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To cite this article: Miriam Tedeschi (2023): Embracing difference: on law, code and space, Culture, Theory and Critique, DOI: [10.1080/14735784.2023.2190902](https://doi.org/10.1080/14735784.2023.2190902)

To link to this article: <https://doi.org/10.1080/14735784.2023.2190902>



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Published online: 04 Apr 2023.



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Embracing difference: on law, code and space

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ABSTRACT

This article explores the ontogenesis of software (code) and law and how they are entangled and in-form bodies and urban space. Herein, I investigate how this process of in-forming creates ruptures, differences in the otherwise smooth experience of the urban. These remain largely invisible but surface when interruptions in the everyday use of technologies affect urbanites. These interruptions might be data breaches, frauds, invasive phishing emails and the likes. Information and affect play a key role as posthuman elements in the ontogenesis. Ruptures, differences may also open up lines of flight and resistance that highlight differences rather than conceal them. Taking an ontogenetic and new materialist perspective, this paper contributes to strengthening the theoretical dialogue between law, the science of space (geography) and philosophies of technology.

KEYWORDS

Lawscape; code/space;
difference; ontogenesis;
affect

Introduction

The co-constitution of space and the law, and thus of geography and the law (Bartel and Carter 2021; Bennett 2018; Blomley 1989; Braverman et al. 2014; Brighenti 2006; Delaney 2010; Philippopoulos-Mihalopoulos 2010, 2011, 2015, 2018), has been broadly explored by legal geographers, spatial scientists and other scholars. Among other lines of thought, such co-constitution of geography and law has begun to establish an identity and find a way forward in the philosophies of becoming and non-representational geographies, as well as in the ontological and new materialist turns in the spatio-legal sciences. Drawing upon these theoretical approaches while developing his own conceptualisation of the material entanglements of law and space, legal theorist Philippopoulos-Mihalopoulos asserted that ‘law is entrenched in everything that takes place in geographical space (to wit, *everything*)’ (2018, 4; italics in the original). Despite law and space being tightly interwoven, Philippopoulos-Mihalopoulos highlighted that a geography that is legal and recognises the law’s centrality in matters of ‘property, boundaries, the distinction between public and private, new hybrid spaces of private-public partnerships, territory, conflict, order, geopolitics’ (Philippopoulos-Mihalopoulos 2018, 2) still has limited

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influence. The same could be said of law and its relationship with space: ‘Despite the prominent connection between law and geography, law’s engagement with space is being increasingly despatialized’ (Philippopoulos-Mihalopoulos 2011, 188).

Nevertheless, undoubtedly, legal geography scholarship and, more generally, studies on the various interrelationships between law and space have extended their boundaries in recent years. The material dimension of their interrelationships has also increasingly been considered in the context of human–environment relationships (O’Donnell, Robinson, and Gillespie 2020) and feminist geolegality which, ‘with attention to questions of power and by emphasizing embodied and grounded accounts that illustrate the varied effects of law on different bodies ... emphasizes, third, legal and socio-spatial experiences that are the product of intersecting identities’ (Brickell and Cuomo 2020, 107). In legal theory, interesting examples of various approaches to the law and the material have been presented by, for example, Käll (2022), Gandorfer (2020), Philippopoulos-Mihalopoulos (2019) and Davies (2017). Philippopoulos-Mihalopoulos theorised a material entanglement (a ‘tautology’ (2015, 4), as he called it) between law and space—the lawscape.

However, as Gill and colleagues (2020) maintained, there is still something missing from the link between law and its material dimension (see also Cloatre and Cowan [2019]; Jeffrey [2019]; and Kang [2019]). Interestingly, Gill and colleagues argued that this missing element is the study of what is non-present; that is, absent: ‘Paying attention to absences as well as presences promises to provide a more complete legal materialism’ (Gill et al. 2020, 938). The authors then showed how absences have material consequences in legal hearings. Moving to the ontological, Philippopoulos-Mihalopoulos referred to absence as the way in which law hides, withdraws, to remain relevant: ‘It needs to not appear as law but to dissimulate itself specifically as anomic comfort or security, health and safety, common sense, media morality, the right choice’ (2019, 218). By withdrawing itself and staging and modulating its absence, law fills the atmosphere of a space and further reinforces its presence and materiality. In relation to the spatial dimension, Bennett (2018) also tried to furnish the missing link between law and the material. According to him, this could be achieved by:

[translating law] into seemingly incongruent flows of matter, affect, practices and the resulting assemblages of ideas, materials and actions that form buildings, roads and the urban landscape, and—in particular—to provide ways to reveal the as-lived effects that those flows have upon individuals, moment by moment. (2018, 36)

In this paper, I draw on Philippopoulos-Mihalopoulos’s and Bennett’s efforts to return the law to the materiality of space, as well as Pavoni et al.’s call to rematerialise, respatialise, and resensitise the law (2018, 3). Since this is a huge endeavour, and many scholars have approached it from different perspectives, I will consider only a specific angle of the issue. Supporting and extending Gill and colleagues’ (2020) argument and Philippopoulos-Mihalopoulos’s (2019) staging of law, I will focus on the concept of ‘being not present’, being away, absent, separated, and, in a broader sense, *different* (Philippopoulos-Mihalopoulos 2007). What I am interested in is reflecting on how the law shows its materiality, especially when it moves away from (in)difference and invisibility to become–difference and presents itself in space. Among the multiple ways in which law becomes difference and shows itself in space (and specifically in urban space, used as

an example in this research), I will address those in which law manifests a material entanglement with ‘code’.

Indeed, in today’s data-driven society, discourses on the spatiality and materiality of the law cannot disregard the increasingly important role that the cyberspatial and digital dimensions play in its making. In urban space, what often remains invisible (in-different, apparently absent), despite being a driving force in bodies’ movements and for space design, is what Kitchin and Dodge (2014) called ‘the code’. This is where the entanglement *code/space* comes into play (Kitchin and Dodge 2014). Keeping an ontogenetic perspective, that is, focusing on the becoming-being rather than on ‘being’, we may say that the lawscape and, within it, the code/space surround, cross and modulate our bodies. The elements drawing law–code–space together and highlighting their interrelations and functioning are their informational and affective absences, differences: ruptures and discontinuities in the apparently linear and smooth spatio-techno-legal formations we experience in (urban) spaces. These ruptures can be exemplified by cybercriminal activities, leaks in (control) technologies (Nussbaum and Udoh 2020), interruptions of online everyday activities and social categories (such as race, sex, gender, religion, class, etc.). As we will see, information and affect are the post-human, ontogenetic elements driving and breaking, as well as working as ‘differentiators’ of, spatio-techno-legal formations.

The remaining sections are organised as follows. In the next section, I unfold the material entanglements of law–code–space. Secondly, I delve more deeply into the entanglements to see how they operate and what mechanisms drive them. Then, by providing examples from cybercrime and surveillance, data breaches, interruptions in the everyday use of technologies and social categories, I explore affect and information as the posthuman elements that generate the ruptures and differences emerging within the law–code–space continuum. Finally, I draw conclusions, opening opportunities for future research that embraces law, code and space from a new materialist perspective.

The entanglements: law, code, space

First entanglement: law and space (lawscape)

A vast amount of scholarship has explored the different ways in which law and space are co-implicated, and some of this research was cited at the beginning of the introduction. Among the various approaches, the line of thought I pursue herein is that initiated by Philippopoulos-Mihalopoulos (2015). According to him, there is no space without law, since ‘space without law is a fantasy of pure possibility, some utopia where everything is settled because there is no difference, therefore no conflict’ (Philippopoulos-Mihalopoulos 2018, 11). Similarly, ‘law without space is another fantasy of law as a universal, floating above spatial differences, obeying to some natural or theological necessity, but never really scooping down to apply itself to the situation in hand’ (Philippopoulos-Mihalopoulos 2018, 11). From an ontological perspective, law and space thus form an indivisible continuum, the *lawscape*: they ‘are folded into each other: they are co-emerging, co-constituting and co-evolving’ (Philippopoulos-Mihalopoulos 2018, 11). Individuals are all ontologically part of a lawscape. They inscribe their movements, thoughts, emotions, beliefs, gestures and activities on the reality co-constituted by law and space

(Tedeschi 2022). Adopting, among others, a new materialist approach, Philippopoulos-Mihalopoulos (2015) showed how the law can invisibilise itself in space (be, only apparently, absent, (in)different, separated from space but, in reality, present and relevant in an unnoticed manner) and, while invisibilising itself and withdrawing (making itself absent to reinforce its presence and power; Philippopoulos-Mihalopoulos [2015]), still shape the design of spaces and direct the movements of individuals:

Everywhere and everything is a lawscape, even though we wilfully forget it, as we are subject to an absolutism of the rule of the law and its control over space and body: our bedrooms, our streets ... Even while we are mercilessly controlled, we feel the beautiful illusion of independence and freedom. This is because the law which controls dissimulates itself or 'invisibilises' itself. (Mehmi 2021, 8)

Brighenti (2007, 2010) shed further light on the concept of (in)visibility:

The threshold between the visible and invisible is, ultimately, the threshold between object and environment: when we cannot yet (or can no longer) 'visibilise' an object, it means that it has 'environmentalised' itself: it no longer stands before us ('ob-') but rather envelops us ('env-'). (Brighenti 2014, 70)

On the one hand, urbanites wish the law to remain hidden below the line of visibility and to environmentalise itself. For example, they would rather be unaware of walking in an urban space full of closed-circuit television cameras (CCTVs), under surveillance, or potentially vulnerable to illegal activities, such as data breaches, when they shop online from their smartphones. On the other hand, being invisible and apparently impalpable is the strategy the law adopts to root itself in spaces' and individuals' everyday movements while remaining cleverly unseen, ab-sent, and in-different.

There are also shades in-between visibility and invisibility. Law may disguise (Philippopoulos-Mihalopoulos 2019) or reveal itself in subtle, non-invasive ways which, however, have a reassuring and comforting 'effect'. For example, the discreet presence of the so-called 'cookie-law' (ePrivacy Directive; Council of European Union [2020]) offers comfort to internet users, without apparently interrupting the flow of their online everyday activities, and signs on streets or public transport show police numbers to call or text in case of unexpected and threatening events.

The first ontological and material entanglement I consider in this article is, thus, the one between law and space, as theorised by Philippopoulos-Mihalopoulos (2015): the lawscape. I now expand Philippopoulos-Mihalopoulos's seminal work to embrace code/space.

Second entanglement: code and space (code/space)

The spatial turn that is occurring in various disciplines, including law, is necessary for, among other things, acknowledging and dealing with the challenges posed by the increasing presence of code in space, especially in the urban field. Scholarly works have broadly acknowledged the entanglement of technologies with space (DeNardis 2020). Kitchen recognised in 1998 that 'cyberspace, rather than providing an alternative world, exists in a symbiotic relationship with real space' (1998, 403); 'phrases such as "being on the Internet" or "being off the Internet" no longer have distinct meanings. Data breaches affect non-internet users' (DeNardis 2020, 15). In a similar vein, Floridi (2015) stated that humans need to be reinterpreted 'as informational organisms living and interacting

with other informational agents in the infosphere' (Floridi 2015, 54), which incorporates code into the physical, spatial dimension.

Kitchin and Dodge (2014) claimed that space is not a given element but is seamlessly generated and brought into being: '*space is constantly brought into being as an incomplete solution to an ongoing relational problem*' (Kitchin and Dodge 2014, 71; italics in the original). In turn, code has profoundly carved its way into (urban) spaces to the extent that it keeps producing ('transducing') new paths and directions. These paths have become so pervasive and 'material' in urban spaces that even the simple act of walking along a street entails urbanites constantly engaging with some kind of digital, coded dimension—the mobile phone's global position system (GPS) tracking of movements, invisible Wi-Fi and mobile data networks, and widespread location-enabled online services (Greenfield 2017)—and the effects on urbanities of technological phenomena such as street surveillance and online scams can no longer be understood without recognising code's merging with space (Leppänen, Kiravuo, and Kajantie 2016; Wall 2007).

Drawing on Simondon (1992) and Mackenzie (2002), Kitchin and Dodge (2014) defined code/space as a material entanglement brought into being via transduction operations, whereby it is constantly *in-formed* and transferred from one state of being to another, never fixed and, indeed, always in-becoming (see also Karen Barad's [2007] conception of matter as process). 'Transduction is a process of ontogenesis, the making anew of a domain in reiterative and transformative individuations—it is the process by which things transfer from one state to another' (Kitchin and Dodge 2014, 72). Transduction is thus a space-generating operation. When the operation depends on software, code/space occurs. In this sense,

People's lives unfold in the moment as conjunctions between themselves, space, and coded objects (for example, bank cards), infrastructures (for example, cell phone networks), processes (for example, electronic fund transfer for direct debit payments), and assemblages (for example, the airport), in each case temporarily solving (or not) a relational problem by beckoning into being code/space. (Kitchin and Dodge 2014, 73)

Posthuman elements play a major role in the way code becomes ontogenetically part of space: *information* and how it modulates (*affects*) bodies and spaces. I shall return to this point later.

Coming together: bodies in the law-code-space 'land'

Scholarly work examining how code affects bodies is vast (Chughtai 2021), and according to Haraway (1991), we have become cyborgs ourselves. The philosopher of technology Simondon showed how technology becomes an extension of the body, rather than something separate from it, and has its own technicity—a force exceeding itself and the intentions of its designers (Wood 2021). Similarly, Tucker and Goodings understood 'body-technology relations as processual and transformative, mutually productive' (2014, 57) and, thus, like code/space, transductive (Kitchin and Dodge 2014). Chughtai (2021) mentioned a somatic turn in various disciplines, including human-computer interactions, and Casilli noted that 'ubiquitous computing does not transcend everyday experience; rather, it pervades reality by saturating the actual space of the cities and by infusing physical bodies' (2010, 2; see also Greenfield [2006, 2017]). Keating conceptualised the technological unconscious as something that 'has come to refer to the pervasive functioning

of digital technologies in forming an operational backdrop to urban life' (Keating 2022, 4).

Law and code carve themselves into urban spaces and bodies in a similar fashion. Code/space operates within the lawscape, and in turn, the lawscape rewires and adjusts itself to the capricious movements of code. Philippopoulos-Mihalopoulos not only recognised the necessary entanglement of law and space, but also how the code/space can be read in terms of lawscape: the code/space, the lawscape and what constitutes it, meaning law and space, 'are mutually co-constituted' (Philippopoulos-Mihalopoulos 2015, 42).

The emergence of the code/space ultimately leads to *everyware* (Greenfield 2006; Philippopoulos-Mihalopoulos 2015)—a situation in which technology saturates all our living spaces, and surveillance, data breaches, and unlawful interruptions in the everyday use of technologies thus become everyday experiences. Bodies find themselves trapped in such law–code–space entanglements. Within them, they keep on moving and becoming, smoothly if there is no problem to be solved, or more brutally if a problem (a rupture, a difference) emerges and needs to be unravelled. In an urban space where code is everywhere (*everyware*), the lawscape increasingly utilises the mechanisms of (in)visibilisation to conceal or reveal itself according to people's desires and needs. The invisibility of the law guaranteed by this new form of (digital) space makes individuals feel freer than before but increasingly regulates and monitors their movements. Thus, code/space is an ontological emergence reinforcing controlling environments within the lawscape:

While often giving the impression of empowering users to utilize a service in whatever ways they want, whether online or on the go, phone service, media, and content providers do actively regulate users in relation to what content they post and their actions while using the service. (Kitchin and Dodge 2014, 210)

The lawscape remains hidden even when it is actively operating:

Urban space is a governed space infused with regulations, protocols, norms ... as well as, increasingly, a range of software-encoded technologies ... All these technological and legal proxies are actants to which the responsibility to react under unexpected circumstances can be, and in fact is, delegated. (Brighenti and Pavoni 2019, 147)

However, the lawscape may suddenly reveal itself when something, unexpectedly, fails to work properly—in other words, when there is a rupture in the lawscape. Why are these ruptures so relevant to an ontogenetic perspective? As already mentioned, the reason is that they make differences emerge.

In the next subsections, I shall focus specifically on common glitches in technology use, the bodily dimension of technologies of control (Tucker 2013), and their counterparts—cyber-criminal apparatuses—as examples of how bodies and the spaces they inhabit/are made of are pervaded and crossed by the law (Loizidou 2019), and of how law reveals itself as difference. I conclude by contextualising differences in terms of social categories.

The emergence of difference in the law–code–scape

An ontology of difference, rather than of sameness, can support a description of reality that sheds light on the law–code–space (hereafter, law–code–scape) ontogenesis—that is,

on entanglements, (in)visible ruptures and effects on bodies. This is not a ‘separated ontology’, but rather:

[An] ontology in which there is no higher principle or identity, nor an all-encompassing law into which differences can be gathered, collected, included, or governed. An ontology, in other words, which does not rely on absolute ideas or substances, but that is composed by differential singularities which cannot be subsumed under any unity. (Nirta and Pavoni 2021, xxi)

Such ontology operatively works as a ‘differentiator’ to be discussed alongside other understandings of reality, with the purpose of making relevant differences emerge (Cockayne, Ruez, and Secor 2017). This offers a ‘perspective in which nature and technology, the body and the machine, the real and the virtual, the living and the inert are given in differential relationships, each inextricable from the other’ (Clough 2000, 6) and, in the end, reflects back on and reinforces the theoretical bridge between law and the material (Davies 2017). Indeed, the bridge between the two in this article is difference as it unfolds across the law–code–scape and bodies. While the lawscape and, within it, code play with different degrees and stages of (in)visibility, there are ruptures (‘irruption of techno-legal realms into affective life’ [Bennett 2018, 9]) that can abruptly reveal them. Phenomena such as cybercriminal activities (frauds, online scams, data breaches) and/or leaks in technologies of control, in disparate yet similar ways, exemplify the entanglements between law and code while simultaneously constituting ‘differentiators’ in the law–code–scape continuum. They reveal differences, absences, cracks and inconsistencies while opening lines of flight, as we will see.

Gill and colleagues (2020) used the concept of absence to bridge the gap between law and the material, and Philippopoulos-Mihalopoulos showcased law’s different shades of staging and withdrawing (absence) as law’s way of reinforcing its presence and materiality. I employ cybercriminal activities, interruptions in the everyday use of technologies, and technologies of control as examples of ‘differentiators’ to shed light on how law becomes material in the urban law–code–scape. Further examples of ‘differentiators’ are social categories. Before moving on to these examples, I will further clarify the post-human mechanisms/operations through which difference manifests itself.

The posthuman: information and affect

In the introduction, I stated that information plays a central role in the process of ‘difference-making’ in the law–code–scape. Keeping an ontogenetic perspective, and according to Simondon, the becoming of a body, or, in his own words, individual (individuation), is ‘a process of modulation whereby a differential tension—an information—is tuned-in to a novel dimension (an individual, a society), so that a new coherence (a new ‘consistence’, as Deleuze would say) appears’ (Brighenti and Pavoni 2023, 9).

The individual remains in an in-becoming state (De Sutter 2019), and the excessive reservoir of this becoming is something that Simondon calls the pre-individual. Because of the pre-individual dimension, individuals keep ‘falling out of step with themselves’ (Simondon 1992, 300); thus, they are continuously dephased, with dephasing expressing a way of being whereby one is always *different* from oneself while remaining

the same. This movement, which tries to maintain unity while bridging difference and dephasing, is expressed by information. Information is thus the ontogenetically inherent tension in the becoming-being of individuals, and in the way the latter resonate with technologies and environments; here, repurposing Simondon's work, with the law-code-scape. Information is the material element that 'moves and shifts, producing multiple forms of embodied individuation' (Tucker 2013, 33; see also Lupton [2021], who in turn drew on Bennett [2004, 2010]; Franklin and Haraway [2017]; and Haraway [2016]). Hence, 'a concept of bodies emerges that sees them as products of processes that are always-already technological and biological' (Tucker 2013, 33). This simplifies what Simondon called *ontogenesis*, the focus of which is on becoming-different rather than on being.

As Tucker (2013) pointed out, a link exists between information and affect. Affect is here interpreted in the Spinozian (Spinoza 2009 [1677]) and Deleuzian (Deleuze 1988) sense of the capacity to act and be acted upon. The information generated in the process of dephasing and differencing *affects* bodies in that it can increase or decrease their capacity to act and be acted upon. In this sense, and again repurposing Simondon, I argue that information attaches itself to bodies via affect, and that information and affect together are the elements through which an individual, a body, *becomes-different*, grows the difference within itself. Information and affect are considered here as the posthuman elements that generate difference, in that the pre-individual state from which they originate is an excessive reservoir of technologies (Keating 2019), biologies and naturalcultural elements that do not necessarily stem from humans. Affects are not 'human-originating qualities but ... posthuman, acentral, excessive attributes' (Philippopoulos-Mihalopoulos 2019, 210). In the case of human bodies, this may be a process that happens without conscious awareness. In the relationship between bodies, law, and code, it happens in the multiple formation of a human-legal-technological unconscious (Thrift 2004): 'The activity of information should be understood in terms of its altering effects [affect] on current patterns of being' (Tucker 2013, 33; see also the affective capacity of technology in Ash [2015], and the affective quality of law in Pavoni [2018]).

Differences in terms of minor or major alterations, ruptures, absences and discontinuities thus constitute what human beings are made of. A human being is not standalone, but, as should be clear from the previous sections, is rather an in-becoming, complex assembling formation rooted in the law-code-scape. Ruptures, operations of 'setting apart' or differencing, are the events that make bodies exist as informational and affective entities: 'Draw a distinction, otherwise nothing will happen at all. If you are not ready to distinguish, nothing at all is going to take place' (Luhmann 2006, 43). For Simondon, there was only difference: no unity of identity (Tucker 2018). Social categories (such as race, gender, sexuality, class, religion, etc.) may be another way to exemplify this operation of 'setting apart' and differentiation. They introduce stages, (inter)ruptions, in the stage-less pre-individual state of the individual. These interruptions may be dramatic and generate atmospheres of threat or non-acceptance, on whatever side of the difference one may find themselves to be; or they may be everyday differences that we indulge while remaining suspicious (Philippopoulos-Mihalopoulos 2019). Anyhow, making them 'absolutes' and exclusionary (Barad and Gandorfer 2021), or fixing and boxing them create closures; their openness as productive differences may allow instead for a

tuning into new affectivities and modes of exchanging information with the surrounding environment.

In the entanglement between law, code and space, some ruptures, or information events affecting bodies, may be concealed. They are invisibilised, as is necessary for the law, but also for code, to survive, and show themselves as fully working systems, guaranteeing a smooth urban space with fluid, ‘un-ruptured’ movements therein. The ruptures are also invisibilised because the individuals themselves wish to invisibilise them. Nevertheless, ruptures make a difference. Bateson (1987) stated that information is the difference that makes a difference. Simondon (1992) similarly explained that information is the tension between two phases of becoming–being. These differencing and affective events allow bodies and space to evolve and individuate in space. Still, what the law–code–space entanglement (or the code/space within the lawscape) tries to do is conceal the ruptures and smooth out the differences. Accordingly, for example, spatial interventions in urban contexts often aim to create smooth spaces in which goals are easy to achieve, urbanites are usually unaware of the invisibilised law and code, and are not required to unravel problems because problems have already been solved for them (Pavoni and Tulumello 2020). However, problem-solving is what individuals are ontogenetically supposed to do because of their inner differencing informational and affective structure. Is there a path towards a stage at which people are allowed to solve problems in the (urban) space and let the process of individuation, with all its tensions and differences, take place (Brighenti and Pavoni 2023; Hui 2015)?

Breaking the law–code–scape

Investigating how law and code actively produce and rupture urban space, in short, law and code’s ontogenesis, can contribute to reinforcing new materialist, theoretical perspectives on the spatio-techno-legal dimensions. In urban spaces, by remaining largely invisible, law and code subtly produce and generate differences. The unfinished and unstable nature of code further accelerates such production of differences—the informational and affective ruptures of the smooth experience that living an urban lifestyle is supposed to be. Although urbanites normally ignore, or implicitly accept, the unstable nature of code and its vulnerability to attacks, or the discreet presence of the law during internet navigation (e.g. pop-up requests to accept cookies) or while walking on the street (e.g. alert signs), there are situations in which code breaks and leaks in ways that challenge the law’s (ostensible) stability and becomes visible to individuals, suddenly disrupting (differencing) the smoothness of the urban experience. It is then that law and code emerge into consciousness.

Even when law and code remain below the threshold of visibility and awareness, they are seamlessly produced/transduced and, hence, fully part of urbanites’ everyday lives, materially attaching themselves to bodies and spaces. Information, when transducing cybercriminal and/or surveillance activities in the code/space, keeps imperceptibly modifying (‘affecting’, ‘attaching itself to’, ‘piling upon’) individuals’ bodies (Tucker 2013, 2018) and the spatio-techno-legal dimensions with which they are surrounded and familiar (Harper, Tucker, and Ellis 2013). In other words, information unseeingly affects and modulates the spatio-techno-legal dimension(s) that each urbanite carries and the design of urban spaces (Tedeschi 2019).

Thus, cybercriminal activities often remain invisible to our eyes; for example, phishing emails go directly into the spam folder, and background antivirus software prevents online threats from attacking our devices. Surveillance apparatuses work so smoothly that no one realises they are collecting personal data (Greenfield 2017). Customers may be shopping online while walking along a street or travelling on a bus, unaware of the code running underneath. However, events (ruptures) occur when something happens that tears the smooth urban experience. They are the informational and affective ‘differentiators’ within the law–code–scape. Cybercriminal activities may include seeking a connection with someone to steal their bank credentials, or surveillance leaks that release the data of thousands of people: ‘Data assemblages then do not act as cameras reflecting the world as it is, but rather as engines shaping the world in diverse ways’ (Kitchin 2015, 13). They also include other kinds of data breaches, such as those occurring while or after shopping at a particular retail outlet. Companies must disclose data breaches affecting third parties’ data within ‘30 days in the case of many U.S. states and 72 h in case of the general data protection regulation (GDPR) of the European Union’ (Schlackl, Link, and Hoehle 2022, 6). In the meantime, individuals are left with concerns about privacy, unwanted information sharing and feelings of violation (Schlackl, Link, and Hoehle 2022), which affect their everyday spaces and private lives. These are just examples. The main idea is that urbanites do not usually realise when something is happening, such as an invasion of spyware into a computer or a personal data leak resulting from a breach in a company’s security apparatus. As Thrift (2004) and Keating (2022) explained, we have all built a technological unconscious within, making most of us unaware of what technologies do to us and their impact on our daily lives. The same goes for the law, in that we have built an inner ‘legal unconscious’. However, when ruptures surface, the law–code–scape is disrupted, and the presence of the law and code emerges in all its power as a difference, breaking up reassuring spatio-techno-legal formations.

Ruptures in the law–code–scape present both risks and opportunities. The moment in which law and code abruptly emerge as a difference in the continuum is the one in which they are given back to space, allowing urbanites to become aware of their active presence; this is also the moment in which resistance and lines of flight may operate and follow unexpected, different directions within the urban experience.

Taking the difference seriously

Cybercrime and surveillance have numerous connections, as a recent study (Nussbaum and Udoh 2020) has shown. Surveillance can no longer be confined to specific devices (if it ever was), but rather has become fully part of the law–code–scape and, thus, of the spatio-techno-legal dimension every urbanite carries with them (Ahmed 2007; Keenan 2019). Especially in increasingly ‘smart’ urban contexts, this monitoring is diffuse and pervasive:

We tend to be relatively ignorant of the degree to which the contemporary streetscape itself has also been enabled to collect information. Just as our bodies and homes have become comprehensively instrumented, so too has the terrain through which we move. (Greenfield 2017, 46–47)

In a similar vein, cybercrime is also diffuse, not located in a specific place but ranging from ‘personal’ hooking attempts, such as phishing and spamming, to hackers’ attacks on businesses and institutions. Because individuals carry space with them (Ahmed 2007; Keenan 2019), they also invisibilise (and desire to invisibilise) these attacks while facing them constantly in the silent yet ever-present law–code–scape. The majority have passively accepted this in return for the benefits of a smooth and effortless urban experience (Brighenti and Pavoni 2023; Pavoni and Tulumello 2020); however, this smooth continuity cannot always be guaranteed—it is an illusion that urbanites build and desire for their own sake. Thus, it can be broken and disrupted, and when this happens, difference violently emerges in the law–code–scape. Discontinuity is revealed and suddenly becomes visible alongside the law and code. As said, this happens, for example, when there is a leak of personal data or when someone becomes a victim of a cybercrime, and it is not necessary to be connected to a digital device for this to happen. It can happen to anyone at any time: ‘One does not have to personally be “on the Internet” to have one’s life dependent on the Internet’ (DeNardis 2020, 16).

Recent literature has also highlighted an increase in urban fear (Tulumello 2017)—or fear of space (Philippopoulos-Mihalopoulos 2011, 2015) or the violence of/in urban space (Pavoni and Tulumello 2020)—that has been materially ‘absorbed’, via information and affect, by bodies carrying technological devices (or not): ‘The continuous production of information about oneself, particularly via digital tracking devices, can potentially lead to anxiety, fear, and frustration because of their sheer volume, which may itself inspire feelings of lack of control over data’ (Lupton 2021, 195).

Technological devices can thus be both sources of protection from crime (via surveillance tools over which one has the illusion of control) and very sources of crime themselves (via cybercrimes whereby people may lose control over their own data; Lupton [2021]).

This intermingling of surveillance and cybercriminal activities is the everyday experience of urbanites, meaning that they have become used to living in a state of subtle urban fear, which is thus fully part of their technological unconscious (Thrift 2004; Keating 2022). They wish the lawscape to invisibilise itself and code by ‘taking in the chaotic, ever-escaping outside (life, world, space ...) and domesticating it, simultaneously including space by excluding its conflictual, eventful and contingent materiality’ (Pavoni 2019, 164). Here, the informational and affective quality of the process of becoming—different of individuals in space is removed, and law and code remain hidden to guarantee a smooth and effortless urban experience—what numerous scholars have called ‘atmosphere’ (see Adey et al. [2013]; Pavoni [2018]; Philippopoulos-Mihalopoulos [2015], [2019]). However, ‘spacing is always the process of producing discontinuity, difference, *différance*’ (Philippopoulos-Mihalopoulos 2015, 41; italics in the original), as the experience of lawscaping of Armand (one of Philippopoulos-Mihalopoulos’s students who found himself in front of the United States (US) embassy in London) shows:

Armand decides to dissimulate, to become absorbed in the urban fabric by taking out of his pocket the piece of paper with the walk suggestions and pretend it is a map. In that way, he hopes to appear as an unsuspected tourist that could not possibly pose any threat to the law. (Philippopoulos-Mihalopoulos 2015, 101)

Armand tried to find a way to dissimulate, even though he was not breaking the law; however, ‘the presence of the law forces the body to see itself as a potentially criminal body and to hide behind a perceived innocent stereotype’ (Philippopoulos-Mihalopoulos 2015, 101). The surveillance surrounding the US embassy in London made Armand suddenly aware of the law, which became fully visible and present to his consciousness: a difference-generated by an informational and affective tension in his body and in the smoothness of space—suddenly appeared and disrupted them. His body reacted accordingly to protect him and provide a solution to something that turned out to be an unsmooth and problematic urban experience, which the lawscape and the coded urban infrastructure tried to invisibilise to avoid possible disruptions and the emergence of rupture and difference.

Keenan (2019) presented an example of a Somalian man who fled his country, became a refugee in the United Kingdom, and suffered from post-traumatic stress disorder. He was ordered to wear an electronic monitoring tag for ‘a “terrorism-related activity” suspect’ (Keenan 2019, 71). As Ahmed explained, ‘our spatial orientations and what is materially within our reach do not happen by chance, but as a result of “lines we have already taken”’ (2007, 21; cited in Keenan 2019, 83). In the case of the Somalian man:

Those lines include the complex post-colonial conflicts in Somalia, where he encountered extreme and enduring violence at close proximity and on multiple occasions, and from which he attempted to flee. Though not convicted of any offence, DD’s historical trajectories and encounters with law have positioned him as belonging to a space of violence, constant suspicion and pre-crime, embodying a threat that must be pre-emptively stopped and punished. (Keenan 2019, 83)

In the extreme case of the Somalian man (called DD in Keenan’s (2019) article), law, through code, could not be invisibilised, but rather kept in-forming and affecting (modulating; D’Amato 2019) his life as an everyday rupture or difference. He needed to be aware of it, and its presence and power, all the time. This exemplifies how social categories (here, at least race and country of origin) may also play a key role as ‘differentiators’. The difference is usually not clear-cut, but rather has various degrees: it can be acceptable and discreet or become dreaded, disruptive. In the case of DD, it is dramatically produced as exclusion, rather than a ‘differencing without othering—without separability, without exclusion’ (Barad and Gandorfer 2021, 46). The past he carried with him, together with his country of origin and race, formed a disruptive assemblage breaking the smoothness of the law-code-scape—and violently forcing him towards the visible and uncomfortable side of it.

The presence or absence of a technological device does not change the process of modulation of bodies and urban space, striated by the pervasiveness of technology. However, possibilities of resistance remain open, because the digital citizen

is both a subject to and of power that comes into being by acting in relation to the mediations, regulations and monitoring of the platforms, devices and algorithms or, more generally, the sociotechnical conventions that format, organize and order what we do, how we relate, act, interact and transact through the internet. (Ruppert 2018, 203)

As Ruppert (2018) noted, based on Balibar’s (1991) theory, an urbanite embodies these two souls, meaning that there is a possibility of resisting the smoothening out of differences and reaffirming the conflictual materiality of space (Pavoni 2019). The ontogenesis

of the individual is never complete and, in fact, remains transductive; thus, there is always a line of flight and the possibility of new spatial production and escape, or of fixed social categories to be disrupted. Performances and attempts at crossing the lines may be a means of escape. This allows the law and code to materially emerge into our consciousness and ourselves to sometimes have a different, without being exclusionary, unsmooth urban experience, as Armand did.

Conclusion

This article contributes to the current scholarly dialogues between law, geography and philosophies of technology but without directly embracing one or another discipline's point of view. Instead, I aimed to adopt a transversal and interdisciplinary ontogenetic view on the material and the 'becomings' of law and code—how they influence each other, and how they then come together (entangle) to in-form and affect individuals' movements in (urban) spaces. While this endeavour has already been taken on by various spatio-legal and techno-legal theorists, this article focuses on an ontogenesis that includes both law and code, where their co-emergence and co-constitution in bodies and space go in the direction of a new materialist account of reality.

The ways in which law and code affect bodies and space via information and affect are mostly invisible. Their movements are productive in the sense that they seamlessly transduce and generate new materialities and spatialities. However, this silent operation of transduction can suddenly become visible, show its full materiality, and reveal differences when the spatio-techno-legal smooth surface that urbanites navigate daily is cracked and ruptured by unexpected, often unpleasant events: 'The blind spot remains invisible, for otherwise one risks the rupture; not the rupture of monadology, of systemic closure and normative recursivity, but the rupture of that which comes from the visibilisation of absence, of unutterability' (Philippopoulos-Mihalopoulos 2007, 180). Such rupturing events may be of various types, which, in this article, I exemplified by the differences that technologies of control and cybercriminal activities generate in the spatio-techno-legal continuum, unexpectedly and 'violently' bringing law and code into an individual's awareness as difference. Difference can also take on other, though less violent and more discreet, roles, such as via the comforting 'cookie-law', signs on streets informing passers-by that they need to be careful of pickpockets in the area, or notices telling them that they can call the police if they witness suspicious, anomalous behaviour.

In 'taking the difference seriously', this article contributes to the literature trying to bridge the gap between the law and the material (Gill et al. 2020). It first summarises the relevant existing spatio-techno-legal literature and theories unearthing the entanglements of law with its bodily and spatial dimensions, and specifically with code. The post-human elements identified as operators of the entanglements are information and affect. It concludes that the ontogenetically unfinished form that technological devices take transduces into (in)visible ruptures and differences in bodies and the spatio-techno-legal continuum they carry, fostering a new awareness of the possibility of resistance and lines of flight, away from the forced smoothening out of differences in the urban space.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Academy of Finland project ‘JuDiCe’ (Justice in Digital Spaces) [grant number 348559].

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