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The Conditions of Production of Video Games: The Nature and Stakes of Creative
Freedom in Stiegler's Philosophy of Technicity

INTRODUCTION
Thanks to Conf organising committee, Tonguc Ibrahim Sezen, program committee,
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(This is an extended, draft version of the keynote delivered under the same title). The
UK creative industry and innovation "charity," NESTA (National Endowment for
Science, Technology and the Arts) recently released the report "A Map of the UK
Games Industry" which claims that games production has been significantly
understated in estimates of the UK's "creative" and "cultural industries".[1] The report
is based on a "big data" methodology that the authors argue has picked up more
accurate and up to date information about the dynamic state of the games sector. By
"scraping" data from "product directories, wikis and games reviews sites" the report
has found many more smaller and medium enterprises than are reported via more
conventional industry measurement techniques and survey instruments.[2]

SLIDE: the UK Games Industry map

In the blogpost accompanying the announcement of the report, co-author Juan Mateos
Garcia summarises the key findings which confirm widely perceived trends in the
global (and globalized) game industry over the last few years such as the expansion of
production due to mobile and tablet app and software markets (above all Apple's
iPhone and iPad), the lowering of capital and cost barriers for entry to these and other
platforms encouraging smaller developer enterprises.[3]

The report presents what it argues is a more effective means of representing UK
games industry's changing profile as part of the dynamic shifts in the global digital
media landscape. It showcases some valuable new means for tracking and
representing the shifting state of games production, and in particular in registering the
emergence of "indie" game producers and the progress of smaller and startup firms
from small to small-to-medium enterprises. It also provides further confirmation of
the prominent place of games production as part of the shifting profile of the media
industries. Its articulation of the value of these tracking and profiling methods is
resolutely located in existing "creative economy" terms, however—the new picture of
games production revises estimates of the economic (monetary) worth of the industry,
and is analysed in terms of how it tallies with established accounts of "creative
clustering" and IT infrastructure, education and training provision, and so on. The
primarily "economic" orientation of this account of the structural and contextual
factors enabling the production of creative forms has little to say about their nature or
value other than in monetary or employment terms, as gross domestic product, as
enhancement to a "creative UK" brand, and so on.

[[It is no doubt unreasonable to insist that an organisation with NESTA's history and mission statement should provide a meta-critical analysis of its influential contributions to public debate and policy-making advocacy of creative industries.[4] That is the job of people like you and I, and others seeking ways to look past the blindspots of "creative industry" and "economic" modes of interpreting the contemporary state of things. It should be noted today, however, in keeping with the general movement toward the instrumentalization of university labour (both in teaching and research) in the UK (and elsewhere in the globalisation of the tertiary education "market"), it should be noted that NESTA has attained a very influential position in setting the agenda of the national funding of scholarly research in video games. For instance its 2011 "Next Gen" report set the terms of the first ever round of Arts and Humanities Research Council Funding dedicated to video games in 2013.[5]]]

SLIDE CREATIVE TERRITORIES

Along with Jon Dovey and other colleagues at the Digital Cultures Research Centre, Helen Kennedy at Brighton University, Joost Raessens and Stefan Werning at Utrecht University, game hubs in Bristol, Leamington Spa, Utrecht and many other researchers and developers, I have been involved in a project investigating the cultural dimensions and implications of the current developments in the games industry in the UK and as part of global trends. I begin today with this UK instance of efforts to map and measure the current trends in national computer games production to indicate some aspects of the context in which we come together today as researchers of the nature and significance of games. For one thing, this mode of state-funded institutional framing of computer games as an industrial and economic object does not readily accommodate the kinds of approach and engagement with computer games that goes with the term "philosophy"—however diverse the schools, methods, and allegiances that could be gathered together under that banner. The philosophical questioning of contemporary phenomena is increasingly difficult to maintain today where university funding is increasingly evaluated and distributed according to principles of immediately tangible real world applicability and utility.[6] "Immediately tangible" that is, according to instrumental, pragmatic and commercially focussed prerogatives, and measured by techniques of data analysis and variants of the marketing survey and "testimonial" narrative.[7]

Secondly, the more "democratized" conditions of game-making that NESTA's "Map" of the industry apparently evidences are important for critical and indeed philosophical interrogations of computer games as an already significant and yet still emerging form of cultural production, expression and experience.[8] The question of the conditions—technological, economic, environmental and cultural—of making and acting in the digital technocultural milieu is of primary importance for Bernard Stiegler's philosophical activist project. Through a "broad spectrum," multi-level strategy this project seeks both to understand and to intervene in the way that digital media innovations are adopted and become established practices and routines. Through various activities of both the independent association Ars Industrialis

SLIDE ARS INDUSTRIALIS
and as director of the Pompidou Centre's Institut de Recherche et d'Innovation,
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Stiegler and his collaborators develop alternative perspectives and alternative models for digital mediated culture and society.

Stiegler's philosophical writings, in support of this project, frequently contest and offer alternatives to the instrumental, economistic definition of what is relevant, practical, useful and valuable forms of inquiry and knowledge production. He affirms the necessity of collectively maintaining a properly philosophical engagement with the present moment of its articulation. And that means for him that the philosophical gauges its worth to the extent that it situates itself in a dialogue with the social and cultural milieu—which also means a dialogue with its inhabitants—in which it is fostered and collectively enabled. In *Taking Care* Stiegler will identify this value and this responsibility of philosophers (as professors, that is as teachers, and also as ones who declares openly, and in our still literate era, who write to those able to read and write), the responsibility to live up to the project of the Enlightenment as announced in Kant's short essay, "What is Enlightenment?": the project that is of universalizing the becoming-major of all citizens.[9] Becoming-major means departing from the dependencies of "minority" and acceding to a state of responsibility for one's views, values, and behaviours, achieved through the practice of self-education, critical evaluation of received ideas. To be worthy of this philosophical tradition (which is also a project, which Habermas called incomplete, and Stiegler would see today as running in reverse in spite of the enormous possibilities of the contemporary technical changes in the modes of dialogue, profession, reflection, inquiry and so on), to be worthy of this, philosophy must play its part in demonstrating the value of maintaining what Stiegler calls a critical and reflective "long circuit" in the otherwise unquestioned—that is, **automatic**—adoption of the existing ways of thinking about and doing things.[10]

In this talk I would like to offer some thoughts about the ongoing becoming of computer games inspired by Stiegler's project. For while Stiegler himself has had little to say about them, the changing conditions of game production today are another instance of the ongoing "digital transformation" of human cultural becoming with which he is chiefly concerned. They bear the potential of digital and networked making and sharing to reshape the established modes of commercial industrial production and distribution and their conditioning of technocultural reproduction of existence. This potential is both for the emergence of a more participatory or "contributory" model of cultural production of forms of expression and experience, one which revises existing means of valuing games and supporting their development, and for forms that accelerate the predominant capitalist (Stiegler would say "hyper-capitalist") globalization of industrial mediation and exacerbate its injurious effects on cultures, communities, and economies, even in those places (such as the UK) seeking to optimise the opportunities arising from this dynamic.

This is what Stiegler calls the "pharmacological" character of technological becoming as part of human becoming—its potential as both poison and cure to the human in its currently existing state. Technology is always a *pharmakon* in Stiegler's account of the constitutive role that it plays as prosthetic supplement to human being. There is no human being without technical supplementation. The "medicine" is not optional, however; it is a constitutive part of the human as "technical life." For what distinguishes human being from that of the other members of the animal kingdom is the technical character of human evolution. Like all species, the human being is a

becoming rather than a permanence, but its becoming is inextricably bound up and composed with technical becoming.

[[[Now, as is widely recognized, since the industrial revolution the speed of technological innovation and its global extension have posed the question of technology as pharmakon with increasing urgency. Moreover, in the technoscientific, digital age Stiegler suggests that "we" can glimpse the closing off of the horizon of the very possibility of posing this question. ELABORATE FURTHER]]]]]

These are large and weighty issues, and ones which deserve a more substantial elaboration which I will attempt in what follows. They appear perhaps too weighty to lay at the door of computer games production or play. It's just about play and fun, free time, what one does during one's time off from the serious, after all… I am sure, however, that this coming together of philosophers and scholars of games know that games and play, their role in providing "entertainment" and organising leisure-time, through their global industrial materialization of commodities and services which serve to rhythm existence, are far from superfluous, inconsequential or tangential to the serious questioning of the contemporary state of things.

SLIDE: some more evidence: Gamer gate,
SLIDE: Drone controls

I will propose that creative cultural production is vitally important today, and that consequently questions about the nature and conditions of game production and their place as cultural expression and reflection, as modes of critical dialogue, and even of "professing" are not completely divorced from these high stakes. In doing so I hope to say something in response to the conference themes of "freedom" of and in play….

…..What I will do:
1 examine this rise of "democratized" production/potential in relation to stiegler's philosophy of technology: place of technology as conditioning/fixing/determining: organology, pharmacology…. freedom/creativity in games making/expression/use need for industry/economic policy level/political reform

INDIVIDUATION AND THE CONDITIONS OF PRODUCTION
To consider further the pharmacological character of video games production as it is currently developing let me return to NESTA's offering of a more timely mapping of video game production. The results seem to confirm the perception of an expanded and more dynamic sector, with a significant increase in smaller enterprises. My own research with members of the Bristol Games Hub, an independently established and managed collocation of games makers including indie firms and individual freelancers, bears out the general picture of a recovering and re-forming industry offering new opportunities for developers, programmers, graphics/animation designers and so on. It also bears out in broad terms the notion of a "democratizing" factor in this expansion being the changed technological and commercial conditions of production and publishing. On the production side the emergence of low cost game engines—above all the cross-platform *Unity* system (Unity Technologies, from 2005), but also YoYo Games' *Game Maker: Studio* (from 1999)—has provided low-cost

access to suites of production tools and software and to developer and community-resourced asset libraries. The emergence of the new publishing and distribution opportunities associated with mobile and tablet platforms—with Apple most prominent for now— and the "return" of pc-gaming via the growth of Valve's online Steam distribution site (and its impact on the large console firms' interest in indie games as part of their offering) have significantly expanded the demand for games. One could add here developments in game bundling and other models of distribution, and the access to capital via crowd-sourcing, as some of the principal elements of the changed conditions supporting the expansion of possibilities for games makers to start their own enterprise and retain significant control of the results of their creative labour.

The cultural and social implications of the expansion of markets and the rise in numbers of makers of video games are not in view in this report. The "democratizing" of access to the means of production wears this positive political label in a habitual neoliberal reflex identifying enhanced market competition with increased democratic freedom—optimizing freedom to enter the market as a fundamental aim of democracy. Leaving aside a critique of the contradictions of this prevailing economic discourse, especially as it issues here from state and state-supported agencies supporting economic policy goals to support the growth of the national industry in a global marketplace, evaluating the potential value of the widening of access to market for game makers remains the task for those who would offer something other than this narrow valorization of the contemporary situation. This is a large task, already tackled by many researchers on game making and games as cultural forms. I offer here some observations on how to address these questions of value and potential from the perspective of Stiegler's project. This address must begin not only with the classic political economic issue of ownership of the means of production (and hence the Marxist one of access to and control of these means); nor with its elaboration in formulations of social or cultural capital (Bordieu), or with their appearance in the guise of the figure of the "creative class" (Richard Florida), but with a better grasp of the conditions of production.

These conditions are the result of relations between individuals, collectives and technologies. Stiegler, drawing on the work of Gilbert Simondon, argues that elements in relation are always becoming through this relation. This process, which Simondon calls individuation, is one where forces or "tendencies" balance and counter-balance the becoming of the individual elements which are constituted through this process rather than entering into relation as already constituted forms. "If there may be elements that maintain their form," says Stiegler in *The Lost Spirit of Capitalism*,

SLIDE of Quote
"or rather maintain themselves through metastable rather than stable forms, this is only because forces are constituted through relations. These relations occur in at least pairs, which seem to form oppositions but in reality compose—and which cannot, contrary to Cartesian method, be de-composed into simple elements without being destroyed by this very decomposition".[11]

Psychic individuals become in relation to the collective individual (or, rather, collectives for there are always more than one, and in turn smaller groups individuate

in relations with larger collective identities). A psychic individual's choices, desires, actions, speech, gestures, and inventions are conditioned first by the ethno-cultural and familial characteristics of their "formation" as individuals from birth: through their socialisation, education, their passage to independence and to maturity. Reciprocally, through the same relation, the collective identity becomes through the individuating actions of its individual members. Beliefs, values, norms, laws and practices change through the effect of individual acts, inventions, utterances which, when they attain a threshold of influence, realise a counter-tendency to the reproductive, stabilising impetus of the existing status quo. Stiegler characterizes this as the shifting dynamic between synchronization and diachronization. This is the basis of the process of individuation animating the mutual becomings of human psychic and collective individuals that Simondon names "transindividuation". Change, becoming, history is produced in the interplay of these counter-balanced tendencies toward a synchronizing repetition of the same—a freezing of time as the movement of change in a synchrony that is culture as tradition, convention, habitus— and a differentiating repetition of the structuring of existence that reanimates its generative potential to become new, different, other.[12]

Consequently, inasmuch as it proceeds from (and is part of) the general conditions of acting within this transindividuating dynamic, the conditions of production are metastable—more or less stable, which is also to say more or less unstable. On the side of the psychic individual this meta-stability expresses the structural incompletion of the individual's individuation—a product of their upbringing and their surrounds, as one says, they individuate themselves in response to this, but in a process that ends before they are finished. On the other side, that of the collective individual—be it ethnocultural, political, religious, etc, this is always already incomplete inasmuch as it awaits the next act, gesture, or product of each of its individual members to affirm or modify its coherence and legitimacy. In both dimensions, then, human being is always a question and a process of becoming, more or less stable; it is never the living out of some transcendental, a priori essence or ground. Indeed, human being is being-in-default of an essence in Stiegler's account in *Technics and Time 1*. Ethnocultural differentiation is the historical reality of human being as becoming, from an unascertainable beginning up to now, and perhaps for some time longer—if it has not already metamorphosed into some other dynamic whose humanity is open to question. And it is philosophy's role, in Stiegler's view, to pose this question today, and to pose it as an historical, and therefore a political question. I'll return to this later.

I have not said much about technology and about technological individuation yet, but perhaps it is already evident that in Stiegler's account it pervades this history and this question of human becoming. For technology or "technics" is the "necessary supplement", the third element individuating itself in relation to human individuation.[13] This means that the becoming of technics is related to the becoming of human individuation, but it is not the same thing, and nor is it merely a subordinated aspect, or material expression or product of human becoming. Stiegler has a neat formula for this notion of a complex folding together of the human and the technical: technics is the "and" between "psychic and collective individuation".[14] Technics mediates between individual and collective. In turn it becomes in relation both to individual and collective. Through the collective's synchronization of practices, operations, implementations of investment in material production, pursuit

of research agendas and so forth technics develops along certain lines; while individuals, through their adoption of technical forms, through their anticipation and individual, "idiosyncratic" employment of them, produce the potentials for their unexpected, unprogrammed innovation and deployment, and consequently for the appearance of new programs and new materialisations. I will return to this notion of idiosyncratic use below in relation to the idea of the program and the unprogrammed.

Through both of these relations technics individuates in ways that are composed with but not equal or subordinated to the dynamic of human individuation. Moreover, there is nothing inevitable about the continuation of this composition of human and technical individuation, but the human has, through the dynamics that produce technical artefacts as the very means and medium of its transindividuation, a vital role and opportunity to stabilise its becoming in the form of techno-cultural programs for adopting the changing technical conditions of mediation between individual and collective.

This means that technics are the means of stabilization (or at least meta-stabilization) of the relations that determine the individual and collective identities and the modality for their becoming other. Technics as artefactual realisation of experience, expression, interpretation of existence, enable transmission to those who come after. In what Michael Lewis has identified as the most decisive feature of Stiegler's theory of technics, technical artefacts are interpreted as an exteriorized form of memory. And Stiegler insists on a "strong" reading of technical memory as more than memory-support or archive: technics *are* memory inasmuch as they are co-constitutive of human capacity to think, reflect, remember. As the now prevailing neuroscientific theory of neuroplasticity confirms, technocultural forms condition interior, organically based memory.[15] This exterior memory is what enables ethnocultural becoming to dominate genetic, species-based evolution in human individuation in what Stiegler terms "epiphylogenesis", a singular (for now perhaps) form of becoming based on the technically enabled capacity to retain and pass on individual lived experiences:

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Epiphylogenesis, a recapitulating, dynamic and morphogenetic (*phylogenetic*) accumulation of individual experience (*epi*), designates the appearance of a new relation between the organism and its environment, which is also a new state of matter. If the individual is organic organized matter, then its relation to its environment (to matter in general, organic or inorganic), when it is a question of a *who*, is mediated by the *organized* but inorganic matter of the *organon*, the tool with its instructive role (its role qua instrument) the *what*. It is in this sense that the *what* invents the *who* just as much as it is invented by it.[16]

THE INDIVIDUATION OF CREATIVITY (or Capture and Democratization)

This is why technics or rather, "technicity"—the relational dynamics composing human and technical becoming—is so critical in understanding the conditions of production. The scope and the potential of the currently emerging situation in computer games which is our topic and concern today must be approached through an

understanding of this circular co-inventiveness of the who and the what if we wish to avoid a reductive view of this potential. If Celia Pearce is right, for example, in recently calling 2014 a "watershed moment" in video games as the industry moves away from a predominantly "film studio" model toward a "variegated industry of diverse studios and creators" making games for different platforms and for an "increasingly heterogeneous audience", then the promise of what lies beyond this watershed moment must be properly grasped and articulated if it is to be realised. In the time remaining I will try to sketch out the terms of such a critical articulation of the changed technological and technocultural conditions of video game production, distribution and reception by extending the general account of human technicity in Stiegler's work I have briefly elaborated here.

First point: Pearce is right to identify a shift in the industrial organisation of production as crucial to a transformation of video games as cultural form. For Stiegler a cultural politics today must address this task of reformulating industry—and therefore economy—as a priority because the industrial production of transindividual forms of experience is central to the maintenance (or alteration) of technocultural norms. And today these norms have become toxic, poisonous, not only for the "natural environment" that is incorporated within the human "world" (and that the prevailing scientific opinion warns is well on the way toward their radical destabilisation).[17] For Stiegler the prevailing capitalist dynamics organising industry and the production of cultural experience are toxic also for the dynamic of psychic and collective individuation.[18] Stiegler's diagnosis of this "ill-being" of human individuation (as he names it in *Technics and Time 3*) shares features with other critiques of consumerism, of the globalising, hegemonic regulation of attitudes, aspirations and desires coordinated with the production of goods and services, perpetuating its mode of permanent innovation, upgrade, and so forth, and "proletarianizing" the consumer (in turn) so that she becomes increasingly dependent on product and service provision to guide her on how to live and what she should know.[19] Stiegler argues that this has become the default mode of adoption of technological becoming in the industrial era, and that this has reached a crisis in our current period the signs of which are readable across economic, social, and global geopolitical spheres as much as in the ecological domain. This "crisis" is one in which a properly "human" meta-stabilization of becoming is increasingly difficult to achieve. The permanent race between systems, platforms, devices for making and sharing things and experiences, for storing and accessing knowledge and memories, the race to gain control and monopolize and monetize the investments of new ventures, and the imaginations and the attention of consumers, this race tends to "short-circuit" the human dynamics composition with technical innovation, leaving less and less time or space for critical or cultural reflection and appraisal of the other possibilities and implications of technics as medium for human individuation. What this would be is a political and a philosophical question.[20] And it is precisely this questioning that tends to be excluded in this short-circuiting of longer circuits of individuation that pass through technical intermediaries in order to formulate theories, hypotheses, principals and programs for shaping their adoption.

So if the industrial context of computer games production is shifting today, then it needs to be considered whether this is part of the ongoing overturning of established technocultural models described above. In some ways it resembles recent upheavals in modes of production and distribution based on a lowering of technological and

capital-cost entry barriers and the opening up of online distribution avenues such as have been witnessed in, for example, the music industry and video production. In this regard what is happening at this "watershed moment" for video games might be a further iteration of the destabilization of broadcast media industrial structures, and part of a wider evolution of a globalizing, online mediation.

In this regard identifying the new conditions for video game-making should also factor in technical tendencies with wider implications such as the increases in storage capacity, processor size and efficiency, the provision of low or no cost "cloud" data storage and sharing, and the lowering of costs and increased production and supply of portable devices and smart phones. These have each played a part in encouraging the growth of smaller video game makers willing to venture out on their own, as much as they have been crucial to the diversifying of possible platforms for video games, from mobile and device releases, to Steam and pc bundling, to social media casual games, and to the expansion of gaming media culture via online "tv" streams, "Let's play", E-sports and so on. Considering all these factors together, it is easier to see the changes in video game production and mediation as a particular configuration of a digital technical tendency the speed and scope of which has led to a regime of "permanent innovation" that has tended to outstrip the ability of cultural and political spheres to reflect and inflect their course.[21] My point here is that the changes in the conditions of industrial production of games do possess potentials for diversification and democratization but that these emerge as part of a more general dynamic of industrial and technocultural transformation, one which we have been subject to for some time, and one whose wider impacts and implications remain to be comprehensively reviewed.

To venture a comparison, the "mixed blessing" of iTunes or Spotify as alternative to the old "record label" arrangement for musicians (and not just for the tiny number of major music celebrities) may offer something in the way of a caution for game creators seeking to establish themselves on the iOS platform. Musicians pay the largest price for the "solution" of the piracy challenge to the music business, with profound ramifications in the longer term for the future of musical creativity as the archive of recordings ages. The acceptance of risk by the indie game developer launching their game is inversely matched by the exploitation of game content as part of the largest (for now) catalogue of free or low cost "experiences" available to the platform's user base. And the trends indicate the repetition of a familiar pattern inasmuch that, relative to the expanding number of new game experiences available, fewer and fewer games are making a viable amount of money for their makers on the Apple store.[22]

In their default, systematic implementation of technical developments toward commercial ends, these trends led by the competition between platforms and "walled gardens" for users, for user retention and for user attention in the form of content, reputational and review metadata, and other forms of monetizable and saleable data, tend to dominate the conditions of the creation of video games. This impacts upon the promise of creative diversity that Pearce identifies in the current situation. It is right to identify the increased opportunities for smaller developers to enter the market with their own IP as a significant change. It promises to allow much game creativity to avoid what Nick Dyer-Witherford and Grieg de Peuter (in their Hardt and Negri-influenced account) characterized as the capture function of global "game-capital" by

major publisher corporations.[23] A greater number of entrants have the chance to retain their intellectual property, but they enter into a still globalized commercial market, still accessed via major transnational corporations providing the material mediation of their "immaterial" creativity, and providing a principal avenue of their eventual (re)capture in the manner of *Minecraft* or of the *Oculus Rift* 3D system. The possibilities for a "counter-mobilisation" of creative "immaterial labour", however, rest on more than this temporary opening up of the market. Here the question of creative work, of the conditions of creativity in the conditions of production assumes its full significance.

A couple of years ago developer Alistair Doulin coined the term "mindie" in posing the question to indie developers about their relation to the mainstream game industry.

SLIDE of Doulin's mindie blogpost

"Are you mindie?" was a question about how the indie ethos sat with the default mainstream trajectory of game development as a viable business, requiring significant capital investment, commercial relationships with distribution platforms (if not with publisher-investors).[24] The question is extremely pertinent but the "gap" between indie and mainstream cultures of creative production needs a better critical articulation to propose an alternative to the Doulin's suggested solution of a bridging manoeuvre allowing the indie to pass to and fro across to the mainstream while retaining an independent creative spirit.[25] I would argue that such a course of action is better understood and adopted as a strategic move, necessary perhaps but not sufficient, for it does not address (except to accommodate) the systematic issue of the mainstream mobilisation of experience and expression for commercial ends, nor the systemic possibilities of game-making technics to recreate the potentialities of digital mediation for human individuation.

And this is where and why the situation of game makers today, as they encounter "pharmacological" character of the opening up of opportunities to generate a livelihood out of their interests and love for game-enabled experience, expression and community, speaks so cogently to crucial issues for "our" globalizing technocultural development. For their creativity is key to opening and holding open the window of opportunity for cultural reflection on and access to those systemic possibilities of game-making as part of the digital mediation of human becoming. And this holding open is prerequisite and avenue for intervening in the systematic capture (and recapture) of the productivity of human individuation by the default techno-logics dominating technical individuation today.[26] For it enables the time and space for the longer circuits of individuation to form that are required to suspend the default mode of adoption of technological advance.

As explained above, the dynamic of psychic and collective individuation is powered by individual responses to the collective synchronisation of modes and models of living ['passive synthesis'].[27] Creativity is an emergent potentiality of this responsiveness. The individual reacts to the existing cultural prescriptions (realised in the form of transindividual artefacts, rites and routines) and repeats them more or less faithfully. This is characterised (in one way at least) by Stiegler as the relationality of the idiomatic and the idiosyncratic. The idiosyncratic repetition of the practices established in the cultural idiom is the mode of their transformation. The idiosyncratic

is "peculiar," "unique," "singular," but makes sense and makes a difference only in and as a relation to the regular, the typical, and the "already-there". The idiom is itself the result of the selective synthesis of the vast accumulation of idiosyncratic responses amounting to the metastable form of a synchronizing pro-gram: Pro-gram is a "writing forward".[28] As such, it is the condition of production of the idiosyncratic as much as the surface registering its appearance and filtering its effect.[29]

From this perspective then, the creativity of game creators can be understood as the more or less faithful repetition of the established cultural modes for "doing things with games" (as Ian Bogost has it) via the adoption of those digital (and other) technologies which form part of those technical forms that mediate human becoming. The stakes of sustaining and fostering this creativity become clearer in this view. Beyond considerations of expanding the opportunity for personal freedom of expression or realising individual vision (and protecting against the appropriation of its market value), or even of promoting diversity of experience as a general cultural benefit (not to mention diversity of minds as an economic benefit in the form of innovation), creativity is crucial to the maintenance of the balancing of technical and human individuation.

All of these aspects of creativity understood as a quality of individuals assume their full significance in this compositional view of human-technical individuation. For if as I just said, creativity can enable the time and space for the longer circuits of individuation to form that are so crucial to a properly "human" inflection of our technical becoming, I mean this quite literally, or materially. For creativity is realised technical forms that are transindividual; these concretize in space the temporal dynamic of individuation. The technical spatializes time, providing the material substrate of individuation. Individual experience amounts to the re-temporalisation of the technical. Playing a video game, watching a film, listening to music, reading a book: this is how the individual animates the dynamics of their own psychic development and becomes part of the collective iteration of culture. You are doing it now, as I re-temporalise this artifact, or these artifacts (screen, text, etc). Each of you hears and understands my speech in a particular way, but on the basis of the collective synchronisation of signifying and communicating experience that is (in this case) English language.

And this is why making games, films, writing, recording music, is critical for composing the different dynamics of our becoming. And video games are especially important today as "native" digital forms of mediation familiar to succeeding generations now. Our digital technical development continues to overturn and reframes the conditions of mediation of cultural and individual experience, both globally and locally, through speed of transmission, the incorporation of older media forms and of new spheres of experience and sociality not subject to industrial mediation before, and in ways that many have analysed in terms of real-time, ubiquitous and pervasive media, in relation to "smart" devices and the internet of things, and so on and so forth.

Now, an expansion and intensification of automation is widely recognized as a central technical tendency animating these developments. Automation, having proletarianized the worker and reformulated issues of work, life sociality, politics and economics, in the digital phase increasingly conditions the lives, activities, thoughts, desires of the

citizen consumer, of the soldier, the politician, the student, etc. From nuero-marketing to data-profiling, from search and recommendation algorithms to pattern of life analysis and video data interpretation software, to all the automatic friending, tagging, face recognition bots, agents, templates, curating your FB newsfeed, your search results and the things you might want to know, see, buy, subscribe to, etc. automation is racing ahead of the capacity to reflect, selectively adopt, or reject and challenge it. It is this capacity that Stiegler will argue is constitutive of autonomy today, which for him is always attained and maintained in relation to automation. At the level of the psychic individual autonomy is achieved in relation to psychic automatisms, the impulses arising from the lifelong composition of biological and social-cultural inscriptions of behaviours, desires, urges, moral codes and legal injunctions, etc. At the level of the collective, autonomy is the implementation of a selective adoption of technical possibilities in relation to the cultural program.[30]

Video game creativity can play a crucial role in responding to the crucial challenge of finding a viable accommodation of the wave of automatic programming which as part of the default mode of the "digital revolution", and to which we are tending to become adapted to rather than critically and culturally adopting. Game creators can make a major contribution to composing human autonomy with digital automatisms which are programming psychic automatisms today. For culture is a kind of automatism, and human individuation is a becoming that composes itself through reanimating the spatialised forms that have been left to us by those that are dead (or, at least, are no longer who they were).

I'll finish with three aspects of this challenge and this possibility as they relate specifically to the current state of games production:

1 The game design process is a key battleground for this struggle: Ian Bogost showed that as software, games are a procedural form able to build in a critical or polemic "procedural rhetoric" that the player encounters through their interactions. And Mary Flanagan's work on thinking values in game creation, and her proposals in *Critical Play* about revising the design cycle to incorporate a reflective/critical phase of iteration indicate an important path toward the "longer circuits" of cultural programming needed. Bogost on *Procedural Rhetoric*

2 Related to this is the need to evaluate all the automatisms that come with the game design engines and other making tools. At Mapping the Collective last Monday Stefan Werning identified some of these operating a "built-in bias" in the current opening up of access to game creation packages such as *Game Maker: Studio* and *Unity* such as: "automatic" design processes in game engines and other softwares: Ready-made standard game assets and free or low cost assets in online marketplaces, option pre-sets (defaults); tutorials and demos (eg. an 'Angry Cats' demo in Game Maker Studio that copies Angry Birds)   Werning pointed out that these bring benefits in ease and availability, and allow less experienced and smaller developer teams to explore design concepts and make expressive games without being hampered by technical challenges and tasks. But also how this can limit the scope and potential innovation and exploitation of the enormous technical possibilities of these software systems. Again their pharmacological character must be grasped and negotiated collectively if indie game expression is to go beyond a collection of shining examples or a few individual mega hits.

3 Finally: the question of the creative agency of the user/player is crucial here (subject of another talk in itself); We have already had Ollie's brilliant first person description of encountering the cynical, and perhaps "suicidal" dimension of the "Freemium or Free-to-play" model of game distribution that so many of these new game makers publishing on the new platforms are relying on to make their living. Freemium could be described as a "perversion" (or as susceptible to perversity) of the shareware distribution practice of the earlier years of online culture. And while crowd-funding has funded a lot of games and other startup ventures in recent years, involving user communities as investors and often including them in more or less significant ways in the production process crowdsourcing, these practices are showing signs of being reabsorbed in more familiar routines of global capitalisation and value extraction, of deployment in carefully managed marketing strategies masquerading as 'grassroot community building', and in which an increasingly slick and sophisticated crowdfunding pitch and "perk" design is taking a depressingly familiar appearance, as precisely what crowdfunding as a peer to peer exchange is supposed to be different from. In this as in other aspects of digital online culture games has been a leader. But to take advantage of this avant-garde position video game creativity has to lead a trend in what is possible via online digital networked culture that is more than a temporary fashion in monetising attention or experience. This is a challenge that is bigger then video games and the opportunities that are emerging today for game makers and their collectives, but they are no small part of the possibilities for renewing the technocultural program today.

Thank you for your attention.

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[1] NESTA is a UK national lottery-funded agency. A proportion of gambling revenue collected from the state's gaming enterprises is channeled to various organisations with public service aspirations. Game play is integral to the life of the collective here as elsewhere.

[2] NESTA, "A Map of the UK Games Industry," http://www.nesta.org.uk/publications/map-uk-games-industry, 25 September 2014

[3] Juan Mateos Garcia, "Using big data to map the UK video games industry," http://www.nesta.org.uk/blog/using-big-data-map-uk-video-games-industry, 25 September 2014.

[4] One might note, however, that NESTA's lack of a substantial engagement in other ways of considering or advocating the value potential of innovation game or other creative production in this report seems to have moved them on from their earlier commitment to helping in the "creation of products or services with commercial, cultural or social potential," (http://www.nesta.org.uk/about-us/our-history).

[5] NESTA's "Next Gen" Report, goal of supporting "better research-oriented university/industry collaborations with a view to accelerating innovation and maintaining competitive advantage in the video games industry" was explicitly cited as the rationale for the AHRC's Video Games Research Networking Scheme call for proposals; see http://www.ahrc.ac.uk/Funding-Opportunities/Documents/AHRC-Video-Games-Research-Networking-guidance-document.pdf.

[6] Stiegler has written about this crisis of universities as they become global franchises and abandon their responsibility/potentiality as leaders in the professing of critical responses to the societies that established them to attain the highest levels of knowledge. This is the responsibility of the professor. To explore, question, challenge, refine the state of knowledge, its implementation and application to contemporary developments. In this regard Stiegler is sharply critical of the failure of the poststructuralist humanities critical thought of the French kind to go beyond a radical questioning of the foundations of knowledge, of the legitimacy of institutional and political authority, and so on.

[7] But this must be understood as a realization of a longer and more pervasive dynamic of the reformation, re-funding and reorientation of "the university" that Stiegler (among others) have analysed as a central element of the globalizing techno-capitalist transformations of societies over the period variously labelled as post-industrial, late capitalist, hyper-capitalist, etc…

[8] Garcia, "Using big data to map the UK video games industry."

[9] Ref to Kant, "What is Enlightenment?"

[10] In *Acting Out* Stiegler argues Western philosophy's origins are to be found in contesting the sophistic mobilisation of the "psycho-techniques" of argument, reasoning and knowledge production. For Stiegler (as for others), Socrates's death is the exemplary political gesture engaging (or committing) philosophy to the life of society. Stiegler develops the notion of "long circuits" of review, reflection and negotiation of understandings and existing practices as central to the collective labour of social and cultural renewal. To this he opposes the "short-circuiting" that occurs when new technologies are adopted in such a way that their implementation according to an initial logic tends to preempt the questioning or review of their effects or potentials. This short-circuiting of the labour and cycles of social and cultural responses to technological change has become a *systemic* problem in the era of modern technological transformation, and one which has been *systematically* exploited by capitalism through the commercialization of industrial media technologies, the deployment of advertising and marketing via these media forms, and so on. See "Culture Machine essay" ……

[11] Stiegler, *The Lost Spirit of Capitalism*, trans. Dan Ross (Oxford: Polity, 2014), 44.

[12] The "co-historizing" primordial to Dasein's historicality in Heidegger's terms—436/H 384/). Historizing is the manner of Dasein's 'stretching along' between birth and death, thrownness and being-towards-death unified via primordial care. "As care, Dasein *is* the between (427/375). Add a discussion to Heidegger here as Stiegler re-reads Heidegger? And how Stiegler identifies Heidegger's avoidance (acknowledging but choosing not to pursue the implications) of factical conditions of this co-

historizing… In the everyday understanding of history it is approached as an object to be studied (427/375). Dasein's historicality can be understood authentically (as care) or inauthentically (in the everyday understanding of time, angst, etc, 428/376). 429/377: historicality and within-time-ness are equiprimordial, "'objectively' connected": "Factical Dasein needs and uses a calendar and a clock". This is where Heidegger gets closest to opening up the inquiry into Dasein's historicality that Stiegler argues is necessary and necessarily implied in B&T from the earlier account of facticity.

[13] This is Stiegler's advance on Simondon, who while he articulated the theory of individuation as a cosmic principle of becoming (mineral, vegetable and animal, as well as the transindividual becoming of psychic and collective individuals), and developed a detailed account of technical individuation (in the Mode d'existence des objets techniques), did not in Stiegler's account elaborate clearly the role of technical individuation in human transindividuation. See TT3 discussion. Stiegler speaks about technics rather than technology to draw a distinction between modern industrial technology as particular, singular development and understanding of technics, and technics as the "exteriorisation" of organic, biological functions in forms, practices and artefacts characteristic of human individuation. In approaching technics as exteriorisation Stiegler mobilises the account of "hominization" given by influential evolutionary anthropologist André Leroi-Gourhan.

[14] See *The Lost Spirit of Capitalism*, where Stiegler is analyzing Herbert Marcuse's formulations in *Eros and Civilization*, and states that "this 'and' [between the psychic and the collective], which constitutes the simultaneously conjunctive and disjunctive relation of the psychic to the collective, is technics" (48).

[15] Comment here on relation to David Chalmers and Andy Clark's "extended mind" thesis (which Stiegler has acknowledged as heading in the same direction—find reference): Stiegler's project can be understood as having developed a rigorous pursuit of the implications of the extended mind thesis from within another branch of philosophical inquiry.

[16] Steigler, *Technics and Time 1*, p. 177.

[17] Incorporation of the natural in what Simondon calls the "associated milieu" that industrial modernity have brought into being—see discussion in TT1 of this notion, and Stiegler's adoption of this as the most productive elaboration/explanation of Heidegger's famous reference to the challenging-forth of nature in the allusion to the damming of the Rhine in hydroelectric power plants.

[18] In *Taking Care* Stiegler proposes that for the issue of the "pollution" of psychic and collective individuation by commercial mediation, we need, perhaps first and foremost, something like the public acknowledgment of the environmental dangers of global warming and the effort to develop public awareness and debate, pedagogical policies, and so forth to promote a substantial and widely negotiated and supported response to the challenge that our governments in their default mode of operation seem unable to sustain (pp?).

[19] Cf discussion of savoir-faire and savoir-vivre and proletarianization, eg. in Lost Spirit. For similar critiques and characterisations, I would start with Jonathan Beller, Jonathan Crary, Maurizio Lazzarato and the theorists/critics of immaterial labour and capital and the attention economy, but this could be extended to recognize significant correspondences with Matthew Fuller's more Deleuzian inspired Evil Media, and Zizek's and other Marxist and Lacanian diagnoses of late capitalism.

[20] This is the gist of Stiegler's "humanism" (and his suspicion of the discourses of "post-humanism." See *What makes life worth living* discussion of post-humanism.

[21] "Permanent innovation" is Stiegler's description in *The Ister* of the characteristic of industrial modernisation, one which intensifies and "strikes us with an unprecedented force" in the contemporary digital era. Note: "local conditions" Karen Barad might say; A comparison between Stiegler's more human-centred approach to a materialist and onto-genetic theory of reality and Barad's anti-representationalist one is worth developing….

[22] See for example, Tom Rawlings, "The Demons of Discoverability," A Great Becoming, May 29, 2013, available at http://agreatbecoming.com/2013/05/29/the-demons-of-discoverability/, David Garth, "How Bad is the Discovery Problem?" *Gamesbrief: The Business of Games*, May 24, 2013, available at http://www.gamesbrief.com/2013/05/how-bad-is-the-discovery-problem/ , and Emeric Thoa, "Money and the App Store: A Few Figures that Might Help the Indie Developer," *Game Bakers* blog, November 1, 2012, available at http://thegamebakers.com/money-and-the-app-store-a-few-figures-that-might-help-an-indie-developer.html.

[23] See Greig de Peuter and Nick Dyer-Witherford, "A Playful Multitude? Mobilising and Counter-mobilising Immaterial Game Labour," *Fibreculture* 5 (2005), p. 1, available at http://five.fibreculturejournal.org/fcj-024-a-playful-multitude-mobilising-and-counter-mobilising-immaterial-game-labour/print/.

[24] Alistair Doulin, "Bridging the Gap Between Mainstream and Indie," 2011, on his *Doolwin* blog, available at http://www.doolwind.com/blog/mindie-bridging-the-gap-between-mainstream-and-indie/ .

[25] This problem and this "solution" were articulated by Hitchcock in reflecting on his situation within Hollywood, as one required to manage and deploy industrial capital investment made for commercial ends while seeking to realize his own artistic program. Stiegler cites Hitchcock's comments at the outset of *Technics and Time 3* as an epigraph to his analysis of cinema as the preeminent "industrial temporal object" of the twentieth century.

[26] In his "Year One Report" at *Mapping the Collective* Tom Rawlings, co-founder of the Bristol Games Hub, reflected on the challenge of maintaining the "grey area" between the commitments and investment of the kind found in the passionate amateur, enthusiast and hobbyist and the commercially viable, industrial businesses in the peer-based and independently run Hub space.

[27] Husserlian notion developed by Stiegler especially in Technics and Time 2.

[28] Stiegler takes this notion of the cultural program from Leroi-Gourhan's account of the development of the ethnocultural program as the means of human evolution in and through the differentiation of forms and modes of the technical exteriorization of functions. See Technics and Time 1, ch 1, and LG, Gesture and Speech…

[29] On the idiosyncratic, see Technics and Time 1's discussion of the Greek myth of the creation of human beings by Epimetheus, the twin brother of Prometheus, forgetful god, the idiot, whose failure to provide the human creature with its own essential qualities meant that it was brought into existence in default of an essence, thus dooming him to pursue a prosthetically supplemented existence (gifted initially by Prometheus in reparation for the default that is not human's fault, or error, or original sin). Human being is the mortal being whose being or essence is always in

question, a question which must be contested, answered and reposed in technical terms, something which is both "tragic" and the necessary condition for attaining the heights and potentialities of human being, possessor of the divine power of fire (technics).

[30] See *The Lost Spirit of Capitalism.*