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Games as (Not) Culture: A Critical Policy Analysis of the Economic Agenda of Horizon 2020

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Abstract

This article presents a critical examination of European policy in relation to gamification. We begin by describing how gamification "traveled" as an idea, evolving from controversial yet persuasive buzzword to legitimate policy priority. We then focus on how gamification was represented in Horizon 2020: the flagship European Research & Development program from 2014 to 2020, worth nearly €80 billion of funding. The article argues that the ethically problematic aspects of gamification were removed through a process of policy capture that involved its assimilation in an established European network of research and small and medium enterprise (SME) actors. This process of "ethical neutering" is also observable in the actual funding calls, where the problematic assumptions of gamification around agency and manipulation are made invisible through a superficial commitment to vague and ill-defined criteria of responsible research and innovation.

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Introduction

The ethical and cultural ramifications of gaming, and indeed of digital media in general, are more relevant than ever. As a large, supranational institution working to promote economic development, education, and well-being for approximately 500 million people, the European Commission has a significant role to play in shaping the global discussion about the social, economic, and cultural purposes of games. In this study, we use critical policy analysis to examine the trajectory of gaming and gamification as policy themes in the European context, against the twin backdrop of the dominant economic growth agenda and the marginal Responsible Research and Innovation (RRI) agenda. We then investigate how gamification is represented in specific instances of institutional communication: official funding calls in Horizon 2020 (H2020). H2020 is the Flagship European Research & Development program worth nearly €80 billion of funding. It is described as a "means to drive economic growth and create jobs" (https://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020) by supporting industry–research collaborations in a broad range of technological and scientific areas. While its core emphasis is firmly on economic growth, H2020 is also informed by criteria of RRI. The notion of RRI has emerged recently as a crosscutting theme in the European policy space. According to von Schomberg (2013), "RRI should be understood as a strategy for stakeholders to become mutually responsive to each other and anticipate research and innovation outcomes underpinning the Grand Challenges of our time for which they share responsibility" (p. 1). In H2020, societal challenges and criteria of social responsibility were defined at a strategic level through consultations with stakeholders from various groups, but the question of whether this emphasis on social responsibility and dialogue is bearing fruit remains, for the time being, open. In this article, we are concerned with gamification and, in particular, with how this controversial notion became a legitimate and ethically acceptable area of research and development in H2020.

While there is a reputable body of research around gaming, focusing on various aspects of this medium and its positive cultural manifestations, gamification has been, for the most part, subjected to critique and denunciation. Gamification can be defined as the application of game-based or game-derived elements to nonleisure contexts (Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011). Its goal is to influence behaviors by deploying what has come to be seen as a powerful array of technologies, design principles, and "mechanics." An educational example of gamification is the design of learning courses where traditional activities, metrics, and assessment criteria are turned into game-like tasks and measures: assignments become "quests," grades become achievements and points, and students "level-up" when they progress

in their learning (Landers, 2014). The main problem with this approach is that it seeks to exert influence by overriding or downplaying rationality and agency. Indeed, gamification can be understood as an aspect of a larger phenomenon where principles of behavior management, often supported by digital apps and games, and increasingly based on pseudo-neuroscientific principles, are used to "nudge" individuals toward prosocial outcomes or consumptive behaviors (Jones, Pykett, & Whitehead, 2013; Lupton & Thomas, 2015; O'Donnell, 2014).

The notion of gamification experienced a meteoric rise and an equally swift fall from grace, accompanied by no small amount of ridicule. It has been dismissed as the trivialization of a sophisticated craft (game design), stultification (Bateman, 2018), exploitation (Bogost, 2013; Kirkpatrick, 2015), and famously, bullshit (Bogost, 2015). Nonetheless, it has endured. An entire field of economic activity and scholarly research—serious games—has consolidated itself over the past decade, trying to apply conventions and technologies imported from computer games to military and corporate training, as well as educational challenges. Similarly, current trends in "AAA" game design (i.e., the mainstream gaming industry) have been criticized for encouraging the same type of reinforcement-based engagement that propelled gamification into the public discourse a few years ago (Macey & Hamari, 2018).

Setting off from these considerations, the Gaming Horizons project (https://www.gaminghorizons.eu/) was an attempt to explore the role of ethics and social responsibility in gaming research and development. The 1-year project concluded in 2018 and involved two research strands: policy analysis and stakeholder engagement through interviews and workshops. This article reports findings from the first strand.

The research questions examined in this article are as follows:

1. How did gamification found its way into European policy, to eventually become a legitimate area of research and development deemed worthy of considerable public funding?
2. Considering the ethically problematic assumptions of gamification around agency and manipulation, how are ethics and RRI articulated and made in/visible in the H2020's program dedicated to it?

Further to exploring the above questions, this article is an attempt to bring methods of critical policy analysis into game studies. In particular, our overarching goal is to encourage this field to give due consideration to issues of governance, funding and policy in relation to games, as important dimensions of the broader effort that seeks to frame this medium as a complex cultural phenomenon rather than a purely economic and technological one. Indeed, our project's objective was to illustrate the need for more supportive policy frameworks (and of course funding) for "games as culture," where this medium is no longer (or not only) framed as a tool in the service of narrow economic agendas or dubious notions of social engineering.

Method

We used a mixed method approach that combines critical policy analysis and traditional discourse analysis to interrogate the broader policy strategy, as well as the official "H2020 discourse," on gaming and gamification. The two main methodological orientations can be described as follows:

a. The specific brand of critical policy analysis used in this article focuses on the globally networked and mobile nature of policy, viewed as an assemblage of ideas, methods, technologies, practices, and actors. The approach traces these heterogeneous elements and actors across different contexts and maps their trajectory between sectors, such as for-profit and non-for-profit sectors, and within sectors, such as the education sector, the international development sector, or the environment and urban planning sector (Ball, 2016; Peck & Theodore, 2015). The method is largely qualitative and involves an examination of how such policy entities are "signified" as they move and consolidate. Ball, Junemann, and Santori (2017), for example, apply this method to analyze "blended learning" in education policy, which began its journey as a nebulous, multifaceted concept and gradually became a policy priority, as well as a profitable market, in several countries. We used this method to explore our first research question, examining how gamification became a policy theme in the European context.
b. Discourse analysis entails an examination of how language is involved in the generation of the social world, focusing on how social relations, themes and identities are both represented and constructed through text, spoken word, and communicative practices (Fairclough, 2003; Van Dijk, 2008). In particular, we analyzed H2020's funding calls concerned with gaming and gamification, treating them as exemplars of a specific textual genre. In linguistics and discourse analysis, genres are relatively formal collections of writing or speaking conventions that constitute (and are constituted by) interactions, expectations, and linguistic structures—often in specific institutional settings (Swales, 1990). Examples are the grant proposal, the job application letter, the journalistic article, the research paper, and so forth. We adopted a specific approach to genre analysis called "move analysis" (e.g., Connor & Mauranen, 1999; Maswana et al., 2015). Moves can be described as relatively stable functional units, used to convey meanings in an institutionally sanctioned way, and to position the text and its author/s ideologically and rhetorically, for instance, in terms of allegiances, authority, and legitimacy. In practical terms, the process of move analysis focuses on two categories of textual feature: the communicative purpose of specific subsections (e.g., paragraphs) and the "linguistic boundaries" between those subsections (headings, indents, adverbs, punctuation, or any other way a text can be structured). We used this method to explore our second research question, examining the narrow cultural and ideological assumptions

related to gamification within one of the most prominent operationalizations of European policy: Horizon 2020.

These methodological approaches are implemented in two separate reporting sections, preceded by a framing section about the European Union's (EU) policy context and H2020. The first section analyzes the "movement" of gamification from a broad theme emerged at a specific point in time to an actual policy idea that influenced funding streams in H2020. The second section analyzes H2020's funding calls concerned with gaming and gamification. The use of discourse analysis in the second section was supported by the software package for qualitative analysis NVivo 11 (Bazeley & Jackson, 2013). NVivo allowed for the systematic organiza- tion and the easy querying of the data and provided a useful framework to enable collaborative coding involving two analysts. The two coders interacted to ensure the integrity and accuracy of the interpretations and claims. Both were involved in the repeated reading of the source documents in the NVivo folder, checking the "nodes" (NVivo's key collections of references about a specific theme).

The EU Policy Context and H2020

H2020 is influenced by an overriding concern for economic growth and innovation in the European Economic Area (EEA). However, this concern is allayed (at least in theory) by an overarching focus on so-called RRI, which represents a distinct strand of policy ideas embedded in European philosophy and political thought (Dewandre, 2018; Jonas, 1985; von Schomberg, 2013). This strand is associated with a long-running ideological undercurrent in European political culture: the europeanization project and the development of a common civic discourse and cultural identity (Radaelli, 2003). This project was one of the key ideological drivers of the EU after the end of World War II, but in the following decades, it became marginalized as a political consensus around neoliberalism and economic growth took hold. This resulted in the unquestioned belief that innovation-driven economics is the main area of chronic deficit that undermines Europe's international standing compared to its global competitors (the United States and, more recently, China, e.g., see Veugelers et al., 2015). These neoliberal ideas become prominent in European policy during the 1990s and culminated in a number of high-profile initiatives such as the Lisbon Agenda and a concerted policy push for a European "Information Society" (Berleur & Galand, 2005; Cammaerts, 2005; Mansell, 2010). Of particular interest, in this regard, is the literature that critically analyzed international regulatory and policy frameworks to detect ideological undercurrents such as neoliberal influences, consumerism, and the slow undermining of notions of citizenship and public sphere (Dawes, 2014; Goodwin & Spittle, 2002; Livingstone, Lunt, & Miller, 2007).

Despite the growing, hegemonic influence of neoliberalism, the more civic and humanistic spirit associated with Europeanization was kept alive through an effort to reconcile economic targets with social values and, increasingly, environmental

concerns. While notions of social inclusion, gender representation, and a concern for the societal and environmental impacts of technological innovation were present in implicit form in previous versions of the European Commission's R&D programs (e.g., Frameworks 6 and 7), they were more formally embedded in the strategic outlook with the eighth iteration: Horizon 2020. Here, a systematic consultation process with stakeholders led to a more explicit emphasis on R&D's social mission, without lessening the commitment to entrepreneurship, market growth, and innovation. In turn, this emphasis led to the identification of "Grand Challenges": policy priorities presented as major concerns "shared by citizens in Europe and elsewhere (https://ec.europa.eu/programmes/horizon2020/en/h2020-section/societal-challenges)":

- health, demographic change, and well-being;
- food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy;
- secure, clean, and efficient energy;
- smart, green, and integrated transport;
- climate action, environment, resource efficiency, and raw materials;
- europe in a changing world—inclusive, innovative, and reflective societies;
- secure societies—protecting freedom and security of Europe and its citizens.

The emphasis on these Grand Challenges is the result of a policy process that culminated in the 2009 Lund Declaration (https://era.gv.at/object/document/130), which exercised a great influence on H2020's strategic vision. The Lund Declaration is generally credited with moving the European research and innovation agenda beyond rigid thematic distinctions, as part of a policy attempt to bring together public and private stakeholders. As a result, the challenges became one of the three "pillars" (http://europa.eu/rapid/press-release_MEMO-13-1085_en.htm)—the other two being Excellent Science and Industrial Leadership—meant to support research and innovation in Europe. Alongside the introduction of the societal challenges, the role of social responsibility was strengthened further with the so-called cross-cutting actions: priorities to be tackled across all pillars and expected to have an explicit focus on widening participation, gender, and sustainable development, often from a social sciences and humanities perspective.

These high-level strategic principles informed the more operational guidelines collected in the Work Programs (WPs; the 2014/15 WP, the 2016/17 WP, and the 2018/20 WP) where funding calls, actions, time frames, and indicative budget breakdowns are outlined. In the WPs, specific areas of technological innovation are grouped under broader thematic areas such as information and communication technologies or health, demographic change, and well-being.

Having described the broad policy landscape, the article will now turn to the movement of gamification as a policy idea and its eventual landing in Horizon 2020.

Gamification Across Borders: A Powerful Idea Travels

The trajectory and the current coordinates of gamification in the European policy context can be read as an instance of policy capture that targeted a vibrant yet fractured and highly problematic field of knowledge production and professional practice: game development. The result of this process was the reframing of game development as a collection of mechanisms that "work" as design levers to change behaviors, motivate, manage conflict and, broadly, as a form of "governmentality" where individuals are enrolled as willing, enthusiastic agents in their own governance and soft disciplining (Schrape, 2014). In particular, the way in which gamification found purchase in the European policy space reflects a process whereby powerful ideas travel across national boundaries, often with key actors performing a complex work of mediation and translation, literal and ideological, and public events that bring together interested parties, who then go on to mobilize networks at national or local level. This process is geared toward a specific goal: to downplay the tensions, the controversies, and the inaccuracies of empirical research and complex professional practices and emphasize instead their readiness to be deployed as solutions to a number of societal and economic problems.

According to Ball (2016), policy ideas are first assembled in a piecemeal fashion by transnational knowledge translators (individuals or organizations), through a loose engagement with epistemic communities in scientific domains or specialized professional fields. These ideas then travel and stabilize as actual policy projects in ways that reflect national factors or, in the case of the EU, an additional layer of supranational bureaucracy. The movement of these policy ideas is therefore articulated through a tension between transnational and national actors and through a work of persuasion that involves the deployment of applicable knowledge, usually construed as objective, authoritative, and precise (Williamson & Piattoeva, 2019). As already indicated in the Method section, the area of critical policy studies offers compelling examples of how the inevitable uncertainties and contestations that characterize all areas of knowledge production are downplayed to create policy innovations, which are then packaged as solutions to otherwise intractable social problems. Indeed, this is exactly what happened with gamification.

As a governance idea, gamification can be analyzed in strictly historical terms beyond its association with computer games, for instance, by tracing it back to the workplace management and disciplining practices in the old Soviet Union and 1960s United States (e.g., Nelson, 2012). However, for the sake of the argument being made, let us assume that its movement as a policy-ready concept started in circa 2010, when it emerged following two decades of remarkable growth for the video games industry (and the associated cultural manifestations) and gained immediate traction with the publication of books, articles, TED talks, and conference keynotes. During this foundational phase, legitimate experts as well as "gurus" acted as knowledge producers or translators of scientific (and pseudo-scientific) research,

or game development expertise, into usable knowledge (Deterding et al., 2011; McGonigal, 2011; Schell, 2010). As mentioned previously, this is a crucial work of knowledge production and dissemination, yet rather piecemeal and unstructured, that actors perform individually as part of professional allegiances and trajectories—for example, as academics, game developers, and public speakers. The outputs of this work tend to permeate into public discourse, and then policy discourse, through loose networks that connect academia, industry, and governmental and nongovernmental agencies. This phenomenon is also powered by conceptual affinities, as similar ideas gain added momentum by traveling either together as part of a package of potential policy solutions or along parallel paths sharing key assumptions about governance and human agency.

As such, gamification found itself sharing valuable conceptual space with notions of behavioral economics and nudging (Thaler & Sunstein, 2008), all of them underpinned by a reductive view of human rationality and an instrumental and deterministic understanding of technology. In Europe, a pivotal episode informed by the aforementioned factors was the creation in 2010 of the "Nudge" unit by the UK conservative government (Morozov, 2013). While it could certainly be argued that the European Commission "jumped on the same bandwagon in their current Horizon 2020 program", especially with a number of specific funding calls focused on gamification (Schrape, 2014, p. 37), the way these ideas landed in the European context (beyond the UK) is more complex than it might appear.

Indeed, the borrowing of policy ideas by the European Commission presents distinct peculiarities that must be accounted for. In more general terms, the most visible and high-profile manifestation of this process is the complex political interaction between the EU Parliament, the EU Commission, individual member states, and supranational organizations like the Paris-based Origanisation for Economic Cooperation & Development (OECD) (Christiansen, 2002). Following this broad template of euro-centric political negotiations, the journey of gamification through European policy was informed by the global dynamics described earlier, but also by a process of engagement and consultation with a preexisting European network of ideas, stakeholders, decision makers, events, and authoritative knowledge producers. The main actors in this network are as follows:

a. The Directorate General for Communications Networks, Content and Technology or DG Connect. This is the Commission's department responsible for managing the Digital Agenda, directly involved in negotiating with stakeholders and experts the funding priorities in the Information and Communication Technologies (ICT) area of Horizon 2020 (https://ec.europa.eu/info/departments/communications-networks-content-and-technology_en).
b. The Joint Research Centre (JRC) in Seville (Spain), which "works closely with sister services of the European Commission to provide socioeconomic and techno-economic support for the conception, development,

implementation, and monitoring of EU policies" (https://ec.europa.eu/jrc/en/about/jrc-site/seville).

c. The Serious Games Society, designed to "bring together the cutting-edge companies, institutions, and individuals researching on and developing Serious Games," which organizes the Games and Learning Alliance conference "dedicated to the science and the application of serious games (https://conf.seriousgamessociety.org/)."
d. The European Association for Technology-Enhanced Learning; https://ea-tel.eu/, which involves most beneficiaries from previous Framework Programs (FP5, FP6, and FP7), who received substantial amounts of European funding to explore the role of technologies in education but also corporate training and the military sector.

This network produced a considerable amount of knowledge about serious games through EU-funded studies, summary reports, "best practices" reviews, conferences, and various events which brought together interested parties: "consortia" of educational institutions and small/medium enterprises (SMEs), EU policy officers, consultants, and representatives from national ministries or regions. A particularly influential report, from the Seville-based JRC, was published in 2013 (also cited in Schrape, 2014, p. 37). In this publication, gamification and "game-based approaches" were framed as a potential solutions to "issues of policy concern including wellness and aging, education and employability of poor learners, improved quality of training and skill development in industry, and civic participation" (Centeno, 2013, p. 11). In addition to this work of "knowledge translation," the framing of gamification as a technological solution took place in the context of several policy events such as the "Information and Networking Day on Gaming and Gamification" in Brussels in 2016 (https://ec.europa.eu/digital-single-market/en/news/information-and-networking-day-gaming-gamification-and-technologies-learning-and-skills). This particular event brought together more than 200 delegates simultaneously interested in two program topics in Horizon 2020: Gaming and Gamification and Technologies for Learning and Skills. To summarize, as gamification traveled from a fluid and global "ideoscape" (Appadurai, 1996) to European policy, it became assimilated (through the language of evidence-based reports and through "networking events") within a more legitimate and "scientific" milieu associated with technology-enhanced learning and prosocial and educational gaming—areas already established and influential in the nexus of European research, policy, and SMEs.

On the one hand, this merging of gamification and technology-enhanced learning attenuated the more dubious aspects of behavioral manipulation and "nudging" through a non-controversial academic language associated with innovation in educational and organizational settings. On the other hand, this process left out alternative understandings of gaming as an ethical, progressive, and culturally relevant practice—an exclusion that appears particularly glaring as the tone of the public debate on technology changed following the post-2016 revelations about privacy and

Table 1. H2020 Calls Directly or Indirectly Related to Gaming.

H2020 calls directly related to gaming and gamification
1 ICT-21-2014 - Advanced digital gaming/gamification technologies
2 ICT-24-2016: Gaming and gamification
3 ICT-20-2015: Technologies for better human learning and teaching
4 ICT-19-2015: Technologies for creative industries, social media and convergence
5 ICT-20-2017: Tools for smart digital content in the creative industries
6 PHC-26-2014: Self-management of health and disease: citizen engagement and mHealth
7 MG-4.5-2016: New ways of supporting development and implementation of neighborhood-level and urban district-level transport innovations

large-scale social-media manipulation (Persily, 2017) that influenced more recent EU regulatory frameworks such as the General Data Protection Regulation (GDPR).

After this broad-brushed analysis of the policy context, we turn now to the H2020 funding calls on gamification. In the next section, we will examine how the themes discussed up to this point found substance as funding priorities, with additional criticalities emerging as a result.

Gamification as a "Discourse" in H2020 Funding Calls

In discourse analysis, texts can be examined systematically to make inferences about the politics and the ideologies that underpin language. This allows researchers to make claims about the contradictions, the tensions, and the inequalities that shape behaviors, decisions, and of course, broad policies. In this section, we first detail the sources considered and the volume of data. The sample illustrated in Table 1 is representative but not statistically so—texts were chosen based on their significance and profile, in an attempt to saturate the interpretative process. The study considered a subset of the H2020 calls published in the 2014–2015 and the 2016–2017 Work Programs. These were identified through a search on the EU Participant Portal (https://ec.europa.eu/research/participants/portal/desktop/en/home.html) using keywords such as games, digital games, and gamification, resulting in seven calls directly or indirectly related to games. Of these, two were explicitly concerned with gaming, while the others referred to gaming or game-based technologies as approaches to tackle particular challenges. Five calls were included in the 2014 and 2016 Information and Communication Technologies Work Program, one in the 2014 Health, Demographic Change and Well-Being WP and one in the 2016 Smart Transport/Mobility for Growth WP.

The main noticeable feature across all calls is that gaming and associated notions such as game-based learning, gamification, and serious games share the same implicit assumption: Technologies and methods can migrate from an industry sector focused on leisure, escapism, and disposable time to a more "serious," socially acceptable sector. The H2020 program is positioned here as a market enabler,

providing support for the creation of this emerging sector of "digital games and gamification mechanics applied in nonleisure contexts." The following quote is particularly illustrative:

> *Call Excerpt 1*: Digital games and gamification mechanics applied in non-leisure contexts is an important but scattered industry that can bring high pay-offs and lead to the emergence of a prospering market.

The emphasis is thus on technology transfer and the opportunity to achieve market growth, while also delivering "substantial" benefits of a different order, that is, not strictly economic but, for instance, concerned with education, health, and well-being:

> *Call Excerpt 2*: The software games business is growing fast. Its technological and methodological underpinnings have been laid down in years of research and development. At a significantly lower scale, they are now finding their way into non-entertainment contexts, helping deliver substantial benefits, particularly in education, training, research and health.

As part of this theme of transferability, game development is treated as a collection of tools and assets that can be packaged, moved, and implemented as discrete components or units. These include things such as:

> *Call Excerpt 3*: Game engines, emergent narrative, virtual characters, interaction systems, and alternative human–machine interfaces, 3D, textures, models for simulations, game design, learner profiles, emotional models, etc.

Whether the call is directly or indirectly related to gaming, the common trait is an understanding of game design as modular activity. According to this notion, the process of making games is not much concerned with artistic design and creativity but with matters of optimization, implementation, and costs. This is part of an instrumental view that, on the one hand, values games only because they are "effective" in changing behaviors, on the other, sees human behavior itself as a matter of social engineering through "quantitative, testable models":

> *Call Excerpt 4*: The creation of a supportive environment for healthy behaviour including support to behavioural change, e.g., mathematical, dynamic modelling of behaviour with quantitative, testable models especially in real world settings and application of the sciences in designing interventions or game-based physical training with motion tracking based feedback.

As it is often the case with institutional discourse, what is foregrounded in a text also provides an insight into what is omitted. By emphasizing a strong mechanistic, instrumental perspective on game development, the call texts show no appreciation

for the expressive, cultural, and aesthetic dimensions of game development and gameplay, both seen as cultural practices situated in contexts, and mediated by shared conventions, ideologies, and politics.

To support further this critical interpretation, we will now consider the structural aspects (moves) of the call texts. As already explained in the methodological note, the process of move analysis considers two categories of textual feature: the communicative purpose of specific subsections (e.g., paragraphs) and the "linguistic boundaries" between those subsections (headings, indents, adverbs, punctuation, or any other way a text can be structured). For us, this meant paying attention to the following aspects:

a. The degree to which the text showed consistency with what one would expect from an institutional funding call. Funding calls are widespread tools that outline quality or compliance criteria to access research funding. A number of recurring features characterize these calls, chiefly expectations of impact and evaluation criteria.
b. The actual structure of the call, which follows a recognizable pattern based on sections and headings, as they are expressed through those "text division devices" or "linguistic boundaries" mentioned earlier.
c. At a more granular level, moves were identified by focusing on stylistic and syntactical features, examining, for instance, the rhetorical construction of sentences and verbs, in particular, the use of deontic expressions ("proposals should … ") which convey prescriptive information about the types of proposals likely to be successful.

Move 1: Challenge or need definition. This move is articulated in the very first paragraph of each call, always signaled by the use of a subheading: "Specific Challenge." This introductory paragraph's purpose is to outline a problem to which gaming is positioned as an innovative solution—one capable of providing, for example, "new ways to educate and learn," "new methodologies and tools to produce, apply, and use digital games," and "new user experiences." Focusing more closely on the construction of sentences, this emphasis on innovation and novelty appears contained in the characteristic tension of EU discourse between market focus and social responsibility: innovation for economic growth and, simultaneously, for societal impacts. This move is therefore a balancing act, realized linguistically by the way clauses are connected (using the adverb "also"). For instance, the first clause may introduce the need to boost market and innovation, while the second introduces social benefits and ethical considerations as an ancillary dimension that should also be taken into account somehow. Consider the following extracts as examples:

> *Challenge/need 1*: Digital games and gamification mechanics applied in non-leisure contexts is an important but scattered industry that can bring high pay-offs and lead to the emergence of a prospering market. Digital games can also make a real change in the

life of a large number of targeted excluded groups, enhancing their better integration in society.

Challenge/need 2: Research and innovation have immediate and undeniable social benefits, which also lead to market growth and efficiency, such as "empowerment" and "independent living" leading to scalability and cost savings.

Move 2: Scoping. This is the central section of the call, which outlines the specific nature, and indeed the scope, of the projects likely to be funded. Again, this is indicated by a subheading: "Scope." Linguistically, this section is characterized by the predominance of deontic expressions that indicate how the proposed research ought to be, against the backdrop of institutional expectations and criteria. This translates, for most calls, in a distinction between "research and innovation actions" that should focus on experimentation, capacity building and industry collaboration, and "innovation actions" that should instead focus on coordinating large-scale pilots, removing barriers to the diffusion of innovations (e.g., regulations), encouraging technology adoption, and maximizing impact for specific user groups. In short, this section is meant to provide a more restrictive set of guidelines and specifications. Stylistically, the text appears indebted to a particular type of corporate literature that emphasizes technical compliance, engineering terminology, and broadly, economic rationality: technical specification documents, marketing briefs, industry-specific manufacturing, and development standards, and so forth. This is reflected in the choice of words and expressions: viable business and financing models, standardization and development of joint specifications, complex integration, and so forth.

The way the word "gender" is featured in this section is telling. In discourse analysis, the way information is presented in a text and the prominence given to certain aspects over others can be scrutinized to infer underlying cultural assumptions. Particularly illustrative, in this respect, are the references to gender and ethical issues ("cross-cutting" priorities in the H2020 program) in the final sentence of the scoping section. A clear contrast can be observed between the more developed set of expectations and criteria outlined up to this point and a range of short, vaguely defined mentions to the importance of ethics and gender. In the extract below, the first part of the scoping section provides a great deal of information about expectations and criteria, with specific references to aspects of design, implementation, and cost-effectiveness. Compare this with the very last sentence recommending that ethical and gender issues should be considered, while failing to provide a commensurate level of clarity. One could argue that such scant references simply imply that research processes need to "consider" ethics and gender, for instance, in terms of informed consent and composition of research teams, rather than ethical considerations being actually embedded, by design, in the project outcomes.

Scoping guidelines 1: The proposed tools should explore the potential of technology to enhance the human creative process from the expression of ideas to experiment

> solutions. Where possible, collaboration and user-community interaction should be improved based on research leading to a deeper understanding of the dynamics of co-creative processes. The tools should be cost effective, intuitive, and be demon- strated in real-life environments relevant for the creative industries (such as advertis- ing, architecture, arts, design, fashion, films, music, publishing, video games, TV and radio). Pilots should build on common, flexible and open ICT solutions which can be adapted to specific users' needs, allowing them to live independently for longer while experiencing cognitive impairment. Pilot deployment across Europe should develop best-practice and viable business and financing models, as well as evidence for potential return on investment. Gender and ethical issues should be paid due attention.

A similar structure can be observed in other calls. Challenge or need definition. This move is articulated in the very first paragraph of each call, always indicated by the use of a Specific Challenge subheading

> *Scoping guidelines 2:* (Projects) should combine different technologies (e.g., mobile, augmented reality, natural interaction technologies) and support composing, re-using and distributing interactive educational content and services, with assessment and feedback functionalities. Based on technological advances enabled by research carried out so far, activities will support networking, capacity building and experimentations in methodologies and tools for data-driven (including automated measurement of human-system interaction) non-linear approaches to adaptive learning and remediation technologies and cognitive artefacts (including toys) for effective and efficient human learning. Gender differences in ICT-based learning attitudes should be considered.

The way gender and "ethics" feature in the text paints a semiotic picture where meanings associated with innovation, technical implementation, and measurable benefits are foregrounded at the expense of considerations of a more sociocultural nature. Across the seven calls considered, references to ethics and gender range from a maximum of 25 words:

> *Scoping guidelines 3:* Implementation of programs or applications for different target populations to capture gender- and age-dependent differences in health, behaviour and handling of devices should be included.

To a minimum represented by a laconic single word (gender), to indicate a cross-cutting dimension to be accounted for in the scope of a project.

Move 3: Expected impacts. Extremely succinct mentions to "cross-cutting social issues" are also included in the third and final move, recognizable in the text, thanks to another clear demarcation. This final section provides once more an indication of what is prioritized and valuable. Indeed, this information is handily represented in the text as lists of expected impacts. A selection of impacts is reported below:

Expected impacts 1: Reinforce European leadership in adaptive learning technologies for the personalisation of learning experiences. This must be measured by the number of excellence centres collaborating through specific joint research experimentations and technology transfers programmes.

Expected impacts 2: Enable faster ways of testing fundamental business hypothesis.

Expected impacts 3: Facilitate the emergence of new innovative businesses.

Expected impacts 4: Speed up the rate of adoption of technologies.

Expected impacts 5: Validate novel ICT technologies.

Expected impacts 6: Develop of new services.

Expected impacts 7: Best practice for viable business and financing models.

Expected impacts 8: Actions will lead to new innovation processes, new organisational and governance concepts, changes in planning processes, that result in new forms of urban mobility solutions at neighbourhood or urban district level.

The notion of impact that transpires from these, rather brief, impact sections is consistent, in style and content, with the text up to this point. As such, the impact move in each of the funding calls serves a clear function: to provide a closing set of statements that unequivocally tie the likelihood of receiving funding to economic and innovation-related criteria.

Discussion and Conclusion

We carried out an examination of gamification as (a) a policy idea in the European context and (b) a specific funding priority in Horizon 2020. Our main claim is that gamification entered the European policy discourse and was rendered non-controversial through its assimilation in an existing body of knowledge on technology-enhanced learning in educational and corporate contexts. This normalization process helped frame gamification as an ethically legitimate and fundable area of research and development. Such "ethical neutering" is also observable in the actual funding calls, where the problematic assumptions of gamification around agency and manipulation are made invisible through a superficial commitment to vague and ill-defined criteria of RRI. In this sense, the way in which words such as gender, ethics, and social responsibility are deployed in the calls could be viewed as a tokenistic "gesture" meant to signal an opening up to societal and ethical issues. This gesture can also be interpreted along more critical lines, that is, as a discursive strategy to justify and validate the more prominent and explicit emphasis on market-based priorities and themes. To be clear, we are not arguing that this is the result of a malicious diversionary purpose that informed the development of the H2020 funding calls about gamification. Far from it. Indeed, it could be argued that these calls are fairly transparent in their prioritization of narrow instrumentalism in R&D. However, this transparency of intent does not make H2020 immune to critical scrutiny. Ultimately, our aim is not to blame or "call out" H2020 for its narrow view of

gaming but to bring into view its active participation in a broader social discourse that is increasingly associated with a solutionist view of technology, society and the economy, based on what Morozov perceptively described as half-baked ideas powered by a "narrow-minded rationalistic mindset that recasts every instance of an efficiency deficit […] as an obstacle that needs to be overcome" (Morozov, 2013, p. 15) and which, it could be added, does not contemplate alternatives.

Consider the following claim from the 2014 gamification call: "Digital games can also make a real change in the life of a large number of targeted excluded groups, enhancing their better integration in society," followed by the following obligational clause: "This requires however the development of new methodologies and tools to produce, apply, and use digital games and gamification techniques in non-leisure contexts, as well as building scientific evidence on their benefits." The "real change" enabled by games is presented as factual, measurable, and incompatible with "leisure," as opposed to being (possibly) a process shaped by aesthetic and cultural factors. As such, the instrumentalist emphasis on "tools to produce, apply, and use digital games" and the "need to build scientific evidence" makes it impossible, for a funding proposal, to ask critical questions about the nature and the nuances of gaming-related change. Could change be a more diffused process associated with positive and sensitive representation in leisure gaming? Indeed, who gets to decide on the distinction between leisure and non-leisure and on what counts as change in one or the other? Is it up to scientists building evidence through experimental research, or should these notions of change be more attuned to the priorities and concerns of those "traditionally excluded" who are already engaging with gaming (as gamers or developers) to pursue emancipation and empowerment? For example, people with non-normative gender orientations, people with mental health issues, and generally people from historically disadvantaged and marginalized backgrounds. All told, it is important to keep in mind that the relationship between social phenomena and linguistic constructions is never a simple correspondence but is always tendential (Fairclough, 2003; Halliday, 1994). This invites caution when establishing links between evidence and claims and reaffirms the need to frame findings as the result of interpretative work rather than as objective truths. In this sense, our overarching interpretation is not that the European Research and Development agenda around gaming is shaped by a narrow set of economic choices, but that these choices are made by specific people in their institutional capacities, and there is nothing inevitable in the way neoliberal agendas of market growth is given priority over alternatives.

While it could be argued that Horizon 2020 was designed to act as a market enabler and an innovation stimulus, we cannot ignore that these priorities were always supposed to be moderated by a range of typically "European" values that emphasize social responsibility and ethics. It is therefore important to ask critical questions about the extent to which these themes have been "neutralized" during a process of policy capture and the subsequent development of funding priorities.

Technologies are socially shaped, and policies and funding frameworks are powerful shaping strategies and tools. The H2020 program, both in its entirety and in its specific subcomponents like the gaming and gamification funding calls, is "underdetermined" by a range of political and economic factors. The thesis of underdetermination (Feenberg, 2010) is helpful because it encourages us to entertain the possibility of alternative sociocultural influences and choices. Indeed, talking about choices helps us move away from simplistic, linear models of technological progress, whereby information and innovation processes flow along a straight path from engineering labs and development studios to various usage scenarios. As Williams and Edge reasoned in 1996: "different routes are available, potentially leading to different technological outcomes. Significantly, these choices could have differing implications for society and for particular social groups" (p. 866).

Applied to gaming, this approach opens the door to a range of perspectives radically different to those encapsulated within H2020. These perspectives, which originated in academia, game development, game criticism, and communities of gamers, are trying to extricate games from a stubborn techno-centric and utilitarian discourse that views this medium only as an area of technological innovation and commercial exploitation. Several contributions, including of course in this very journal (Costikyan, 2013; Flanagan, 2009; Juul, 2013; Kirkpatrick, 2013; Shaw, 2010), paved the way for the interdisciplinary research of video games, drawing on psychology, philosophy, critical theory, feminist and queer theory, literary scholarship, and other disciplines. As a result, it is now possible to examine the inner workings of games from a non-reductionist angle, interrogating critically their key components and features, such as the competition–collaboration dialectic, the role of uncertain rewards, the importance of social values informing the design process, the cultural constructions of gaming as an identity-defining social practice, and so forth. At the same time, the specific ethical dimensions and dilemmas associated with video games and gamification have also been explored (Kim & Werbach, 2016; Sicart, 2009; Sicart, 2011), and a rich collection of philosophical, sociocultural, and practitioner-oriented insights is available. This literature suggests that the diverse uses (and misuses) of gaming are at the center of a vibrant cultural critique that goes beyond narrow concerns for market segmentation and expansion. For example, valuable research in this space focuses on the gendered nature of gaming habits in the household, highlighting the stereotypical regulatory roles for fathers and mothers, and equally stereotypical narratives of ability versus inability for boys and girls (Harvey, 2015). Another important line of enquiry examines representation (of gender, race, or class) in gaming (Shaw, 2012). Indeed, representation is a prominent concern among popular culture commentators, media scholars, and education researchers. This points to the existence of an alternative and vibrant imaginary that could (and should) be accessed to inform more culturally and socially attuned criteria of responsible research and innovation in relation to gaming. Our own work in Gaming Horizons also provides support for this change. As part of our project, we carried out interviews and workshops with stakeholders from various communities

including game developers, educators, young people and their families, policy makers, and researchers (Persico et al., 2017). We also developed a "manifesto" to provoke discussion at a policy level (Haggis-Burridge et al., 2018). We found evidence of a strong interest for "games as culture," with many stakeholders expressing significant reservations about the current level of support for serious and applied games in Europe. Small developers, in particular, were very keen to explore the potential of games to tackle socially and culturally relevant themes, but they found themselves pressed between hypercompetitive market conditions—linked to problematic work practices such as the infamous "crunch" periods—and what is required to obtain European funding, often viewed as constraining and rife with creativity-stifling requirements.

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