Technology in Society 72 (2023) 102160

Contents lists available at ScienceDirect

Technology in Society

journal homepage: www.elsevier.com/locate/techsoc

Do socially disruptive technologies really change our concepts or just our conceptions?

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ARTICLE INFO

Keywords:
Conceptual change
Socially disruptive technologies
Conceptual disruption
Philosophy of technology
Inferential role semantics
Conceptual Engineering

ABSTRACT

New technologies have the potential to severely "challenge" or "disrupt" not only our established social practices but our most fundamental concepts and distinctions like *person* versus *object*, *nature* versus *artificial* or *being dead* versus *being alive*. But does this disruption also change these concepts? Or does it merely change our operationalizations and applications of the same concepts? In this paper, I argue that instead of focusing on individual conceptual change, philosophers of socially disruptive technologies (SDTs) should think about conceptual change as a change in a network of interrelated concepts. What really generates a potential social disruption are changes of inferential relations between concepts – whether or not this entails a change of the respective individual concepts. Philosophers of socially disruptive technologies are therefore in the privileged position of being able to avoid commitments regarding the individuation of individual concepts.

1. Introduction

Philosophers of technology have long been arguing that our access to the world is mediated by technology [1,3]. This technological access to the world includes our concepts [4]. A poignant example of such techno-conceptual mediation involves our concept of death [5]. An instance of a technological change that drastically "disrupted" [6,7] our understanding of death was the invention of the mechanical ventilator. The mechanical ventilator enables or helps patients to breathe who can no longer do so on their own. This, some have argued, "put pressure" [8] on the way we determined death. For example, according to de Boer and Hoek [9]; pg., 309): as long as death was understood in cardiopulmonary terms only, stopping the respiratory machine would become tantamount to murder. Thus, technological developments in medicine constituted a need for the determination of death in neurological terms.

In other words, before the invention of mechanical ventilation, patients without a heartbeat and who were no longer able to breathe were classified as being dead. The invention of life-prolonging technology significantly changed this way of applying the concept of death. It also changed the way we think about death, i.e., our conception of it. Many people now assume that a hospitalized person is only dead if the life-prolonging machines are turned off. Death is no longer something that simply "happens" to people but something we control to some degree.

For another historical example of a technology that arguably put pressure on our concepts, consider the changes in women's reproductive practices after the introduction of modern contraceptive technologies in the 1960s. The way many people thought about the function and nature of sex was disrupted drastically. According to Nickel et al. [8]; "university students and parents around this time period […] expressed "confusion" about proper sexual behavior more generally". This change of understanding of the purpose and norms of sex had further social and perhaps even moral consequences. For instance, the technology eliminated one of the main arguments against homosexual intercourse as being reproductively inefficacious. As more and more heterosexual couples engaged in sexual intercourse without any reproductive ambitions, this, according to Swierstra et al. [10] had the effect of making homosexual relationships more accepted in society. Thus, contraceptive technology laid the path for significant moral and social change.

Both the moral change around the concept of death and the concept of sex can be understood as a kind of disruption or challenge of the standard ways of thinking about both concepts. It can be understood not just as a disruption of our social relationships, practices, and norms [7] but as a disruption of our concepts. According to Löhr [11]; pg. 4), a conceptual disruption is defined as "[a]ny intentional or unintentional challenge or interruption of the ways in which the individual or group has intuitively classified individuals, properties, actions, situations, or events, leading to *classificatory uncertainty*, i.e., uncertainty about the application conditions of a word or concept." It is not difficult to argue that the invention of the mechanical ventilator and the pill caused such disruptions. The technology significantly changed our understanding or

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https://doi.org/10.1016/j.techsoc.2022.102160
Received 11 August 2022; Received in revised form 15 October 2022; Accepted 3 November 2022
Available online 5 November 2022

conception of what it is to be dead or to properly engage in sexual behavior.

Historical examples aside, new and future technologies will likely further disrupt not just our view of the world but the concepts that allow us to access the world in the first place. Evidence of such conceptual disruptions can be taken from the recent literature in the philosophy of technology. Many authors in this literature have expressed uncertainty about how to classify a certain new technological artifact. Danaher [12]; for example, recently wondered whether robots can be our friends, signaling that the emergence of new sophisticated robots is currently challenging our concept of friendship. Babushkina (forthcoming) [2] argues that we can, under certain conditions, apply our concept of respect to robots, which I take to be evidence for the claim that new technologies are currently disrupting our concept of respect. Frank and Nyholm's [13] discussion of whether robots can give consent to engage in sexual intercourse with a human is arguably evidence for the claim that novel AI applications are currently disrupting our concept of consent.

So new technologies are putting pressure on our concepts and their applications. One question this raises is whether they have the potential to also change these concepts. Do robots, for example, really change our concepts of trust and friendship? Or are these disruptions better understood as merely new ways of conceptualizing or operationalizing the very same concept? For example, one might object that the concept of death in the above case did not change and that merely our way of operationalizing the same concept changed. Similarly, we may think differently about sex, but this does not entail that we have a different concept of sex. In fact, to be able to think differently about sex after the introduction of contraceptive technologies seems to presuppose that the concept of sex has been stable. Otherwise, what can it mean to think about sex differently if the very thing we want to think about has changed? In other words, conceptual disruption does not seem to necessarily entail conceptual change.

In this paper, I discuss the notion of conceptual change in relation to socially disruptive technologies (SDTs) further. I argue that changes of individual concepts are far less interesting for philosophers of SDTs to discuss than a potential changes in networks of concepts. Networks of concepts can change when concepts are introduced or eliminated from it or if the inferential relations between the concepts are revised. They can change even if the nodes of this network (the individual concepts), remain stable. Why should we focus on networks of concepts rather than individual concepts? I argue that conceptual networks rather than individual concepts generate social disruptions. What we really care about are the social changes caused by a change of the use of a term. Whether this use corresponds to a change of the respective concept is inconsequential for the philosopher of SDTs. So, the answer to the question of whether socially disruptive technologies really change our concepts is *yes* at least if we think about conceptual change as a change in a network of concepts.

In the next section, I first introduce key terms like *concept*, *conception* and *categorization device*. I try to introduce these terms in a way that does not commit me to any specific theory or approach to concepts. In the third section, I introduce two approaches to individuating individual concepts – atomism and holism. Depending on which theory of concept individuation one prefers, one will generate very different conclusions as to whether new technologies merely change our conceptions of individual concepts or whether they change the individual concepts themselves. In the fourth section, I argue that philosophers of SDTs should focus on potential changes in networks of concepts as opposed to the question of whether individual concepts change or not. Philosophers of SDTs are in the privileged position that they can avoid a commitment to a theory of the individuation of individual concepts. I argue that there are good reasons for embracing this privilege.

2. Concepts, conceptions and categorization devices

Without committing myself to any specific theory of concept, most minimally, I take a standard notion of concept in philosophy to pick out something that is at least closely associated with a word's meaning. For example, the meaning of the word *dog* seems to be closely related to the concept of dog and some might even argue that only by expressing the concept of dog, the word *dog* can be *about* dogs (e.g., Refs. [14,15]. However, we must distinguish word forms (sounds or shapes) from the concepts they express as many concepts have not been lexicalized (are not yet conventionally associated with a word form) and many word forms can be used to express several concepts at the same time – a phenomenon, we call "polysemy" whereby one word form can take on several related senses [16,17]. To be able to play the role of the meaning of a word, a concept must then most minimally have a content (it must be about something) and, importantly, this content individuates this concept. For example, the concept of dog is the concept it is because it is about dogs. The concept of cat is the concept it is because it is about cats.

There are several further things we can say about concepts that are relatively uncontroversial. First, a concept can be applied, e.g., in thought or simply when using the relevant words to express it. Importantly, we can make a distinction between a concept and the represented criteria we normally rely on to decide when a concept applies – a kind of *categorization device* [18–21]. For example, I happen to apply my concept of bachelor regularly to a young man who lives alone in a small apartment. Have I ever asked him whether he is unmarried? No, I have not. Still, my stereotype of a bachelor resembles this person enough, such that I am inclined, maybe wrongly, to classify him as a bachelor, i.e., apply my concept of bachelor to him. Note that the criteria I rely on to apply my concept (a kind of "operationalization") are not what *determines* the content of my or anyone's concept of bachelor. I do not think that the word *bachelor* means *young man who lives in a small apartment.* I can easily think about an old bachelor who lives with a family in a big apartment, but I would never guess that this guy is a bachelor.

Besides being closely related to language, and besides being the kind of things that can be applied to things in the world, concepts have to do with thoughts. In fact, according to many philosophers of mind, to apply a concept is what it means to think (e.g., Refs. [14,22,23]. Concepts on many mainstream accounts must then be more than just a way of thinking about something. This means that they are something other than a set of beliefs about the content of the respective concept. The latter is often called "conception" (cf., [15,24,25]. There are many ways one can think about dogs and cats (many different conceptions). One might think that many of them do not get along or that they are both pets. A concept, unlike our conceptions, is supposed to be that which allows us to latch onto dogs and cats in the first place, at least in thought. Conceptions then are a bit like the criteria I rely on to apply my concept (what I called "categorization device"), except that they can also contain beliefs I have that are more theoretical and that never have any bearing on the way I actually apply a concept. Conceptions are what I *think* the concept of, say, pet is about (my beliefs about what pets are) and not necessarily what it *is* really about.

While concepts are supposed to be shared – to some degree at least (at least on standard accounts of successful communication, cf. [26], – conceptions and ways of applying a concept (categorization devices) can differ dramatically between people. A biologist has very different conceptions and categorization devices of the concept of dog than I do. This does not mean that when I talk to a biologist about dogs, we are not able to talk about the same things and that this person is not entitled to correct me when I apply my concept of dog incorrectly. The fact that we both talk about dogs makes it possible for her to be entitled to tell me that I am wrong about dogs (that my conceptions and applications are wrong). Thus, while our notion of concept denotes something that ought to remain relatively stable, our notion of conception denotes a set of beliefs that can easily change once we learn more about the world and

our concepts. We used to believe that death was something that is inevitable and final but now we are more and more thinking about death as something that may be overcome (due to technology). Many philosophers of language would consider this a change of conception of the same concept rather than that the content of the word *death* has changed.

The problem I take on in the next sections is that one cannot necessarily infer a conceptual change even from a long-term change of the applications of the respective word, i.e., from a drastic change of our conceptions and categorization devices. A change of use and conceptions can also be a sign of a significant discovery or belief change rather than a change of meaning. Even official criteria of application provided by an authority, say a scientific authority, are poor guides when it comes to determining whether the respective concept or meaning of the term has changed. The history of science taught us again and again that application criteria we thought were essential are actually false. For example, we used to think that water is necessarily a transparent liquid and for thousands of years applied the word *water* accordingly. Now of course chemists apply the word to all kinds of objects that have a certain chemical constitution (H_2O) and that do not resemble our stereotypes of water. This does not mean that we necessarily changed the meaning of the word *water*. According to many philosophers, it is more natural or accurate to say that we still think about the same thing that we have always been interested in (e.g., Refs. [14,15,18]. Instead, of talking of a change of meaning, we may be better off classifying even such a radical change of use as a change of beliefs about what water *is* (a change of conception) and not of our concept of water.

The consequence of the important *conceptual* distinction between a change of criteria of application (interpreted as a change of beliefs or conceptions of the concept) and a change of the concepts themselves is that by claiming that the application of a given concept has changed (or our conceptions and categorization devices), we cannot necessarily infer that this concept has changed. The relation between a change of use/conception and conceptual change proper is generally viewed as much more complicated. Unlike the metaphysically more innocent notion of conceptual disruption, the question of whether a given individual concept has changed is in need of serious metaphysical and epistemological commitments. While a change of use and conception can more or less simply be observed, the putative change of a concept requires us to commit to a theory of concept individuation. As we will see in the next section, according to one prominent view on concept individuation, even radical changes of use and conceptions do not necessarily constitute a change of the concept (conceptual atomism). According to other prominent views of concept individuation, the actual use of a word determines its content. Changes of classificatory practices, therefore, *always* constitute conceptual change.

3. Two theories of concept individuation

So how exactly do changes in the use and conceptions of a concept relate to the notion of conceptual change? This partly depends on what we think about how an individual concept is individuated. At this point, note that many psychologists and cognitive scientists take concepts to be prototypes, theories or sets of exemplars. Without going into these views in detail, those are essentially bodies of representations [20] that determine when we in fact apply a certain word or concept to an object. They explicitly do not generate necessary or jointly sufficient conditions for application (see Refs. [20,27] for reviews). This means that these "concepts", as psychologists and many philosophers call them, do not have a stable and straightforward relation to the world. They are instead ideal for classifying the world, i.e., for deciding when to apply words and categories to the world [21]. Above, I called such structures "categorization devices". A conceptual change of this notion of concept is then little more than a change in beliefs or bodies of information in the minds of groups or individuals.

Most philosophers of language and mind, however, use the term 'concept' differently than many psychologists and cognitive scientists (cf., [20,21]. As we saw above, many philosophers of mind and language use the term to denote so-called "elements of thought" or "constituents of propositional attitudes like beliefs or desires" (cf., [14,15]; see Margolis and Laurence, 1999 for a review). Again, these elements of beliefs and desires (of propositional attitudes) are generally individuated in terms of their content (what these concepts are about). Again, the concept of a cat is the concept it is because it is about cats. Unfortunately, there are many different views on how to individuate individual conceptual contents. I here roughly distinguish atomist from holist views. These different ways of individuating contents generate different ways of individuating individual concepts. There are also various positions that cover a middle ground between these extremes, but they all suffer from the same, for this paper relevant, limitations of their radical counterparts (cf., [27]. For this reason, I mainly focus on a high-level description of the different views.

According to concept atomism, most lexicalized concepts are individuated completely independently of their relations to other concepts. They are instead individuated largely in terms of their relation to the world (e.g., Refs. [14,15,28]. This means that any change of classificatory practice may not necessarily change the content of our thoughts and sentences. If a change of linguistic practice did change the content of these words, this is better interpreted as a mere terminological change such that we now merely associate the same word forms with different concepts. For example, a conceptual atomist like Jerry Fodor [14] would most likely interpret any of the classificatory changes or changes of conceptions that philosophers of technology may discover *not* as a change of the respective concept. Instead, Fodor would merely view such a finding as a change of either terminology or a change of beliefs about the nature of the respective content (say, of death or person). Either we used to associate different concepts with our terms like 'person', or we changed our beliefs about what it is to be a person. None of this means or shows that our concept of person has fundamentally changed.

The consequence of an atomist view is that one need not necessarily classify even severe classificatory changes and their social consequences as instances of a change of the respective concept. This might sound paradoxical but is not completely unreasonable or unintuitive. Imagine that we now use the word *abuse* in different ways compared to the use of the term 50 years ago. Let us assume for a moment that it used to be more or less acceptable to punish one's children by inflicting significant physical harm on them [29–31]. Nowadays, this would be classified as abuse, but 50 years ago it would have been classified as raising your child properly. Nowadays, we endorse different classifications and have different conceptions of abuse. Does this necessarily mean that we have changed our *concept* of abuse? Or does it perhaps mean that the idea of corporal punishment being part of good parenting is simply wrong and that we are now right to apply the same concept of abuse to such behavior? Again, this depends on how to individuate the concept of abuse. I assume that it is at least not completely unreasonable or implausible to individuate at least some concepts like the concept of abuse not merely in terms of the use that currently happens to be viewed as correct in the respective society.

A different tradition in epistemology and metaphysics individuates conceptual contents in terms of social practices and the use of words and sentences. Such an ability-oriented view of conceptual change and concept individuation was championed by American pragmatists like Wilfried Sellars [32]; Richard Rorty [33] and Robert Brandom (1994), but can also be found in other traditions like continental phenomenology (e.g., Hegel, Heidegger or Foucault) as well as early analytic philosophy like Ludwig Wittgenstein [34]. According to those philosophers, conceptual thought and linguistic meaning are individuated in terms of classificatory use, i.e., social norms and practices. This means that changing our social norms and practices with respect to words like person, sex or death also changes their content and therefore constitutes conceptual change. A clear distinction between the use of a word and the

true meaning of a word is then more or less impossible to make [35]. Thus, a change of classification pertaining to abuse will automatically change the respective concept.

At this point, one might think that the latter view on individual conceptual change is advantageous for understanding conceptual change in the context of socially disruptive technology. However, it is interesting to note that philosophers like Robert Brandom or Richard Rorty, who individuate contents mainly in terms of use, usually take the change of a given concept to occur more or less with *every* conceptual application. As every conceptual application or classification is more or less new, and an alteration of previous classifications or practices, consequently, every single classificatory change, alters our concepts at least to a small degree. Moreover, philosophers endorsing such a view are often *conceptual holists*. This means that every application of a concept changes not only the concept that is being applied but strictly speaking *all* concepts in the conceptual network. This would trivialize conceptual change for our purpose of understanding socially disruptive technologies. To avoid trivialization, we would need to install a kind of threshold for when conceptual change becomes radical enough to be of interest for our purpose of studying the social consequences of emerging and disruptive technologies.[1]

So, the problem, in a nutshell, is this: we have largely two ways of individuating conceptual contents by means of which we individuate individual concepts. Conceptual atomism separates individual concepts from their use, such that even severe conceptual disruptions or changes do not necessarily change these concepts. In fact, on this view, a change of individual concepts is strictly speaking impossible. All we can do is replace the concepts we express via our language. Conceptual holists tie a change of use or belief about a certain concept too closely to the individuation of said concept. This means that we may never have the same concepts of, say, person or friendship and, more importantly, that conceptual change becomes trivialized. Any change of use is a conceptual change, which renders the claim of technology-induced conceptual change trivially true. Views that are somewhat in the middle between atomism and holism are called "molecularism" (Prinz, 2002). But even molecularist believe that changing the use of a concept might trivially entail a conceptual change of this and closely related concepts even if this does not necessarily entail the change of all concepts.

4. Conceptual change as a change in conceptual networks

To avoid the problem that the question of conceptual change seems to depend on deep metaphysical commitments, the solution I put forth here is this: Researchers interested in socially disruptive technologies are in the comfortable position of not having to decide for or against difficult epistemological or metaphysical theories of content. Instead of thinking about the putative change of individual concepts, they should study changes in clusters of concepts. Conceptual change then occurs if the network of concepts changes – whether or not the respective researcher considers this change in the network sufficient for the change of some or all of the individual concepts – or whether she believes that individual concepts cannot change at all due to her atomist commitments. Thus, if a technology changes our conceptual network, i.e., the inferential relation between concepts, then we have to do with a conceptual change and not merely with a change of conceptions. Although the distinction between clusters of concepts and changes of concepts is rather blurry, I argue that it is the relation between concepts that we are really interested in.

Thinking about changes of networks of concepts is sufficient for our purposes simply because social disruption is defined or at least mainly understood as a change in social norms and practices [6,7]. It is changes in inferential relations between concepts and consequently changes in their actual applications that primarily interest us rather than the question of whether this change in use entails a change of any given individual concept. In other words, if philosophers of SDTs are mostly interested in changes of norms and practices, then they need not necessarily worry about whether a change of conceptual practices entails a change of the respective individual concepts. They should study socially significant changes in clusters of concepts. Focusing on such clusters has also the effect that it will generate a lot of common ground between philosophers of socially disruptive technologies who may have different metaphysical commitments and backgrounds. It allows, for example, philosophers with a more analytic background and philosophers with a more continental background to both talk about and study conceptual change despite their potential different metaphysical commitments. Given that the study of SDTs is interdisciplinary in the latter respect, I take this to be very advantageous.

All of this may seem too good to be true, so let me elaborate a little bit more on this. Concepts do not only have *application conditions* but also *consequences of application* (cf., [38]; [36]. This is the case whether or not we endorse an atomistic or holistic approach to concept individuation. For example, in the case of the concept of marriage, there will be conditions or rules that we usually rely on to decide when someone is married. Once we apply the concept of marriage to a couple, there will be certain consequences, e.g., they will receive tax benefits and certain legal decision-making privileges. Assuming that philosophers of SDTs are primarily interested in these social consequences, it is of little relevance *to them* whether or not the concept of marriage has or has not changed when applied to a homosexual couple for example (although it might be relevant to the couple of course). What is most important are the social consequences and whether or not these consequences of application have changed. What is most important are the changes of the relation between the concept of marriage and, say, the concept of tax benefit, for example. We can talk of conceptual change if the relationship between these concepts changes even if the components of the network have not changed.

To give a more technology-related example, think about our concept of a person in light of a new service AI that is almost indistinguishable from a human being. This new artifact would disrupt our concept of person quite dramatically by challenging our ordinary use and our conceptions of this concept. If we apply our concept of person to this new technology, this has consequences, which we are very interested in, and which will likely be socially disruptive as it may entail that we have to give the robot rights. This in turn would mean that we have to treat it as we treat other persons – we cannot enslave it, sell it, buy it etc. If we do not act on these consequences of application, then the consequence might be that persons no longer have the right not to be sold – which will also have tremendous social consequences. Whether this would entail a change of the respective individual concepts or whether we merely apply the concept of person wrongly matters little for whether a technology is socially disruptive or not. Again, consequences of application matter and it is those consequences that have the most socially disruptive potential. And the change of consequences of application can be understood as a change in the inferential relation between concepts. From applying the concept of robot, we are now no longer entitled to infer that we do not have to do with a person.

So, what is lost if think about our conceptual disruptions not in terms of a change of individual concepts and instead focus on conceptual change as a change in a cluster of concepts? I believe, very little. Only if we are interested in the more general metaphysical question of how social disruptions, i.e., disruptions or changes of our social norms and practices, relate to more general philosophical theories pertaining to the content of our thoughts and their relation to the world must we make certain metaphysical commitments concerning questions of content. This conclusion is not entirely unexpected, and I take it to be of little

[1] Another issue is that this might mean that every person has a slightly different concept of, say PERSON, such that it is not clear how we could ever talk about the same thing. Whether a robot could be a person for example would then be impossible to decide if everyone had different concepts of person.

consequence. Philosophers and social scientists studying social disruption study a certain set of phenomena more or less empirically by means of observations. The notion of conceptual and social disruption is no exception. We need more general philosophical theories to place these observations into a general metaphysical system in order to ascertain how it relates to the contents of our thoughts and language and their relation to the world. However, none of these things, I take it, are really what the literature on SDTs is about. I could be wrong about this but then these researchers only have to commit themselves to either of the above theories of concept individuation. Conceptual change is then either unlikely or trivially true. So not much is won.

Another difficult problem that can be avoided by focusing on changes of networks of concepts is that any claim about a change of an individual concept requires, first of all, a conceptual analysis of the previous conceptual status quo. For example, in order to decide whether our concept of person has changed after a classificatory change, we first need to analyze the allegedly previous concept of person and then analyze the new concept of person. Of course, such conceptual analyses of fundamental social concepts are not easy and will almost certainly be highly controversial. What our current concept of person is remains extremely controversial. It will also depend on what we think about the individuation of contents and whether we are realists or anti-realists of personhood. Fortunately, again, for at least many SDT researchers, the notion of social disruption (e.g. Refs. [6,7], is not defined as a change of individual concepts but a change of norms and practices – changes that involve relations between concepts. Both can be studied much more easily and less controversially, e.g., using historical corpus analysis, survey studies or other established sociological methods (see especially [37] for an introduction). We can study the change of norms and practices without having to first analyze what the concept of person was about in 2010 compared to 2020. I take this to be a very comforting result.

Finally, note that a network of concepts can change in different kinds of ways, which opens up different ways of studying *conceptually disruptive technologies*. First, we can have to do with the introduction of a new word or concept, in which case of course the relations between this new concept and all the other concepts will change as well – a conceptual change. We can also eliminate a concept with a similar effect. Recall for example when the concept of a smartphone was introduced. Whether or not this changed the concept of a phone, it changed the kind of inferences one was entitled to for example when discussing phones. We were now entitled to ask whether someone can Google a website on their phone, which would be impossible with older phones without internet connection. However, a network of concepts can also change when inferential relations between the same set of concepts are changed. This was the case arguably when the mechanical ventilator was introduced. We were no longer entitled to declare a person dead if they were not able to breathe on their own. It was this temporary uncertainty about the inferential relations between concepts of breathing and the concept of death that led to the introduction of the concept of brain death to allow for a distinction between someone who is dead and merely brain dead.

All these instances of change and disruption may or may not have involved cases of individual concept change, but they all certainly involved conceptual change, i.e., a change of a conceptual network. And it was this change of the network that went hand in hand with a change in social norms and society at large. It was this change in inferential relations that arguably led to a moral change. For example, in the case of the introduction of contraceptive technologies in the sixties, part of the reason homosexuality became more accepted was that the inference from sexual intercourse to reproduction was no longer taken for granted. Anyone who engaged in such actions would have been considered a hypocrite were they to criticize a gay couple for engaging in intercourse without reproductive intention. Arguably this is one way we can think about the way a conceptually disruptive technology led to a moral change via a change of a network of concept, i.e., via conceptual change. Whether it has or has not changed our concept of sex seems to be a different question with relatively few social consequences.

5. Conclusion

Do socially disruptive technologies change our concepts, or do they merely change our conceptions of the very same concepts? I have argued that technologies can change our concepts if we think about clusters of concepts rather than individual concepts. Clusters or networks of concepts may change even if their nodes remain the same. From a practical (and ethical) point of view, whether a concept has changed or not is a question that is relatively uninteresting. According to some theories, the idea that our concepts change is almost trivially true. According to other views on concepts, conceptual change can only be understood as concept replacement and even then, it can be very difficult to see how and when our concepts really change or get replaced. I do not here suggest dropping the use of the term 'conceptual change', but I suggest at least flagging the difficult metaphysical and epistemological questions raised by the use of this expression. Ideally, however, philosophers of SDTs endorse and focus on changesin conceptual networks rather than changes of individual concepts.[2]

Author statement

I have no competing interests to declare.

Data availability

No data was used for the research described in the article.

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[2] This work is part of the research programme Ethics of Socially Disruptive Technologies, which is funded through the Gravitation programme of the Dutch Ministry of Education, Culture, and Science and the Netherlands Organization for Scientific Research (NWO grant number 024.004.031). I thank Jeroen Hopster, Steffen Koch and the anonymous reviewers for their valuable comments on earlier versions of the manuscript.

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