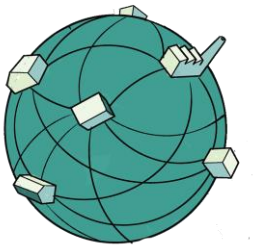

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Is 'Deschooling Society' Possible? Notes from the Field

Vasilis Kostakis

Ragnar Nurkse Department of Innovation and Governance
Tallinn University of Technology (TalTech)
Akadeemia tee 3, 12618, Tallinn, Estonia.

Berkman Klein Center for Internet & Society
Harvard University
23 Everett Street, Cambridge, MA 02138, USA.

Corresponding author: Alekos Pantazis,
Ragnar Nurkse Department of Innovation and Governance,
Tallinn University of Technology (TalTech),
Akadeemia tee 3, 12618 Tallinn, Estonia,
E-mail: alexandros.pantazis@taltech.ee

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Introduction

In 1971, Ivan Illich called for shifting away from the traditional concept of schooling. To replace traditional schooling, he proposed creating a large-scale, non-institutional educational infrastructure. This infrastructure would be empowered by the information and communication technologies (the first microprocessor was invented the same year in Silicon Valley). The educational infrastructure he proposed, the 'learning' (Illich 1971: 72) or 'educational web' (77), would consist of four interlocking educational networks to enable learners to achieve their own goals.

The first educational network would develop around a directory of educational resources, freely available to learners (Illich 1971). For example, the directory would allow learners and educators to reserve libraries, laboratories, museums or theatres as well as to visit factories, airports or farms as apprentices or in off-hours. The second network would develop around an open directory of people who would list 'their skills, the conditions under which they are willing to serve as facilitators for others who want to learn these skills, and the address at which they can be reached' (Illich 1971: 79). The third network would develop around a platform in which people would describe the learning activities they are interested in, with the aim to find other learners who may wish to collaborate. The fourth network would build on a directory of professional educators, who would detail their qualifications, services and the terms on which these are made available (Illich 1971).

After five decades, one may say that Illich's vision is embodied in initiatives such as the Khan Academy or the P2P University and even share Hart's view that 'Illich predicted the World Wide Web' (Hart 2001: 72; Jandrić 2014). However, the idea of deschooling proved to be wishful thinking (Cuban and Jandrić 2014). Schools are still around and education remains considerably

institutionalized. But this 'large scale educational infrastructure', the Internet and the Web, has catalyzed the emergence of postdigital phenomena, which may 'influence power and offer individuals and communal settings the potential for alternative vernacular practices to emerge in culture' (Atasay 2013: 58).

With this article we wish to tell a story of an emerging phenomenon that may offer insights towards realizing some of the goals and values underpinning Illich's vision of deschooling society. Our aim is to cast a radical educator's eye over 'cosmolocal production' or 'cosmolocalism' (Schismenos et al. 2020). Cosmolocalism emerges from technology initiatives that are small-scale and oriented towards addressing local problems, but simultaneously engage with globally asynchronous collaborative production through the commons. Next section introduces the concept and praxis of cosmolocalism. Then, we describe two educational scenarios we have designed and implemented. The goal is to demonstrate how educators, practitioners and scholars could use elements and lessons from cosmolocalsim to facilitate a shift from 'deschooling virtuality' (Jandrić 2014) to deschooling society. We conclude with challenges and opportunities for future research and action.

The Emergence of Cosmolocalism

The most important means of information production – i.e. computation, communications, electronic storage and sensors – have been distributed in the population of most advanced economies as well as in parts of the emerging ones (Benkler 2006). Information flow has thus been increasing exponentially, and knowledge infrastructures have become an elemental component of today's societies. However, due to the privatization surge, a wide array of enclosures has been taking place, threatening to convert knowledge and learning from a resource and a process available for all to an advantage of the few (Korsgaard 2019; Wittel 2018). At the same time, people with access to networked computers self-organize, collaborate, and produce shared resources and their governance systems, i.e., a commons (Bauwens et al. 2019; Bauwens and Jandrić 2021).

The commons can be defined as the social practices of creating and/or governing a resource through the institutions that a community of producers or users creates and manages (Ostrom 1990; Bollier and Helfrich 2019). So, the commons is a triad consisting of a community, a resource, and the management rules that the community forms to co-create and/or co-manage this resource (Bollier and Helfrich 2019). They manifest in various formats, from the co-management of natural resources (e.g., fisheries, pastures) to the co-creation and co-management of digitally shared content. Initiatives such as the free encyclopedia Wikipedia, which has displaced the corporate-organized Encyclopedia Britannica and Microsoft Encarta, and the Apache HTTP Server, the leading software in the web-server market, have exemplified digital commons (Benkler 2006; Kostakis 2018; Kostakis and Drechsler 2018). The first wave of digital commons mainly included virtual projects and communities. The second wave has been moving towards manufacturing (Kostakis et al. 2018; Giotitsas 2019) creating entanglements between analogue and digital technologies, natural and digital commons, physical and digital spaces, activities, and time.

Cosmolocalism describes such entanglements and new 'human relationships to technology that we experience individually and collectively' (Jandrić et al. 2018: 896). Knowledge (e.g., design, software) is developed and improved as a global digital commons, while the manufacturing takes place locally, often through shared infrastructures and with local biophysical conditions in check

(Kostakis et al. 2018). The physical manufacturing arrangement for cosmolocalism (or cosmolocal production) includes makerspaces, which are small-scale community manufacturing facilities providing access to local manufacturing technologies; from 3D printers and laser cutters to traditional tools and crafts. Makerspaces could be seen as place-based spaces for networked learning (Carvalho et al. 2016; Niaros et al. 2017) closing the circle of learning webs with 'making webs'.

We shall give examples from our research group's ongoing transdisciplinary action research. To begin with, see the open-source agriculture movement. Small-scale farmers rarely find appropriate machinery to support their work. So, several individuals and communities of small-scale farmers from all around the world design and manufacture their agricultural tools (Giotitsas 2019). They share their designs as a digital commons. The open-source agricultural tools can be locally adapted and manufactured by the farmers in physical spaces (makerspaces). Cosmolocal initiatives, such as L'Atelier Paysan from France, Farm Hack from the US, Tzoumakers from Greece and Nyamdrel Zo'Sa from Bhutan, have connected and created synergies by improving the same digital commons (Pazaitis et al. 2020; Pantazis and Meyer 2020).

Another cosmolocal initiative is the Wind Empowerment network of engineers and practitioners, which produces small-scale wind-turbines that can be manufactured locally (Pazaitis et al. 2020). For example, People of Mityal, a rural community in Southwest Nepal, needed to electrify their local health clinic. They connected with the Wind Empowerment network to help them build a small-scale, off-the-grid wind turbine. Together they built a low-cost wind turbine based on digital commons of software and designs, and using local manufacturing technologies. A workshop took place so that the Mityal people could maintain the infrastructure themselves. There is a rich and growing ecosystem of cosmolocal initiatives that span a wide array of sectors. From robotic and bionic devices, through nano-satellites, to 3D printers and houses (Kostakis et al. 2018; Priavolou and Niaros 2019).

But how convivial and sustainable such a type of production could be? Kostakis et al. (2018) have observed at least three interlocked practices of cosmolocal production that exhibit positive dynamics for conviviality. First, the incentives for design-embedded sustainability: cosmolocal communities design useful products first and foremost to be used by themselves. So, at least in principle, there are no incentives for planned obsolescence. Second, the possibilities of on-demand production: materials tend to travel less as manufacturing is ad-hoc and localized. Third, the practices of sharing digital and physical productive infrastructures: cosmolocal communities not only share code and designs, but also machinery in spaces such as makerspaces. So, cosmolocalism demonstrates how a technology project can leverage globally shared knowledge to engage digital and physical communities in its development and local adaptation, potentially considering cultural and biophysical conditions.

From 'Deschooling Virtuality' To Deschooling Society?

Jandrić (2014) addresses how Illich's vision of deschooling could be embodied on the Internet in the form of 'deschooling virtuality'. He discusses Wikipedia as a flagship case towards deschooling virtuality, and admits that it is a long way from deschooling virtuality to deschooling society. Such a shift would require profound social changes and, to begin with, altering the structure of employment and labor (Jandrić 2014).

According to Illich (1971: xix), the 'search for new educational funnels must be reversed into the search for their institutional inverse: educational webs'. Funnels limit people to a minimal

set of educational processes, relations and outcomes. Cosmolocalism may help educators' and learners' search for new educational webs, which could act as prisms and generate a rainbow of possible choices. Unlike large-scale industrial manufacturing, cosmolocal production is small-scale, decentralized, and locally controlled with the potential to empower conviviality in the physical world (Priavolou 2021).

To explore how to facilitate a shift from virtual deschooling through deschooling virtuality to deschooling society (Jandrić 2014), we developed two educational scenarios. The first one is called the '3Ducation project'. It includes a series of experiential learning workshops that build on a blend of open-source technologies, cosmolocal practices, and the Kolb learning cycle (Kostakis et al. 2015; Pantazis and Priavolou 2017). Students are engaged in co-designing and manufacturing 3D-printed models of natural and cultural heritage elements as well as other artifacts (e.g., Rubik's cube). The artifacts, which carry messages in Braille, are then provided to people with visual impairments, with a twofold aim: to enable communication among persons with and without visual impairments, and to empower students to participate in learning scenarios that integrate open-source technologies and cosmolocalism elements. So far, we have realized that the 3Ducation project electrifies various literacies and creative capacities of the students in accordance with the spirit of cosmolocalism (though the concept has never been explicitly stated in the workshops yet) (Kostakis et al. 2015; Pantazis and Priavolou 2017).

During the 3Ducation workshops, students use commons-based technologies (open-source software and hardware) and even commons-based licenses to share their creations. The latter create positive feedback loops because students, from different places, can asynchronously collaborate by improving the same design/artifact. However, the educational scenario has been designed in a top-down fashion. We alone, the teachers and facilitators, have designed the learning process. Students have not been involved. Therefore, our current goal is to integrate more commoning in the next iterations of the workshops in line with the idea of the 'educational commons'.

According to Pechtelidis and Kioupkiolis,

> The commons in education could animate attempts to transform the substance of our relationship to teaching, learning, research, and institutions of education in accord with the spirit of the commons. Education would be transfigured, then, into a collective good, which is created, governed, and enjoyed in common by all parties of the educational community. (2020: 4)

Education could therefore be organized 'as an institution of the commons' such that the management of knowledge and education would be a collective process and educational communities would organize and coordinate among themselves on a basis of the 'democratic participation process' (Pechtelidis and Kioupkiolis 2020: 4).

After the 3Ducation project, we designed and implemented another educational scenario inspired by the 'musical chairs' game (Pantazis 2020). The aim was to communicate the idea of the commons to diverse audiences. We wanted to experiment with ways of introducing the commons to non-experts in the next iterations of the 3Ducation project. The 'musical chairs' would serve as an introductory or preparatory learning process in future workshops, which would integrate cosmolocal principles and thus incorporate more the commoning element in their design and implementation.

The 'musical chairs' workshop consists of four parts. In the first part, participants are asked to play the classic musical chairs game in which they walk or dance around chairs (in each round

there is one chair fewer than participants), and when the music stops, the participant who fails to find a place to sit is expelled from the game. This game repeats in rounds until there is one winner. In each round, the participants are asked to think of the chairs as a resource and reflect on their experience; for example, to discuss the feelings of the excluded participants, or the characteristics that competition gives in the group dynamics.

During the second part, the rules are 'hacked' to resemble the principles of the commons, i.e., participants now walk or dance around the chairs, and when the music stops, everybody has to find a way to be seated; nobody is expelled (even though, again, in each round one chair is removed). In this version, the community has to cooperate and find ways to share the resource; i.e., the chairs. This game also repeats in rounds and ends when the facilitator estimates that further reducing the number of chairs will not add to the learning process. In each round participants are asked to reflect on their experience; for example, to discuss the feelings of inclusion or the innovative practices that the community devises to share the scarce resource and offer a way to be seated for all its members.

For adolescents and adults, there is a third part in which the principles of the commons are explained in a basic form. These principles must be used in the fourth and final part of the workshop, where participants are asked to create commons-based resource management rules for a number of contemporary problems and think collaboratively in order to solve them. This workshop was mainly based on the knowledge and observations arising from the community of participants. It was envisioned as an experiential transfer of comprehension around the commons with the goal of enabling participants to further build on its themes.

Such scenarios may create temporary prefigurative environments to experiment, discuss and build post-digital deschooling. We believe that cosmolocalism provides a socio-technical framework for structuring and guiding similar educational scenarios under an umbrella of widely diverse and socially inclusive values.

Conclusion

This article set out to discuss cosmolocalism as a contemporary potential to realize Illich's 1971 vision of deschooling society. The implications of cosmolocalism, or cosmolocal production, for postdigital education studies are arguably non-negligible. Cosmolocal initiatives create entanglements between analog and digital technologies; between natural and digital commons; between physical and digital spaces and activities; and between synchronous and asynchronous collaboration.

However, the pertinent question that Jandrić (2014: 95) poses still needs to be addressed: 'Is it possible to build convivial human existence using non-convivial tools?'. Cosmolocal production is based on information and communication technologies as well as on local manufacturing technologies. The problems of these technologies pertain to resource extraction, exploitative labor, energy use, and material flows. Moreover, more research is needed to understand the real degree to which the users of a cosmolocal product feel in control of the knowledge necessary for its creation, use, and maintenance.

Nevertheless, the commons, as a fundamental aspect of cosmolocalism, introduce opportunities to transform each moment of our living into one of learning, sharing, and caring. We believe that cosmolocalism may prove a valuable framework for inter- and trans-disciplinary research, from critical pedagogy to media and future studies, to envision and construct pathways to revolutionize knowledge transference in society.

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