworthiness and transparency is also central in the EU Blockchain Strategy discourse, while still carrying some of the ideological roots of disruption and transformativeness along. Many of the intended uses of the technology are linked to questions surrounding economic activity, such as the development of the digital euro, the creation of crypto wallets, and, more generally, the promotion of the European single market. As such, the Blockchain Strategy projects a future heavily reliant on advancements within the economic and infrastructural spheres, contingent upon sufficient technological development, and its widespread adoption. In contrast to digital rights, individuals here appear primarily as consumers benefiting from more efficient DLT services, rather than as citizens engaging in democratic processes. This framing inevitably lends itself to a more techno-solutionist future vision.

Out of the key political concepts, governance and economy are both central to the policy surrounding blockchain. The concept of governance has two main meanings here, as a conceptual and technical distinction can be made between the governance of DLTs and governance with DLTs. The first alternative refers to how the design, development, and deployment of blockchain could and should take place. In turn, the second option opens up a horizon of alternatives for considering how this technology can be utilised in the public sector, for example, to provide services. A key concept concerning the Blockchain Strategy and its extensions is the concept of "ecosystem," which the documents utilise to depict a network of key actors, such as EU institutions, technology developers, economic institutions, private companies, and researchers. Reflecting this, the future contexts for deploying blockchain technology include public services, data

transfer, economic transactions, and cross-border services for verifying information, where blockchain is used to improve, create, enable, or protect transactions (European Commission, 2024b). As such, the future potential of blockchain includes an increase in trust and transparency, but also an increase in control over agreements (European Commission, 2024b). To make this envisioned future possible, the present technological innovations, and the technocratic and economic power they carry, are codified into the policy's extended present. At the same time, they reach beyond their formal timeline, since the resulting technological and economic infrastructure requires ongoing maintenance, adaptation, and revision. Politicisations in such a polity, and politicking within such a policy, then assumes a degree of technical understanding of governance in both senses.

The embedded future-orientedness in the strategy includes both expectations for reinforced values, such as trust, transparency, security, and integrity, as well as a strong emphasis on economic activities. The horizon of expectations for blockchain also covers sustainability, where it is envisioned to be "a powerful tool that can significantly improve the transparency, accountability, and traceability of greenhouse gas emissions" (European Commission, 2024b). As such, the technically decentralised basis of blockchain is envisioned to strengthen the integrated market and innovation and to build an ecosystem for generating a shared horizon of expectation where blockchain is an integral part of the European digital transformation. These expectations are largely speculative and still distant from the ongoing present. The hype over the possibilities of Web 3 and 4 technologies, the visions for a state governed through blockchain, or the other idealisations of the Silicon Valley ideology, remain far away from the everyday experience of citizens in a broad sense.

In this sense, the far-reaching visions put forward by the Commission are partly an example of, again, innovation-driven politics and articulation driven from the top down with a temporal distance to the social reality of citizens. At the same time, in principle, blockchain continues to provide an opportunity for challenging the mainstream power structures when applied to, e.g., local economic activity or commons used for political activism and contestation of the established political regimes (Hassan et al., 2020). The potential for disrupting, even at a small scale, the linear future-orientedness of the fixed technological and temporal order, remains a horizon of politicisation even when the EU claims a programmatic approach to its development and utilisation. In this sense, it looks as if the Commission's conceptual push for Blockchain and the technological, political, and social reality of at least some groups of individuals might be going in opposite directions, with one highlighting the role of public governance and the other fundamental contestation to it. Indeed, one could argue that blockchain is by design hostile to the centralised authority of the EU (see De Filippi & Hassan, 2016), representing a struggle over policy horizons.

Contrary to blockchain as a particular technology, which is decentralised and focused on the (hyper)individual agent, the Blockchain Strategy displays a rather technocratic future and limits the role of democratic debate by highlighting the role of experts over citizens. In the strategy, agency is constituted through a strong role for the public sector and established economic institutions, which are positioned both as beneficiaries and drivers of the utilisation and development of blockchain, with a particular emphasis on leadership. According to the examples, "the European public sector is playing a trailblazing role in blockchain by building its own blockchain infrastructure" (European Commission, 2024b), where such initiatives as the introduction of regulatory sandboxes, for example, should bring together "regulators, companies, and tech experts" (European Commission, 2024b). The Commission also wants to engage "strategic partners,

including UN agencies and international financial institutions, such as the World Bank, the European Investment Bank, and the European Bank for Reconstruction and Development" (European Commission, 2024b) in the horizon of activities. In a technocratic fashion, individuals are reduced to consumers who are primarily users of services and economic systems based on this technology.

5. Conclusions

Our analysis of the EU digital policy as temporally-attuned conceptual politics and renegotiation yields several key conclusions. In reference to politics as a sphere, the examined policy documents showcase the dynamics of digital technology as an object of politics and policymaking as well as a tool for politicking, loading in certain future expectations, and codifying the space of experience, to an extent. As part of the extended present of EU digital policy, the example of digital rights displays references to the shared EU past through rights, values, and citizenship, while generating a vision for the future where digital technologies are leveraged without violating fundamental rights. Politics as activity is, by extension, constituted through the agency of the EU, its members, and political institutions, in reference to sovereignty and democratic values, as part of the international order. Yet even here, EU policies express technocratic tendencies, potentially curtailing the agency of individual citizens whose participatory avenues are increasingly tied to the logics and rules of existing digital platforms. These dynamics are even more apparent with blockchain technology, where the EU's more reactive embrace of technology has shifted the agency to the public sector and economic institutions at the expense of individual citizens, despite the individualistic notions behind the technology. Indeed, both cases demonstrate the EU's efforts to actively shape and articulate forward-looking policies on digital technology, which simultaneously threatens to narrow the horizon of expectations towards seemingly "inevitable" technological directions in a technocratic fashion.

In reference to Koselleck (2004), the interplay between experience and expectation highlights the complex temporal negotiation between them in the context of digital technologies, especially now that technologies like generative AI have come to dominate much of the debate. These mutually enforcing categories remind us about the balance between basing regulation on our existing concepts and experiences while anticipating future risks. In practice, this means relying on and choosing between our existing experiences, since it is impossible to anticipate all potential scenarios and impacts of technological development. While policymaking as a form of political action is always future-oriented, the rapid pace of technological development puts distinct pressure on such efforts, as reflected in the concept of future-proof regulation. An interesting question is whether the rapid development of digital technologies and their increasing deployment across society are drawing us toward conceptualising our horizon of expectations in terms of concrete utopias (cf. Friberg, 2021). Expanding these horizons could help resist technological determinism by creating more space for politicisation and meaningful political action.

In the case of digital rights and citizenship, the policy documents suggest that digitalisation shapes the temporality of these basic concepts by actualising the past experiences and established meanings in a new temporal horizon, towards a new conceptual order, as demonstrated by the shift from offline to online contexts. The case of blockchain and its technological roots provides another angle to this, as it can be seen as a digital solution to a problem created by digitalisation itself. As such, it shows how digitalisation shifts past experiences and offline practices, and how the need to replicate the same ideals and values online (in a very pragmatic sense), can drive technological innovation—even if misconstrued. As the emergence of

concepts like algorithmic discrimination shows, the digital environment is intertwined with our political, social, and historical experiences, but a specific technology can reshape these dynamics in complex ways. When we employ our classical conceptual tools and vocabulary to understand new phenomena influenced or brought about by digitalisation, this challenges our agency in a conceptual sense: we are essentially relying on a space of experience that proves insufficient to fully articulate the new expectations created by digital technologies. Yet, simultaneously, issues such as algorithmic discrimination underscore that historical biases and political conditions readily translate through technological systems to produce tangible, real-world consequences in the present.

In terms of the four dynamics between concepts and our political, social, and cultural reality (see Wiesner, 2023; Wiesner et al., 2018), it could be said that the EU is indeed leading from the top by generating a conceptual and legal apparatus for technology to steer the political and social reality forward. While technological change precedes concepts to some degree, the EU is arguably not merely responding to these political and social realities but also actively shaping and conceptualising them. This is especially evident from a global perspective, where the EU tries to position itself as a "third way" between the technological laissez-faire approach of the US and China's state-led model. This regulatory statecraft relies heavily on a specific conceptual framework centred around terms like trustworthiness, human-centricity, and digital sovereignty and exporting these conceptual benchmarks globally through the Brussels effect (Bradford, 2020). However, the above is also a question of degree, since concepts like digital rights are not EU inventions but have been used previously by a variety of actors, especially representatives of civil society. Given the fast pace of technological development and the political choice of the EU to act as a frontrunner in regulation, it is also possible that the concepts and reality are, in some instances, moving in opposite directions. The conceptual tools used in shaping policy in the context of governance, such as technology neutrality and regulatory sandboxes, can potentially mitigate such situations by attempting to "future-proof" the regulation of technology over time, or at least render legislation more flexible and amendable to such conceptual conflicts. Still, as the use and deployment of any technology provides yet another chance for unprecedented consequences, the possibility of opposite directions remains.

Technology politics, as reflected in EU digital policy and its documentation, combines the key concepts spanning the spectrum from technology development to democracy and the economy. By focusing on temporality and its analysis by using concepts as objects of research, it is possible to understand how digital technologies distinctly change politics and its language. Digital technologies are highly scalable, unpredictable in their use, tend to generate technocratic exclusion, and are being developed at a rapid pace. Meanwhile, the EU's regulation of digital technology often implicitly and explicitly prioritises a forward-looking narrative centred on progress and development. This emphasis, however, affects the complex temporalities of key concepts, such as "agency," by potentially disrupting how their meanings synchronise or desynchronise with lived experiences over time. One should note that our aim here has been to research a specific conceptual nexus generated by the intersection of digital technologies and politics in the EU context. This choice leaves room for more focused analyses, but also for developing the choice of analytical categories further, namely the conceptual lens. This limitation of the article opens up the possibility of future research applications to other contexts: focusing the analysis on a single concept or a policy process, including the debates, would enable further analytical nuances into how foundational political concepts are being renegotiated.

In conclusion, we have presented a possible way in which a conceptual analysis, with an emphasis on temporal readings of concepts and politics, can open up avenues for exploring the implications of digital technologies on our political language and for politics as an activity interwoven with time. In reference to previous authors on the interlinks between temporality, concepts, and politics, we have summarised this approach as conceptual politics with specific emphasis on temporality. Through two contemporary cases of the EU's digital policies, digital rights and blockchain, we have identified a central tension between the EU's future-oriented digital policy and the simultaneous narrowing of the horizon of future expectations and agency. These technocratic tendencies around technological development risk obscuring the contested nature of politics. Future research should further develop this approach to enable a more temporal reading of the EU's technology governance and politics.

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Conflict of Interests

Johannes Mikkonen is a former, and Johannes Anttila is a current, policy advisor on digital issues in the European Parliament. The research and conceptual analysis in this article predate their respective roles. The other authors declare no competing interests.

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