The postdigital challenge of critical educational research

Cheryl E. Matias

Publication details
Petar Jandri
Published online on: 13 May 2021

How to cite: - Petar Jandri. 13 May 2021, The postdigital challenge of critical educational research from: The Handbook of Critical Theoretical Research Methods in Education Routledge
Accessed on: 08 Jun 2023

PLEASE SCROLL DOWN FOR DOCUMENT

Full terms and conditions of use: https://www.routledgehandbooks.com/legal-notices/terms

This Document PDF may be used for research, teaching and private study purposes. Any substantial or systematic reproductions, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The publisher shall not be liable for an loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.
Introduction

In the late 20th century we started using computers for various educational purposes: teaching, student assessment, administrative work, COVID-19 instruction, and educational research. Until recently, these practices have been restricted by three main factors: computer memory (which determines how much data we can store), processors (which determine how many calculations we can do in a unit of time), and speed of network (which determines how much data we can transfer from one computer to another). Slowly but surely, recent advances in computing have removed many of these restrictions: memory is practically limitless, while processors and the Internet have become fast enough for processing and transferring large datasets. The ability for (near) real-time processing large amounts of data has brought about the so-called big data turn in educational politics, policy, research, and practice, and ‘magical’ results produced by the rapidly growing field of learning analytics have managed to convince many educators to place increasing faith in data. While these new methods do produce some fascinating results (see, for instance, Anderson, 2008), the underlying philosophy in this data-driven approach is good old-fashioned positivism. However, increased size of datasets and processing power cannot overcome in-built epistemic problems associated with positivism identified by earlier generations of researchers (Carr & Kemmis, 1986) – on the contrary, they seem to exacerbate these problems even further (Fuchs, 2017, pp. 42–43).

To make things more complicated, a lot of big data analytics now uses various forms of Artificial Intelligence tools; under the hood, these tools operate in conceptually very different ways than their predecessors such as Learning Management Systems. In a nutshell, older tools such as Learning Management Systems execute long lines of commands written by human programmers; more commands in program code translate into more options for the user. As opposed to these tools, Artificial Intelligence systems have very different architectures. Human programmers program an initial set of rules, and then ‘teach’ the system by inputting large amounts of data. During

2 The postdigital challenge of critical educational research*

Petar Jandrić
the ‘learning’ process, the system independently links data based on the initial set of rules. Finally, when we ‘ask’ a question, the system uses its own artificial ‘brain’ and provides an answer. The key difference between these two generations of computer systems is that older tools such as Learning Management Systems are predictable, while the new Artificial Intelligence systems are non-predictable – even their makers cannot predict what they will ‘conclude’. This conceptual change between the two generations of computer systems is the essence of the shift towards the so-called age of algorithmic cultures “in which automated computer operations process data in such a way as to significantly shape the contemporary categorizing and privileging of knowledge, places, and people” (Knox, 2015, p. 5). While this non-predictability obviously brings philosophy behind Artificial Intelligence systems beyond positivism, educational politics, policy, research, and practice still tend to interpret results provided by these computer systems in essentially Galilean ways.

The computer is “a medium of the most general nature” (Carr, 2011), and this description of recent advances in education can easily be generalised to many traditional disciplines. Consequently, we are witnessing profound changes in all areas of human activity – from factory production and organisation of shops and warehouses, through digital medicine to digital humanities. According to George Ritzer and Steven Miles (2019), processes involving digital technologies such as “bureaucratization, McDonaldization, even ‘Amazonization’ should be seen as variants of, or stages in, a more general process of rationalization” (p. 15). Similarly, in his recent book, Andrew Feenberg (2017) speaks about socio-technological development as a continuous conflict between multiple rationalities. Rationalities are not cast in stone; they are co-constituted by ways in which we see ourselves and the world around us. In fact, of recent, the global pandemic of COVID-19 forced society to reengage with technology in new ways. Video conferencing platforms, like Zoom, have placed human communications directly in the hands of technology. Therefore, it has become mainstream knowledge that digital technologies do not merely optimise existing work processes. At least since Donna Haraway (1991/1985), we know that (digital) technologies profoundly interact with the contemporary human condition; this impact reaches all the way to the question what it means to be human.

These days, philosophers such as Luciano Floridi (2015) suggest that

ICTs [information and communication technologies] are not mere tools but rather environmental forces that are increasingly affecting: 1. our self-conception (who we are); 2. our mutual interactions (how we socialise); 3. our conception of reality (our metaphysics); and 4. our interactions with reality (our agency).

(p. 2)

In our recent article, Michael Peters and I (2019) show that these questions are a part of a larger bio–informational challenge. It is at the intersections
between the post-positivist nature of Artificial Intelligence systems, the bioinformational challenge, and political economy of knowledge creation and dissemination, that this chapter outlines some pressing challenges of critical educational research and presents some postdigital responses to these challenges.

These challenges are particularly important today, when the COVID-19 pandemic has significantly disturbed yesterday’s teaching and learning ‘old normal’ and has sent most of the world’s universities into an ‘emergency remote teaching’ mode (Hodges, Moore, Lockee, Trust, & Bond, 2020). Early testimonies of teachers and students are a display of people’s resilience and creativity in the face of the disaster (Jandrić, 2020a; Jandrić & Hayes, 2020), yet more importantly, they also point towards multiple issues such as tensions between short-term responses and long-term visions (Zhu & Liu, 2020), social justice (Sapon-Shevin & SooHoo, 2020), equality (Czerniewicz et al., 2020), race (Chang, 2020), gender (Hurley, 2020; Khan, Ratele, & Arendse, 2020), nationalism (Yan, 2020), religion (McLaren, 2020), techno-edu-policy (Kerres, 2020), software (Teras, Suoranta, Teras, & Curcher, 2020), democracy (Carr, 2020), and many others.

Written before the COVID-19 pandemic, this chapter does not address educational issues in the age of COVID-19. However, as I wrote in my emergency COVID-19 editorial for *Postdigital Science and Education* in March 2020, we, educational researchers, have a practical and moral duty to “look into the strengths of our disciplinary knowledges and research methods to try and create opportunities to contribute to humanity’s collective struggle against the Covid-19 pandemic and point towards more sustainable futures” (Jandrić, 2020a, p. 237). Analysing 56 papers written by more than 200 authors from all five continents written in response to that emergency editorial, the other day I concluded: “Born within a postdigital world, the Covid-19 pandemic requires postdigital research approaches” (Jandrić, 2020b, p. 532). Following this thought, this chapter on the postdigital challenge of critical educational research is now perhaps even more relevant than in pre-pandemic times of its writing.

**Epistemological and methodological foundations**

While common practice in critical theory to move directly into the critique, this chapter’s theme deserves a bit of auto-reflection about epistemology and methodology used in this research. All critical theories, including the one employed in this chapter, share the same general background in the Frankfurt School of Social Science. Focusing to philosophy of technology, I am especially indebted to Horkheimer and Adorno’s identification of links between disciplinarity and the Enlightenment presented in their masterpiece *Dialectic of Enlightenment: Philosophical Fragments* (Horkheimer & Adorno, 2002). The next important milestone is Herbert Marcuse’s (1964) identification of technology with ideology.

While some thinkers, such as Marcuse, did develop nuanced understandings of relationships between human beings and technologies, mid-20th-century
critical theory has generally struggled with various forms of technological determinism. One of the most eloquent expressions of these struggles are eloquently summed up in Martin Heidegger’s ‘Only a God Can Save Us’ interview:

The fields of sciences lie far apart. The manner of handling their objects is essentially different. . . . At the same time, the rooting of the sciences in their essential ground has become dead.

(Heidegger, 1981)

In the next generation of critical philosophers of technology, Bernard Stiegler and Andrew Feenberg are amongst the biggest influences. Stiegler’s development of technoscience, summarised in the following quotations, lies in the very basis of postdigital theory.

Science is then no longer that in which industry invests, but what is financed by industry to open new possibilities of investments and profits. Because to invest is to anticipate; in such a situation, reality belongs already to the past. . . . This science become technoscience is less what describes reality than what it destabilizes radically. Technical science no longer says what is the case (the ‘law’ of life): it creates a new reality.

(2007, p. 32)

Feenberg, who studied philosophy under Herbert Marcuse, has developed critical theory of technologies which rejects all forms of determinism, provides a nuanced approach to human relationships with technologies, and builds into the basis of the critical posthumanist approach to education (Feenberg, 2002, 2017; see also Jandrić, 2017, p. 206). Building on Stiegler and Feenberg, amongst others, I finally arrive to a wide diversity of perspectives and approaches characterising contemporary critical philosophy of technology (see Jandrić, 2016; Jandrić et al., 2018).

The elephant in the room: the postdigital challenge

Contemporary education cannot be thought of in separation from digital technologies – buzzwords such as e-learning, digital education, technology enhanced learning (TEL), networked learning (NL), Zoom, and others, dominate discourse of educational research, politics, policy, and practice (Hayes & Jandrić, 2014; Hayes, 2019). Some of these buzzwords, such as TEL and NL, can be associated to distinct research traditions with different philosophical underpinnings and varying attitudes towards digital technologies typically described as technological determinism, uses determinism, social determinism (Dahlberg, 2004). While these attitudes arrive in all shapes and combinations, technological determinism is by and large the most popular of the three (Jandrić & Hayes, 2018). The research ideology of empiricism, ranging
from objectivism to subjectivism, has more structural power than critical methodologies, and this results in various conflicts between the traditions. For an empiricist, it is not too difficult to dismiss critical theoretical methods because of incompatibility with the bases of their claims and interests. For those of us working with critical theoretical methods, however, it is more difficult to completely dismiss empiricism because that would imply denouncing the crucial aspect of critical theory – a productive relationship between theory and practice often described as educational praxis (Jandrić & Boras, 2015).

Many have recently become increasingly aware of the essential unity of problems resulting from the previously mentioned (and other) approaches to educational research. Education cannot be thought of in isolation from the human condition, and a large part of contemporary human condition arrives into being through human relationships with technologies. Exploring this relationship, we soon found an inspiring article by Nicholas Negroponte (1998), who boldly claims:

> Face it – the digital revolution is over. . . . Its literal form, the technology, is already beginning to be taken for granted, and its connotation will become tomorrow’s commercial and cultural compost for new ideas. Like air and drinking water, being digital will be noticed only by its absence, not its presence.

From here, we, critical postdigital scholars, started developing a theory which accepts the shift from 20th-century primacy of physics to 21st-century primacy of biology; we examined the conceptual shift from continuous analogue technologies (such as gramophone) to discrete digital technologies (such as CD). We looked into the contemporary human condition drawing from various posthumanist traditions from Donna Haraway until today, and we examined the contemporary educational reality

> where the social and the material worlds come together – where the human teacher’s agency comes up against the workings of data to conduct another, and different, kind of teaching which is neither human not machinic but some kind of gathering of the two.

(Bayne in Jandrić, 2017, p. 206)

Looking at existing terminology, we also decided that existing approaches project heavy (philosophical) biases. We decided to start anew, and sought inspiration in the field of the arts. In early 2000s literature about various artistic topics such as music (Cascone, 2000) and fine arts (Pepperel & Punt, 2000) we found complementary ideas under the name of postdigital. We decided to adopt the concept, published a ‘mission statement’ article about our ideas (Jandrić et al., 2018), founded the journal *Postdigital Science and Education*, invited a wider group of like-minded researchers, and initiated broader enquiry
into these ideas. Developing a new concept in a heavily cluttered research space has already provoked some resistance (e.g. Levinson, 2019); on the bright side, it signals our refusal to engage in academic turf wars and provides an opportunity to build a common denominator that has the potential to build bridges and connections between theories and methodologies.

So what, then, is the postdigital? In an early attempt to describe the postdigital, we wrote:

The postdigital is hard to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational. The postdigital is both a rupture in our existing theories and their continuation. . . . [T]he contemporary use of the term ‘postdigital’ does describe human relationships to technologies that we experience, individually and collectively, in the moment here and now. It shows our raising awareness of blurred and messy relationships between physics and biology, old and new media, humanism and posthumanism, knowledge capitalism and bioinformational capitalism.

(Jandrić et al., 2018, p. 895)

Since we wrote these words, the concept of the postdigital has been criticised on various bases. Paul Levinson writes: “I do not disagree that we are in a postdigital age. I disagree that we are first entering it now” (Levinson, 2019, p. 14). Andrew Feenberg similarly claims: “In reality, these terms ‘digital’ and ‘postdigital’ seem artificial. If the terms have something like the content I am ascribing them, then the postdigital preceded the digital and should be called the predigital instead” (Feenberg, 2019, p. 9). Yet other authors, such as Sinclair and Hayes, see things a bit more optimistically: “The postdigital throws up new challenges and possibilities across all aspects of social life. We believe this opens up new avenues too, for considering ways that discourse (language-in-use) shapes how we experience the postdigital” (Sinclair & Hayes, 2019, p. 119). At the moment, postdigital research methodologies are the elephant in the room. While most people will agree that “All teaching should take account of digital and non-digital, material and social”, it is much more difficult to critique one’s own philosophical positions and accept that “ideas like ‘digital education’ are useful insofar as they encourage people to look closer at what is happening, but become problematic when used to close down ideas or attribute instrumental or essential properties to technology” (Fawns, 2019, p. 132). While the postdigital human condition provides fertile ground for almost endless debates, we also need to move on and ask: What about postdigital research methods?

The hedgehog and the fox: the epistemic challenge in empiricism

I think that we need to get out of the prioritizing of the hedgehog model of digging the same hole and owning it, without completely denying the model or its value.
The hedgehog approach has enormous value, but I think that we need a little bit more of the interstitial connecting tissue approach, the fox approach, where you find a way to jump from one thing to another and connect them to things that happen in the world.

(Wark in Jandrić, 2017, p. 123)

The postdigital is an uncanny mashup of technological and non-technological, biological and informational. While this is not at all a new enterprise – in 1948, Norbert Wiener defined the new field of cybernetics as “control and communication in the animal and the machine” (Wiener, 1948/1985, n.p.) – such rejection of clear borders between radically different traditional disciplines empties a lot of epistemic space which needs to be built from scratch. In their recent article, Michael Peters and Tina Besley (2019) offer some guidance in that direction:

A critical philosophy of the postdigital must be able to understand the processes of quantum computing, complexity science, and deep learning as they constitute the emerging techno-science global system and its place within a capitalist system that itself is transformed by these developments.

(p. 40)

Following Peters and Besley, I will now explore the inner workings of Artificial Intelligence and machine learning systems as they relate to traditional research methods.

According to Ng (2018), machine learning is “the science of getting computers to act without being explicitly programmed” (n.p.). Functioning of AI systems thus depends on two main factors – (1) predetermined rules of behaviour or algorithms, and (2) large input datasets or big data. However, both factors are heavily contested. In big datasets, shows Tim Harford (2018), “Found data contain systematic biases and it takes careful thought to spot and correct for those biases. ‘N = All’ is often a seductive illusion” (p. 18). Similarly, dannah boyd and Kate Crawford (2012) of Microsoft Research see big data “as a cultural, technological, and scholarly phenomenon that rests on the interplay of technology, analysis, and mythology” (p. 663). Moving towards algorithms, it may seem easier to design non-biased and non-discriminative rules of behaviour than to collect non-biased and non-discriminative data. Yet, algorithms do not work in isolation, and it is almost impossible to predict biases that might (and often do) arise from various automatic interactions among them. In result,

AI systems do not only embed, replicate or reinforce attitudes or prejudices found in data – more importantly, they also recombine them and produce new biases. Creators and researchers of AI cannot directly predict or interfere with these processes; they can only change input variables such as
architecture of neural network or input dataset and hope that their results will improve. However, this is easier said than done, and non-predictability remains an important in-built feature of AI.

(Jandrić, 2019, p. 32)

Even if we somehow managed to get rid of various AI biases, an increasing number of researchers have started to realise that “Big Data reframes key questions about the constitution of knowledge, the processes of research, how we should engage with information, and the nature and the categorization of reality” (boyd & Crawford, 2012, p. 665). In short, development of new research methodologies has started to make significant impact to our epistemologies. According to Rob Kitchin (2014), “Big Data analytics enables an entirely new epistemological approach for making sense of the world; rather than testing a theory by analysing relevant data, new data analytics seek to gain insights ‘born from the data’” (p. 2). This turn, continues Kitchin, results in two types of response. The first, empiricist response, makes a simple yet powerful claim that “new data analytics and ensemble approaches signal a new era of knowledge production characterized by ‘the end of theory’” (Kitchin, 2014, p. 3; see also Anderson, 2008). The empiricist response is seductive, because it offers “the possibility of insightful, objective and profitable knowledge without science or scientists, and their associated overheads of cost, contingencies, and search for explanation and truth” (Kitchin, 2014, p. 5). In this way, “the articulation of a new empiricism operates as a discursive rhetorical device designed to simplify a more complex epistemological approach and to convince vendors of the utility and value of Big Data analytics” (Kitchin, 2014, p. 5). The new empiricism fits as glove to buzzwords such as ‘knowledge economy’ and ‘knowledge society’ which mark a new era of digital capitalism where “higher education becomes a crucial sector of the information industry where various kinds of performative power intersect directly with new communication and information technologies” (Peters & Jandrić, 2018, p. 47).

The other approach is data-driven science, which “seeks to hold to the tenets of the scientific method, but is more open to using a hybrid combination of abductive, inductive and deductive approaches to advance the understanding of a phenomenon” (Kitchin, 2014, p. 5). Theoretically, data-driven science can be done offline – for instance, by connecting a computer to an experimental device. In practice, especially speaking of humanities and social sciences, data-driven science soon collapses into a somewhat narrower (but often used) concept of Web Science. Shadbolt, Hall, Hendler, and Dutton (2013) provide some compelling arguments for Web Science:

During the past 20 years, humans have built the largest information fabric in history. The World Wide Web has been transformational. . . . Although most people are not formally trained in its use, yet it has assumed a central role in their lives. Over the past few years, there has been a growing recognition that the ecosystem that is the Web needs to be treated as an
important and coherent area of study – this is Web science. It is ‘science’ in the original and broad sense of the term – science as the quest to build an organized body of knowledge. As such, it will need to embrace engineering – the Web is an engineered construct, a set of protocols and formalisms. It will need to embrace the human and social sciences – the Web is a social phenomenon whose vast scale has produced emergent properties and transformative behaviours.

(n.p.)

Epistemically, data-driven science and its subsets such as Web Science and educational Web Science have reached beyond discussing relative advantages and disadvantages of various multi-, inter-, and trans-disciplinary methods (Jandrić et al., 2018; Peters & Jandrić, 2018) and have gone straightforward to new postdisciplinary approaches. However, as McKenzie Wark (in Jandrić, 2017, p. 123) beautifully formulates in the leading quotation for this section, the new postdisciplinary recognises that there is a lot of value in traditional disciplinarity (the hedgehog model) and points towards the need for creating new connections between traditional disciplines (the fox model).

This is a typical postdigital situation, which represents “both a rupture in our existing theories and their continuation” (Jandrić et al., 2018, p. 895), and which does not offer one-size-fits-all solutions. Depending on nature of research problems, we need to draw from a wide range of epistemologies and develop appropriate critical theoretical research method (Jandrić, 2016). Postdigital research methods are still not developed enough to be confidentially called ‘methodologies’ – they still lack a distinct body of theory, and a distinct set of practices, that they could ‘own’. Yet these days, an increasing number of researchers develop their own postdigital methods to problems of their interest. For instance, looking at digital/social media, Christian Fuchs (2017) advocates “a paradigm shift from administrative, positivist big data analytics towards critical digital/social media research that combines critical social media theory, critical digital methods and critical-realist social media research ethics” (p. 47).

In another example, Ben Williamson (2019) analyses relationships between neurotechnology developments and education (or brain data) and advocates “the need for novel forms of analysis drawing on postdigital, biosocial, socio-technical and posthumanist theory” (p. 83).

While these two examples have very little in common, they indicate a wide diversity of postdisciplinary research methods and a very important common thread that connects them: a recognition that data and research methodologies always arise from specific contexts. However, that recognition does not imply a laissez faire attitude towards knowledge. According to Eduardo Beira and Andrew Feenberg (2018), science is always a human activity, and therefore impure,

but relativism is essentially irrelevant, not much different from the claim that Bach’s music is relative to his time. The point is obvious and gives
rise to interesting research, but it is ultimately trivial: the music remains, irreducible to the circumstances of its creation.

(p. 13)

Therefore, continues Feenberg, “scientific truths have a similar status as products of supreme crafts that transcend the ordinary events from which they arise” (Beira & Feenberg, 2018, p. 26). Situated between a recognition that human research is never neutral, and a firm rejection of relativism, postdisciplinary research needs to take into account its own protagonists and ask: Who conducts postdigital research and how?

The fox and the stork: the collective challenge

For dinner the Fox served soup. But it was set out in a very shallow dish, and all the Stork could do was to wet the very tip of his bill. Not a drop of soup could he get. But the Fox lapped it up easily, and, to increase the disappointment of the Stork, made a great show of enjoyment.

The Stork served a fish dinner that had a very appetizing smell. But it was served in a tall jar with a very narrow neck. The Stork could easily get at the food with his long bill, but all the Fox could do was to lick the outside of the jar, and sniff at the delicious odor. And when the Fox lost his temper, the Stork said calmly: Do not play tricks on your neighbors unless you can stand the same treatment yourself. (Aesop, 1st century)

The current state of educational research strongly resembles this ancient Aesop’s fable. If we want to enquire issues such as inequality, we still need to base our research on some hard data. If we subscribe to one or another form of learning analytics, we need to understand that our data and algorithms are never neutral. While it is fairly easy to subscribe to the postdigital idea of unity between the biological and the informational challenge, and while it is almost intuitive to accept its corollary in the form of postdisciplinarity, this theory is very far from practice. Trying to engage in critical methodologies, empirical researchers often resemble the poor stork who tries to eat from a shallow plate; trying to engage in big data analyses, critical methodologies look like angry foxes who can only smell and lick the outside of the tall jar of data with a very narrow neck. And this story is not just about storks, foxes, and human researchers – critical posthumanist theories make convincing arguments that tall jars, shallow plates, and other technologies behind our research also have their own agency (Knox, 2016; Jones, 2018; Malone & Bernstein, 2015).

Feenberg’s rejection of relativism (Beira & Feenberg, 2018, p. 26) implies that research produced by storks using tall jars with very narrow necks, and research results produced by foxes using wide shallow plates, should meet on a higher conceptual plane which is irreducible to circumstances of their production. These days, foxes and storks of the world need to learn how to work together;
in the process, they need to develop new research tools, or postdigital research methods, which are neither shallow plates nor tall jars with narrow necks. In this way, postdigital epistemologies bring about the collective challenge of educational research. In his review of claims for creativity in the economy and in education Michael Peters (2009) distinguishes two main approaches. The first approach, ‘the personal anarcho-aesthetics principle’,

emerges in the psychological literature from sources in the Romantic Movement emphasizing the creative genius and the way in which creativity emerges from deep subconscious processes, involves the imagination, is anchored in the passions, cannot be directed and is beyond the rational control of the individual. This account has a close fit to business as a form of ‘brainstorming’, ‘mind-mapping’ or ‘strategic planning’, and is closely associated with the figure of the risk-taking entrepreneur. By contrast, ‘the design principle’ is both relational and social and surfaces in related ideas of ‘social capital’, ‘situated learning’, and ‘P2P’ (peer-to-peer) accounts of commons-based peer production. It is seen to be a product of social and networked environments – rich semiotic and intelligent environments in which everything speaks.

( p. 40)

At first glance, ‘the design principle’ provides a much better fit to the collective challenge of postdigital research. Building on Peters’ work, however, Peters and Jandrić (2018) show that ‘the personal anarcho-aesthetics principle’ and ‘the design principle’ are mutually co-constituting typologies which always co-exist in our reality – creative collective research requires both creative individuals and creative collaborations. However, while “we are not dealing with an either–or notion of human capital vs. collective labour”, these metaphors are nevertheless very useful because they “provide insight into the human position within (digital) capitalism at large” (p. 346). ‘The personal anarcho-aesthetics principle’ provides a good fit with the new empiricism and with ideologies and principles of digital capitalism, while ‘the design principle’ sides with critical Web Science and offers opportunity for political, social, and technological development of radically different futures (Peters & Jandrić, 2018, p. 346). In words of Richard Barbrook, ‘the design principle’ has the potential to turn “dotcom capitalism in the service of cybernetic communism” (in Jandrić, 2017, p. 89).

We are again dealing with a postdigital rupture-and-continuation situation which can be explored alongside numerous axes: empiricism vs. critical theoretical methods, capitalism vs. communism, individual vs. collective, and many others. These concepts can achieve many hybrid states (such as Chinese communism) and can mean many different things, so each of the axes can branch in numerous directions. Looking at the individual vs. collective spectrum, postdigital researchers of all shapes and hues need to find a common language without oppressing each other and without being oppressed
by technologies. In this way, we arrive to Pierre Lévy’s (2015) definition of collective intelligence as

a scientific, technical and political project that aims to make people smarter with computers, instead of trying to make computers smarter than people. So, collective intelligence is neither the opposite of collective stupidity nor the opposite of individual intelligence. It is the opposite of artificial intelligence. It is a way to grow a renewed human/cultural cognitive system by exploiting our increasing computing power and our ubiquitous memory.

(in Peters, 2015, p. 261)

Postdigital collective research transforms our theories and methodologies; at the same time, the postdigital condition removes sharp distinctions between human beings and technologies. “We have all, willingly or unwillingly, become cyborgs – by the very fact that we live in the digitally saturated world” (Peters & Jandrić, 2018, p. 331). The postdigital cyborg has three main characteristics:

- The cyborg self is constructed in dialectical relationships with technologies which, in turn, co-construct our social and economic landscapes.
- The cyborg self inevitably ‘picks up’ ideologies and principles built into (digital) machinery. . . . Significant changes in social construction of cyborg identity, therefore, require significant changes at the level of epistemology.
- Our digital selves are sometimes more important than our physical bodies – with ubiquitous tracing technologies, they are also increasingly significant generators of revenue.

(Peters & Jandrić, 2018, pp. 331–332)

The collective challenge of postdigital educational research reaches much deeper than developing new ways of humans working together with technologies – it fundamentally transforms our identities, epistemologies, social and economic relationships. However, these processes are not cast in stone. In words of Andrew Feenberg (2002), “technology is not a destiny but a scene of struggle” (p. 14), and we – postdigital researchers – have a responsibility to participate in this struggle and actively shape our individual and collective future.

Applications of a postdigital theoretical method

The postdigital challenge of critical educational research is both theoretical and methodological. In this, final section for the chapter, I hypothetically apply a postdigital theoretical method to developed theoretical insights to the real-life example of the Woolf University.

The Woolf University (2019) was developed in 2018 by academics from Oxford University as a fully online educational platform. Based on the merger between technology behind popular platforms such as Uber and Airbnb and the blockchain technology behind transactions of cryptocurrencies, the Woolf University aims “to remove higher education intermediaries, support decentralized governance structures and ensure the security of data” (Vander Ark,
The Woolf University is a non-profit company developed in response to rising costs of educational administration, increasing precarization of teachers, top-down style of university management, and other problems of neoliberal academia. The University’s white paper promises:

For students, it will be the Uber of degree courses; for teachers, it will be the Airbnb of course hosting, but for both parties the use of blockchain technology will provide the contractual stability needed to complete a full course of study.

(Broggi et al., 2018, p. 1)

This makes the Woolf University very different from other online learning initiatives including Massive Open Online Courses. In the following paragraph, I will outline what a fictional postdigital critical research project looks like, particularly when applying the postdigital theoretical method. Ultimately, such application provides for an enquiring into ideologies behind the Woolf University using insights developed in this chapter.

The postdigital challenge

The Woolf University uses a lot of advanced technology which enables communication between students and instructors with a minimum of human administrative support. This techno-administrative system needs to be analysed in relation to issues such as privacy of student/instructor information, safety of transactions, and relationships to accreditation, using quantitative/positivist approaches. Special attention should be paid to ideologies built into design and workings of different digital tools such as Artificial Intelligences and the platform as a whole. The human aspect of using the University platform should be enquired either through personal experience (using an appropriate form of autoethnography), or through other students and instructors (using quantitative methods such as interviews/focus groups, etc.). These insights should be blended into a whole-rounded critical research enquiring power relationship at the Woolf University. By using a postdigital theoretical method, the intricacies of power behind the ideologies the University upholds are in question, not just the operations of those ideologies.

The epistemic challenge

Workings of the Woolf University will imply a certain view to knowledge, or a combination thereof, and a certain set of understandings of what it means to acquire knowledge. These views can be read from documents such as syllabi, expectations from students including bits limited to attendance, design of student assessment, and others. Research methods in this area will include critical discourse analysis, social media theory, and various critical digital methods, with a special aspect to ethos and ethics of the University. An important part of the epistemic challenge is to recognise researcher’s own epistemic assumptions and own position within research (and this position will vary depending on choices made
while researching the postdigital challenge). By using a postdigital theoretical method researchers must self-interrogate the epistemological stance which undergirds their analysis, assuming neutrality is squarely questioned. Instead, researchers using this critical theoretical method must consider the ways in which power, position, and society have influenced their experiences, identities, and thought.

The collective challenge

The collective challenge is researched in three main directions: (1) relationships between human beings, (2) relationships between human beings and technologies, and (3) relationships between technologies and technologies. Under a postdigital theoretical method, researchers must pay special attention to ideologies built into technologies, ideologies built into policies, and their mutual shaping in human-machine interaction within the University. The collective challenge also implies a detailed enquiry into political economy of the University’s functioning, its business model, sources of revenue, and ways of spending. Researchers employing a postdigital theoretical method that draws from the postdigital challenge must look into staff contracts and examine questions such as work conditions, health and safety, contract duration and stability. A similar line of enquiry should be made for students, administrators, and other stakeholders. Combining these insights, the postdigital theoretical researcher will be able to outline a fairly detailed picture of ideologies underpinning the Woolf University instead of presuming such ideologies cease to exist upon surface examinations of routines, dialogue, and policies.

Conclusion: how do we ‘produce’ critical postdigital researchers?

There is a quote attributed to Hunter S. Thompson: “when the going gets weird, the weird turn pro” (Thompson, 1985). So the question becomes: How do you produce weird people for the weird times we are in? That strikes me as one of the really interesting challenges for education at the moment.

(Wark in Jandrić, 2017, pp. 123–124)

Theoretical and practical tensions between various forms of empiricism and critical theories/methods are as old as education. However, the advent of big data, learning analytics, and other advanced digital tools has lifted many traditional distinctions between the two groups of approaches to educational research. The postdigital challenge brings about a new set of epistemic challenges. The need to simultaneously understand individual human experience (traditionally associated with interpretivist methodologies), huge amounts of data produced by the human experience (traditionally associated with positivist methods), and power relationships which co-produce the human experience (traditionally associated with various critical theoretical methods) brings about the need for a new critical philosophy of the postdigital (Peters & Besley, 2019).
In our postdigital world, (researchers’) human condition cannot be separated from epistemologies and research methods, which, in turn, cannot be separated from questions pertaining to collaboration. For something like postdigital theoretical method these questions are theoretical (What are the new postdigital epistemologies?), practical (How do we bridge different worldviews and disciplinary approaches?), and social (What is the position of postdigital research within capitalist relationships of production and dissemination of knowledge?). Above all, these questions are dialectically intertwined with our own identity as human beings and researchers. Unlike the marriage between a researcher’s epistemology and method found in a postdigital theoretical method, traditional empirical methods do not account for these considerations.

In our pandemic age, these conclusions are more needed than ever. COVID-19 is “is a medical, social, racial, and political problem. Add an adjective of your choice – educational, artistic, whatever – and you cannot go wrong” (Jandrić, 2020b, p. 535). It is only by accepting this multi-dimensional postdigital nature of critical educational research that we will be able to make sense of our current historical moment and build sustainable futures.

**Disclaimer**

This research outline is based on available online materials about the Woolf University. The outline is purely fictional, and its sole purpose is illustration of theoretical principles developed in this chapter. This chapter was written before the outbreak of the COVID-19 pandemic, and briefly updated in the last stages of review to briefly identify the chapter’s relevance for pandemic conditions.

**Note**


**References**


