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Chapter 15

Cartographic Care, or Care-tographies *From London to Hong Kong*

Sam Hind

Every political theory, explicitly or implicitly, contains an account of care.¹

Joan C. Tronto, 2013

The promising scenario of a politics of care . . . requires that we think about care in its broadest possible public framework.²

Joan C. Tronto, 2013

This chapter looks to several digital mapping platforms – some defunct, others active – that, as I argue, provide a blueprint for an otherwise latent cartographic politics. From 2010 to 2012, ‘Sukey’ was used by protesters in London to avoid police containments at protest events. It became known as the ‘anti-kettling’ app. For this brief period, its capacities confounded the police and excited the media. It was to be a new wave of democratic politics. The years since have seen a revanchism of sorts – as police forces throughout the Western world equip themselves with advanced crowd-control technologies. Many of these have taken a cartographic form – with software now capable of tracking the movements (and allegedly inferring the intent) of interested peoples. More recently, in Hong Kong, two similar protest mapping projects – HKmap.live and 103.hk – were launched to help protesters in similar such protests. Opportunities for counter-strategy, thus, remain both possible and necessary.

As a profitable way in, then, I propose to turn to classic feminist texts on ‘care’.³ I do so in order to render legible cartography’s latent caring desires, often undervalued in more ‘militant’ cartographic theories.⁴ In its navigational form, mapping involves caring for the lost, disorientated or in danger, allowing one to identify buildings or street names and navigate to bus stops or places of refuge. Maps entail a formalization of spatial relations in order

to aid in this navigational care. They are assistive devices, rendered in material form. Yet ‘counter-cartographic’ approaches – typically ‘antagonistic’, or subversive – fail to conceptualize how maps engender social relations on their own terms rather than as kinds of ‘counter-action’.⁵ Articulating this caring practice in more explicit and expressive care-ful terms allows these relationships to be codified and deployed. It builds on, and intensifies, work in feminist Geographical Information Science (GIS) that has considered how mapping projects routinely leave spaces of care ‘off the map’.⁶ The attempt in this chapter is to consider how this concern for ‘care-ful representation’ may be further mobilized as ‘care-ful practice’ – through digital navigation itself. It does so by using protest mapping platforms as a tentative blueprint. I refer to such possible projects as ‘care-tographies’. In the following section, I will discuss theories of care, considering how care is a practice, consisting of ‘phases’ in which care is enacted. Then, I explore how care has been theorized within critical cartography, before discussing how the attendant risks within protest events call for a re-evaluation of care itself. In the second half of the chapter, I detail how protesters ‘act care-tographically’ during protests in London and Hong Kong, by using mapping apps. Following this, I propose three novel phases of care: the provision of *self-care*, the *resilience* of caring infrastructures, and the *expiration* of care needs. The aim of the chapter, then, is to flesh out the care-tographic coordinates of cartographic care itself.

THEORIES OF CARE

Berenice Fisher and Joan Tronto offer one of the most concrete and comprehensive definition of care. ‘On the most general level’, they suggest ‘that caring be viewed as a *species activity that includes everything that we do to maintain, continue, and repair our “world” so that we can live in it as well as possible.*’⁷

In this, care is cast not as a formal relationship between professional care-giver and receiver, nor as a strictly family relationship between parent and child, but as a more general set of possible relationships throughout the world. This caring sensibility, in Fisher and Tronto’s definition, is inherent to all. However, this is not to say that all caring relationships function the same; nor, that care even stands for the same thing. As Tronto suggests, ‘caring’ entails many things – equally standing for a personal ‘burden’, a form of love, or a branding exercise.⁸ As Victoria Lawson⁹ suggests, ‘a feminist ethic of care begins from the centrality of care work and care relations to our lives and societies’. Yet, it is ‘[u]nder neoliberal principles’ that ‘care is a private affair, occurring in homes and families’,¹⁰ with provision supplied by

either the traditional family unit or by the market. This common split between care-as-familial and care-as-market-relation denies Fisher and Tronto's more comprehensive definition of care. As Lawson continues, it is in 'the privatization of care [that] we construct certain sorts of people as in need of care – the infirm, the young/elderly, the dependent, the flawed – ignoring the fact that *we, all of us, give and need care*'.¹¹

Thus, it is suggested that theories of care should incorporate a significantly broader conception of its operational nature beyond the home, family, and market, to include all aspects of daily and spectacular life. As Joan Tronto¹² has long argued, care should be the 'basis for radical political judgements'.¹³ Furthermore, that rather than an ethical stance, care 'is perhaps best thought of as a practice'.¹⁴

Maria Puig de la Bellacasa, extends this framework even further to argue that 'the idea of care . . . goes beyond moral disposition or a well-intentioned attitude',¹⁵ as well as a form of 'ethically and politically charged practice',¹⁶ to necessarily include the need to 'take care of things'.¹⁷ If we are to understand the world – and our activity in it – as constituted in, through and with material objects, then our understanding of care, and the frameworks necessary to administer care in the world, must include such objects. In other words, de la Bellacasa argues for a thoroughly materialist engagement with care; conceiving it as an ethico-political-material practice.

As part of de la Bellacasa's work, she looks to Bruno Latour's¹⁸ work on 'matters of concern'. Here she finds that Latour, while attentive to the precarious nature of scientific 'facts' and technological 'certainties', does not sufficiently stress the affective nature of matters. While being concerned 'denotes worry and thoughtfulness about an issue',¹⁹ concern itself does not render a great degree of action – ethical or otherwise. Concern, then, is a weak correlate of care. While the act of 'being concerned' might lead to a higher consciousness, it does not connate action or commitment to future action. To address this, de la Bellacasa supposes that Latour's term be adapted to stress 'matters of *care*', demonstrating 'a strong sense of attachment and commitment to something'.²⁰

In this more comprehensive conceptualization, Joan Tronto identifies what she calls 'three phases of care'.²¹ The first of these is *attentiveness*, or 'caring about'.²² As she suggests, 'until we care about something, the care process cannot begin. Thus, a constant impulse to return to the details of care processes and structures in life is the starting point of care as a theoretical perspective'.²³ 'To be attentive' as she continues 'requires actual attention to be paid to those who are engaged in the care process'.²⁴

Aryn Martin et al. build on Tronto's work, by suggesting that care is a 'selective mode of attention: it circumscribes and cherishes some things, lives, or phenomena as its objects'.²⁵ Invariably, therefore, 'it excludes

others'²⁶ in the process. Assuming the position of different actors in care relations is critical, therefore, to understanding how this attentiveness operates. Thus, while comprehensive, Fisher and Tronto's definition of care is not flattened and absolute. Care is necessarily selective. As Tronto lays out:

The public housing debate looks quite different to someone living in substandard housing who has to cope with that situation (which affects all other aspects of life: how to keep and prepare food, how to protect property, how to arrive safely home from school, etc.) than to an economist who focuses solely on 'market forces.' Thus, a shift occurs in what counts as 'knowledge' in making philosophical and political judgements.²⁷

Equally, in public protests, these care relations also start to look radically different; depending on which actors are brought into focus.

The second of these is *responsibility*, or the act of 'taking care of'.²⁸ 'Care requires that humans . . . take responsibility for one another',²⁹ and 'involves the recognition that one can act to address . . . unmet needs'.³⁰ As Joan Tronto writes, '[d]emocratic politics should centre upon assigning responsibilities of care, and for ensuring that democratic citizens are as capable as possible of participating in this assignment of responsibilities'.³¹

Over the last thirty years, these responsibilities have demonstrably shifted. In the West, this has invariably involved the shrinking of state responsibilities for forms of social care and the expansion of market responsibilities to carry out these same functions. In Hong Kong, a similar shift is captured in the economic policy of 'positive non-interventionism', guiding the territory since British rule, until more recent Beijing-led conflict.³²

The third is *competence*. This 'requires that the actual care-giving work be done',³³ as well as being able to evaluate the degree to which care can be given sensitively. This demands taking into account the nature of the care-work, or care relations, as well as the intended recipients of the care-work or relations: 'the practice of caring for someone else's children requires some different competencies than caring for one's own children . . . Knowing how to negotiate [this] is part of the caring practice of being a good nanny, which is different from the practice of being a good mother'.³⁴

In essence, '[i]t involves physical work, and almost always requires that care-givers come in contact with the objects of care'.³⁵ As Tronto points out, however, the gifting of money rarely constitutes an act of care-giving itself:

As feminist economists have long noted, there is a great deal of work that goes into converting a pay check, or other kind of money, into the satisfying of human needs. That we quickly equate . . . the provision of money with the satisfaction of needs points to the undervaluing of care-giving in our society.³⁶

The final phase of care is *responsiveness*, or ‘care-receiving’.³⁷ Care, therefore, is not afforded and exercised without acknowledgement or understanding of how the care recipient responds or reacts to the care process. This does not necessarily take a linear form, however, with responsiveness considered only after attention, responsibility, and competence. As Martin et al. argue, ‘prior to securing a thing to care for, a person [or thing] must have the capacity or willingness to respond, to be called into action, to be hailed by that object or phenomenon’.³⁸ Recognizing, and securing, this ‘capacity to respond’ is the responsibility of all involved in the care relationship formed; those on all sides must be ‘willing’ to engage.

As Tronto suggests:

It is important to include care-receiving as an element of the caring process because it provides the only way to know that caring needs have actually been met . . . But perceptions of needs can be wrong. Even if the perception of a need is correct, how the care-givers choose to meet the need can cause new problems.³⁹

This is perhaps the most appropriate moment at which to bring care directly into conversation with maps, mapping, and navigation. Think, for a second, that you are lost; either driving to a relative’s house, hiking alone, or cycling home from a night out in a new city. On each occasion – for the purposes of this argument – you find yourself without a typical navigational device that would usually ensure your safe arrival. You decide to find the nearest person who might be able to assist. With a flurry of confident hand gestures, reassuring head nods, and concise instructions from an affable passer-by, you head on to your presumed destination.

But in each of these hypothetical cases the otherwise willing, and seemingly more knowledgeable individual, mishears your destination. With your misplaced confidence you bound on, replaying the hand gestures, impersonating the head nods, and repeating the instructions. Now further away from your intended destination, lost in a labyrinthine suburb, on a barren moorland, or along a never-ending city street, you realize that despite their best intentions, your navigational assistant has failed to properly ‘perceive your needs’ (navigate to point B), ‘causing new problems’ (you are now even more hopelessly lost!) along the way.

In short, navigational instructions – issued to someone who is lost – are a lifeline. Considered in relation to the theories of care discussed in this section, navigation itself can, I argue, be considered as a caring practice not unlike typical acts of care. Thus, if we are to take seriously Tronto’s suggestion that care should not be limited to professional and/or familial relationships, then it is worth considering how other such practices – including navigation – can

be thought of as caring acts (or not). In the next section, I look to how maps, mapping, and care have been conceptualized in critical cartography thus far.

CAREFUL REPRESENTATION

The concept and practice of care is already well-explored throughout critical cartography, most notably through gender. Agnieszka Leszczynski and Sarah Elwood⁴⁰ suggest that gender matters ‘because the introduction and pervasiveness of emergent spatial information technologies, and the things we do with them, have material consequences’. These ‘emergent spatial information technologies’, as they call them, include new mobile-mapping platforms with the potential to geolocate users. Two, now defunct, apps – WhereTheLadies .at and Girls Around Me – mined Foursquare for ‘check-ins from users with female-sounding first names’ with the latter going one step further ‘by linking those check-ins with the women’s Facebook profiles’.⁴¹ As Leszczynski and Elwood emphasize, ‘[m]asculinist values can be encoded into technologies in explicit ways, particularly in instances where male privilege drives the very design and conceptualization of the end product’.⁴² Far from rudimentary dating apps, each of these platforms ‘promote[d] and enable[d] potentially predatory behaviour and encourage[d] unsolicited advances to women’ with the possibility of ‘reaching the level of sexual harassment’.⁴³ It is these material consequences that Leszczynski and Elwood acutely identify as effects of spatial media design and programming.

Furthermore, that gender ‘is a significant axis along which difference is (re)produced through the design of new spatial media themselves, the ways in which they encode space, and the ways in which they presuppose and reify normative gendered and sexual subjectivities’.⁴⁴ Monica Stephens also examines evidence of the gendered nature of OpenStreetMap (OSM), through an ‘examination of the amenities that have been proposed and approved as features on the map’.⁴⁵ As Stephens⁴⁶ explains, ‘amenities are features that provide a service or facility for map users’ such as a convenience store or a local hospital. As OSM is a ‘wiki-style’ platform edited by an active community, users can ‘propose features and vote to approve what will appear as “map features” . . . that will be rendered on the basemap’.⁴⁷ But as Stephens⁴⁸ explains, while ‘OSM users approved features to delineate between a restaurant, pub, bar, biergarten, nightclub, stripclub, swingerclub and brothel’, proposals for similar distinctions between spaces of care, such as ‘childcare’ were voted down by OSM contributors for fear of ambiguity.

In essence, users believed that the amenity was sufficiently similar to already-existing features such as ‘kindergarten’, such that ‘spaces of care and nurture that are associated with feminized skills garner less attention than

the facilities where women are commodified (strip clubs, brothels, etc.) and therefore do not obtain the votes necessary to become features'⁴⁹. The result is that the 'lack of childcare features on the map adversely affects mothers as women are still primarily responsible for childcare and the lack of these services on the map can reduce their access to urban opportunities'⁵⁰.

The power of the OSM platform resides in its ability to prescribe a particular world. It is inscribed in the lines, labels, and amenity hierarchies that govern its design and is wielded by OSM editors acting as gatekeepers of 'reasonable', 'necessary', and 'functional' cartographic knowledge, rendering a mapping interface devoid of amenities and spaces typically required for, used by, and of value to, care-givers. If these 'emergent spatial information technologies', as Leszczynski and Elwood remind us, have 'material consequences' then the outcome of such as state of affairs is an absence of all four phases of Tronto's care: a lack of attentiveness (to varying forms, and spaces of childcare), responsibility (of a mapping platform to provide cartographic information on such), competence (in the delivery, and sensitivity of care-giving), and responsiveness (to the needs of children). In each phase, from Stephens' analysis, the platform fails to deliver a care-ful solution.

In the next section, I consider how the circumstances of particular protests, where mapping apps have been used, requalify the relationship between risk and care.

RISKY SITUATIONS

The taking of risks ordinarily implies the abandoning of care, attention, and responsibility. Yet, I argue that in some protest events, risk-taking is necessary in order to exercise care relations. As such, rather than the antonym of care, risk becomes a simultaneous and complimentary force. In non-'A to B' demonstrations, this risk-taking might ordinarily involve ensuring the mobility of fellow activists, to avoid police containment or 'kettling'.⁵¹ It is this mobility that, in turn, ensures the safety of the protest participants. It is through the provision of what I refer to as 'navigational knowledge' – that is, map-based information relevant to the specific moments within a protest event – that this safety is secured. Only by offering this information *live*, rather than in advance, can such safety be assured, as such protest events are often fast-moving and unpredictable.

Although risk has been variously theorized, here I look to the work of Louise Amoore,⁵² Ben Anderson,⁵³ and Rob Shields,⁵⁴ who have contributed to conceptualizing risk as the calculation of possible futures. In this form, risk becomes an orientation towards the not-yet-happened. It is at once a technology, a quality, and a calculation through which particular forms of value are

assigned to a future event. Yet this future event cannot be known entirely, or perhaps, not even identified in the first place. It is elusive. This uncertainty – of what possibly lies ahead – is the essence of this conceptualization of risk.

Yet there are different modes of risk, and Amoore suggests a ‘possibilistic logic’ is replacing probabilism as the more dominant force in contemporary life. Rather than seeking to avoid future risky events, this possibilistic logic actively works across its terrain to simulate, model, and manage it, acting:

. . . not strictly to *prevent* the playing out of a particular course of events on the basis of past data tracked forward into probable futures but to *preempt* an unfolding and emergent event in relation to an array of possible projected futures.⁵⁵

The logic of possibility strikes up a peculiar relationship between the past, present, and the future – working across the terrain of all three at once. It does so through the deployment of yet-more novel technologies throughout the ‘diverse worlds of risk management consulting, computer science, commercial logistics, and data visualization’⁵⁶ as well as, of course, global security – whether in state or private forms. Indeed, it is within these non-governmental worlds – as much as within state research departments themselves – that we have seen the growth of such technologies and strategies. As Nathaniel O’Grady⁵⁷ suggests, ‘[e]ngendering anticipatory forms of governance requires new temporal arrangements to coordinate the calculative practices by which . . . risk is made sense of’. Rob Shields provides a conceptual guide to the relations drawn between the past, present, and the future in this possibilistic mode, suggesting that ‘risk is always more than concrete danger and calculations of probability because of the importance of perception and understanding as ingredients in risk assessment’.⁵⁸ As such, calculating risk (in the possibilistic sense invoked by Amoore) involves taking into account both future actions and other less concrete elements.

Appropriately, with this shift from a probabilistic to a possibilistic logic, we see the emergence of a new quality of care. While Fisher and Tronto’s four phases still apply, they do not consider the presence of risk as a threat to care itself. More precisely, they consider risk as a manageable state *inherent to* care – especially so within the kinds of protest events I discuss here. In other words, care must necessarily entail an orientation towards risk and risky situations. In the remainder of this chapter, I will explore how this relationship manifested in the use of (a) the Sukey platform in London from 2010–2012 and (b) the HKmap.live and 103.hk platforms in Hong Kong from 2019 to 2020. I end by proposing four new phases of care: the provision of *self-care*, the *resilience* of caring infrastructures, and the *expiration* of care needs.

ACTING CARE-TOGRAPHICALLY IN LONDON

Monica Stephens' case of OSM demonstrates a considerable lack of care at the heart of digital, spatial media, echoed across digital media more broadly.⁵⁹ In this section, I detail the first counter-example, the likes of which can, I suggest, provide a blueprint for acting 'care-tographically'.

Sukey was a digital platform designed to help protesters navigate during student and anti-austerity demonstrations in the United Kingdom.⁶⁰ It was launched in December 2010 as a Google Maps 'mash-up' now viewed over 244,000 times,⁶¹ re-launched as a web application in January 2011, re-designed as a more comprehensive platform in October 2012, before being retired not long after. During the early years of the austerity era in the United Kingdom (2010–2015), and the first term of a new Conservative–Liberal Democrat coalition, numerous mobile, volatile, and unpredictable protest events were organized in London and other cities around the country.

Many of these demonstrations were hosted by student groups to protest against the rise in higher education tuition fees. Although typically A to B demonstrations, these events often culminated in far less routed and spatio-temporally predictable circumstances. As a way of preventing widespread disruption, the police would begin kettling. Once contained, protesters were often held for hours, without access to food, water, or the use of a bathroom.⁶² On release, their details would be taken, despite no public order crimes having been committed. The speed to which the police resorted to such tactics was unprecedented; defining the physical brutality of these early austerity years.

The Sukey platform was launched as an 'anti-kettling' platform designed to ensure protesters could avoid such containments – not necessarily as a point of principle, but as a necessary, practical fix to a self-evident problem. The kettle is an indiscriminate manoeuvre. Unlike other tactics carried out by riot police during protest events, the containment is neither (a) defensive, (b) passive, nor (c) selective. It is not performed to defend a particular location (a building, square, statue), nor does it facilitate general policing duties during an A to B demonstration (i.e. lining a route), or, entail the careful selection of individuals judged to have committed a crime (i.e. assault, damage to private property). Instead, the containment is (a) offensive, (b) active, and (c) collective. That is to say, it involves the forward, choreographed, mobile movement of a mass of riot officers, entails deliberate and intended corralling of individuals into a designated, impermeable space, and is aimed at preventing the movement of proximal activists, *en masse*.

The aim of the platform was to provide live navigational updates on police containments. Messages were routinely sent by users of the platform and participants in the demonstration, providing Sukey with up-to-date information

on the whereabouts of police officers, riot vans, and mounted police. Once verified, these messages were either distributed back to users via a Sukey Twitter account, or, more radically, rendered cartographically on a refreshable digital map of the protest environment. Junctions blocked by riot police would be represented by red lines, with those freely accessible mapped in green. These cartographic signs became the navigational lifeblood of many protesters on the ground, ensuring they stayed clear from potential police containments; free to continue protesting.

What was unique about the platform was its ability to provide navigational updates to protesters, while they were on the move. As such, it became responsible, re-active, and sometimes even pre-emptive of otherwise dangerous situations. Although maps have long been used in demonstrations: as navigational tools, in information leaflets, and as planning and organizational documents, their use as on-the-fly navigational prompts, responsive to, and cognizant of, possible threats was unheard of until the Sukey platform. It became a kind of ‘anticipatory technology’ – able to assist users in pre-empting future situations.

With the rise of various protest movements in recent times, from Black Lives Matter to the Climate Strikes, the Sukey platform – although long since gone – provides a radical blueprint for a latent cartographic politics. Thus, there is a need to understand how care might be exercised through digital tools; embedded in digital life. As such I outline here, how the Sukey platform engendered a form of care, working through Fisher and Tronto’s four phases.

First, it ensured participants were *attentive* to the collective needs of other protesters beyond that of immediate friends or comrades. Sukey, considered care-tographically, entailed the construction of a broad, connective network demonstrating Bennett and Segerberg’s logic of ‘connective action’.⁶³ Such networks, as Bennett and Segerberg suggest, ‘operate importantly through the organizational processes of social media’, eschewing ‘strong organizational control or the symbolic construction of a united “we”’.⁶⁴ This attention, conditional of this connective capacity, was cast far beyond organizational affiliation, not only augmenting but entirely replacing other mechanisms designed to ensure the safety of protesters during demonstrations (i.e. buddy systems or blocs). This is patently not care-as-familial, nor care-as-market-relation, but care-as-connective-practice.

Second, it routed a form of care *responsibilities* through both a digital device (smartphone) and a digital platform (map app). In so doing, these responsibilities were rendered visually, textually and cartographically, and the ‘unmet needs’ of protesters, materialized. Without a routing of these responsibilities through a platform capable of processing ‘on-the-fly’ needs,

these responsibilities remained unassigned. The needs of fellow protesters, furthermore, remained pre-determined, fixed and assured *before* the protest event rather than dynamically addressed *during* it. The platform allowed new risks to be verified and mapped – such as the formation of a police line across a particular junction. Here is why risk is not the antonym of care: it openly worked across the terrain of the former, in order to instantiate the latter.

Third, it was able to evaluate the *competence* of care-giving by virtue of whether protesters had been contained or not. As Sukey was primarily an ‘anti-kettling’ platform it served a singular, obvious purpose: to prevent the containment of protesters. Its on-the-ground success, therefore, was measured by the degree to which activists remained ‘un-kettled’ and free to move through the city streets. In other words, to continue protesting. This competency, therefore, was judged not through a singular, bi-directional care-giver > care-receiver > care-giver relationship, but through a multi-directional, plural formation; a ‘many-to-many’ care-tography.

Then, lastly, it became possible to engender, foster, and actualize a *perceptive capacity* in demonstration participants – that is, ‘care-receivers’ – that police containments represented the most dangerous, possible threat to their continued right to protest. It enabled possible protesters to engage with, and understand, what became to be the most significant threat to bodily safety during demonstrations at that time: police containments. Much of this involved communicating ‘how to spot a containment’, ‘how to avoid a containment’ and, if necessary, ‘how to survive a containment’. The platform therefore enabled care-receivers to be (a) open to being understood as such and (b) also, simultaneously, act as care-givers.

The platform, needless to say, was not without its problems. As with any blueprint, the reality was somewhat messier. In many ways, the version of events presented above is an idealized view of the platform. In reality, only some participants were attentive towards fellow protesters in a way the platform demanded. Furthermore, that these care needs were not always met, dependent as they were on a successful circulation through the Sukey network, and reliant upon qualification and verification of risk reports sent to the team. In addition, that due to the uneven relationship between protesters and attendant police forces – with all the latter’s labour, equipment, legal recourse, and organizational resource – this desire to remain free, mobile, and disruptive was unrealized. Lastly, the capacity to perceive threats was, and continues to be, dependent on the successful translation of activist pedagogies into concrete navigational knowledges. Nonetheless, the platform provided a glimpse of what a care-tographic project might look like.

In the next two sections, I want to focus on two protest mapping projects used during protests in Hong Kong from 2019 to 2020.

ACTING CARE-TOGRAPHICALLY IN HONG KONG

Both HKmap.live, a dynamic, online mapping platform; and 103.hk, a static alternative, provide a fascinating update to Sukey both (a) advancing the digital protest map in new ways and (b) demonstrating a new example of care-tographic practice. I argue that not only did both projects activate four phases of care – attentiveness, responsibility, competence, and responsiveness – for protesters within Hong Kong but also three further phases or aspects of protest care-tography, not necessarily cultivated through the Sukey platform from 2010 to 2012. I refer to these as the provision of *self-care*, the *resilience* of caring infrastructures, and the *expiration* of care needs.

In 2019, Hong Kong once again became the site of protest, five years after the ‘Umbrella Revolution’ in 2014. Not unlike the student protests in London, Tin-yuet Ting characterizes these most recent protests as ‘wildcat’ actions, in which ‘digitally savvy citizens engage . . . in largely ad hoc networked forms of pop-up protests’.⁶⁵ The adoption of the Bruce Lee quote ‘be water, my friend’ by activists is a distillation of the autonomous ethic that pervades Hong Kong itself, as well as abstract tactical advice.⁶⁶ In 2019, activists eschewed the more sedate occupational tactics of 2014, choosing instead to ‘rise up simultaneously in multiple locations’, drawing ‘upon mobile social media to coordinate . . . operations and . . . avoid police detection’.⁶⁷ Following the passing of a new national security law in June 2020,⁶⁸ protesters once again returned to the streets of Hong Kong, a year on from the 2019 protests against a contentious extradition law. The new law gives China increased powers to intervene in Hong Kong affairs, threatening the relative autonomy the territory has had since British handover in 1997, under the ‘one country, two systems’ rule.

Unlike Sukey, which used a Twitter account to simultaneously issue updates, HKmap.live uses a telegram channel (@HKmaplive) to push map links and message updates to its 106,869 subscribers.⁶⁹ Users can navigate directly to HKmap.live in any web browser or download the HKmap.live app on an Android device. In a much publicised account, the app was removed by Apple from the App Store, citing its use ‘in ways that endanger law enforcement and residents in Hong Kong’ suggesting that the app had ‘been used to target and ambush police’ and ‘threaten public safety’.⁷⁰ 103.hk also use a telegram channel (@RealTimeMapHK), cross-linked in the HKmap.live channel, to push map links and message updates to its 27,784 subscribers.⁷¹ Instead of a dynamic map, however, 103.hk posted fresh, static digital map

images up to every 15 minutes during major events,⁷² both to its website, and into their dedicated telegram channel.

To begin with, HKmap.live were distinctly aware of the specificity of their project, and the particular ways in which it provided situated, cartographic assistance to protesters in Hong Kong. In a series of tweets on 12 June 2020, a year after its original deployment, HKmap.live mentioned that they had been receiving inquiries to make ‘#HKmap available to other part [sic] of the world’.⁷³ Their careful response was three-fold. First, they identified the ‘security implications’ of exporting their open-source project to other locations.⁷⁴ Second, they emphasised the ‘very specific logic’ of the project, mentioning both the ‘local knowledge’ and ‘high population density’ of Hong Kong that made the project possible.⁷⁵ Then, third, that it had taken considerable effort to keep the project running for ten months while also ‘working full-time irl [in real life] to put . . . bread on the table’.⁷⁶ As such, the makers of HKmap.live



Figure 15.1 HKmap.live (left) as Shown in the Android App, in the Aftermath of Protests against the New National Security Law. 103.hk (right) produced Maps as shown in the @RealTimeMapHK Telegram Channel, in the midst of the Same Protests Earlier in the Day. Author’s Image.

were attentive both towards their actual and possible users (security implications, etc.), the environment in which they worked (the densely populated, and unique territory of Hong Kong),⁷⁷ as well as the necessary labour required to make the project both efficient and effective (juggling activism and paid employment, etc.). In other words, HKmap.live – with sentiments echoed by 103.hk – lend themselves to a more thorough analysis of the care practices it engendered through the mapping projects.

Both the maps attempted to cultivate a similar ‘connective action’⁷⁸ to Sukey, *attentive* to the collective assistance required by protesters. However, they took two paths to achieve this: one producing dynamic maps, the other generating static maps. In the case of 103.hk, this attentiveness was largely enabled through so-called runners – on-the-ground data collectors charged with reporting on the current situation. Maintaining a core group of reliable runners was important for generating accurate information, as well as ensuring information was collected according to an agreed protocol. But setting up and maintaining a reliable network of contributors was difficult, as 103.hk contend: ‘[r]unners need training and experience’ and are ‘NOT plug-and-play’.⁷⁹ Similar to reservations had by the Sukey developers, the 103.hk team was ‘quite skeptical of crowd-sourcing all information indiscriminately’,⁸⁰ instead desiring a systematic approach reliant on a smaller number of dedicated runners.

Both projects show the critical value of routing care *responsibilities* through a digital device, using bespoke mapping platforms. In the ‘city without ground’,⁸¹ the risks were patently different, adding to the list of responsibilities. Neither HKmap.live nor 103.hk were strictly, or only ‘anti-kettling’ maps, per se, in

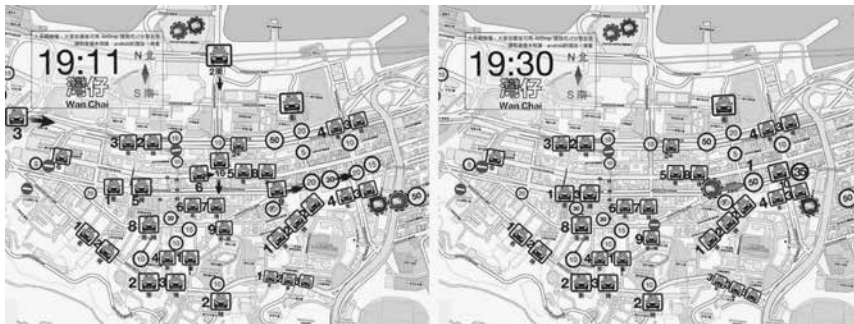


Figure 15.2 103.hk Updates on the @RealTimeMapHK Telegram Channel, 19 Minutes Apart, from 19.11 to 19.30 on 1 July 2020 in the Wan Chai District of Hong Kong. Note the heavy police presence, as well as a water cannon (white van in red circle) to the right of the image at 19.11. Protester numbers are estimated in the purple circles. In the 19.30 map, the water cannon is now moving at speed along Hennessy Road, towards a group of fifty protesters. A number of roads continue to be blocked in the area. Author’s Image.

that their primary aim was to prevent protesters from being kettled. Instead, both were more broadly, anti-police or anti-arrest platforms intended to facilitate the on-going mobility and safety of protesters in fast-moving and rapidly-changing situations from protests in Admiralty outside the Legislative Council Complex, to those in Sheung Shui in the New Territories, and from occupations of Chek Lap Kok Airport to the Hong Kong Polytechnic University.⁸² A whole range of police tactics were deployed in the Hong Kong protests – from roving riot police units equipped with batons and round shields, to water cannon, road blocks, and the liberal use of both pepper spray and tear gas. Organized mob attacks on protesters, such as those on 21 June 2020 in Yuen Long,⁸³ only added to the manifold, assumed responsibilities of the mapping teams.

The 103.hk team was clearly aware of the limitations of their work and the outstanding issues that hampered their *competence* in assisting people during the protest events. These issues manifested in various ways – from runner knowledge, to reporting protocols, and from areal mapping issues to bandwidth restrictions. While identification of these issues was easily done, the comparative ‘success’ of 103.hk’s efforts was more difficult to gauge – not least because of the sheer breadth of possible situations encountered by protesters (thus synthesised by runners and mapped by the respective teams) but also because of the manifold tactical aims, to match the plurality of risks: preventing arrest, restricting police movement, combatting pepper spray or water cannon,⁸⁴ neutralizing tear gas,⁸⁵ disabling possible surveillance infrastructure,⁸⁶ and maintaining a semblance of protest itself. Here, an evaluation of the competence of care-giving through the respective map projects was overwhelmingly difficult – at least with respect to ensuring the on-going safety of protesters during particular events, ordinarily wary of surveillance by the Hong Kong authorities.⁸⁷

The provision of both dynamic and static maps enabled the delivery of near real time information *responsive* to on-the-ground developments. This dual emphasis provided at least two options for receiving tactical information, via two maps, and multiple apps/browsers/channels. More specific suggestions offered by 103.hk demonstrate reflexivity in the operation, enabled by the accumulation of situated, operational knowledge by protesters. For instance, due to the sheer volume of people in attendance at major demonstrations, Wi-Fi access in central Hong Kong districts (such as Admiralty) would become severely strained. In order to circumvent these recurring issues, 103.hk suggested that users should utilize the ‘AirDrop’ function on their mobile devices to pass on the static maps, as this ‘can be an effective way to ripple information’;⁸⁸ ensuring protesters had up-to-date maps. This echoed similar efforts during the 2014 Hong Kong protests, during which the mesh networking app ‘FireChat’ was used by protesters to maintain communications in crowded areas.⁸⁹

'THE MAP IS NOT AS IMPORTANT AS YOU ARE'

In addition, the use of protest maps during the Hong Kong protests engendered some novel aspects of care-tographic practice that require further elaboration. Here I suggest that these constitute three further phases of care, beyond those identified by Fisher and Tronto.⁹⁰

First, the provision of *self-care*. The Hong Kong mapping projects demonstrated the need to develop caring strategies for runners. As well as receiving appropriate training to hone their data collection (i.e. the work to be done), they were also given advice on how to maintain their *own safety*. This required runners to pay attention to their *own provision* of care, while providing it care-tographically to protesters, too. 103.HK runners were asked to memorize reporting protocols, such as the right mark-up terms for representing crowd density (Y for a normal, 'loose' crowd or YYY for 'shoulder-packed') or movement speeds (> for 'slow/congested flow' or >>> for 'running speed').⁹¹ They were also provided with a list of things to bring to the protest (areal print-outs, a powerbank, umbrella, 'water and nourishment' etc.), and initial setup requirements ('go to your chosen zone', 'locate barricades/supply stations/first aid stations', etc.), to aid their safety in the field. This reflexive provision can perhaps best be summarized by a final word of advice given by 103.hk. Ultimately, '[t]he map is not as important as you are'.⁹²

Second, the *resilience* of caring infrastructures. The projects also demonstrated a need to develop a sustainable framework that could both support and streamline reporting. Here, 103.hk recognised that the vocabulary they had developed, to ensure reporters could send information in a formalized manner, was insufficient. As they note, '[i]f you are building a system for collecting input[s], and it is missing some of the elements, there are elements of the world that you are not seeing'.⁹³ As mentioned in relation to Sukey, matching the 'swarming reality' of the protest with the 'clean, clear and categorized features'⁹⁴ of the map is a difficult task – only made easier over time if one tweaks and adjusts reporting protocols. Any extra time spent, for instance, (a) asking for contextual information (police direction of travel, etc.) or (b) interpreting information for translating to a map-ready form ('how dense is the crowd, here?') slows the care-tographic process down. Building a robust reporting and translation workflow was identified by 103.hk as critical to ensuring the long-term sustainability of the project – allowing care to be practiced through the provision of cartographic information in any situation, no matter how volatile, unpredictable, or confusing.

Third, the *expiration* of care needs. A final recurrent issue referenced by 103.hk was the inability to recognise when map annotations were no longer relevant. While the process of relaying information to add *onto* the map had been formalized, with a workable solution for streamlining translation to

the best of the 103.hk team's abilities, no solution had been found to report what runners *couldn't* see or *stopped* seeing. That is, to *remove* events from the map. As they argued, '[i]t is often impractical for them to download the map and comment on what is out-dated, and most of the time only our most experienced runners have the presence-of-mind to do that'.⁹⁵ In short, when to know when the caring – in relation to specific incidents – can stop, with attention redirected to other emerging situations where care might be needed. Although clearly a critical component of mapping protests – not least because of limited resources, and the need to parse time-sensitive information – the 103.hk team found no workable solution to codify the reporting of incidents no longer requiring their care-tographic assistance.

To summarise, the Hong Kong protest mapping projects, HK.map and 103.hk, provide further evidence for how theories of care might be applied to cartographic practice. While Sukey demonstrated the feasibility of delivering digital forms of care through a dynamic, mobile mapping app; HK.map and 103.hk evidence the additional ways in which care is enacted, cartographically. In these examples, there is ample evidence that engenders the phases of care Fisher and Tronto⁹⁶ explicate, of attentiveness, responsibility, competence, and responsiveness. However, documentation produced by 103.hk, and other evidence from HK.map, demonstrate other such phases, or care-related concerns. Adding these aspects to Fisher and Tronto's⁹⁷ original phases, rather than unnecessarily complicating their abstractions, provides three further dynamics evidenced during the development of these two protest mapping projects during the latest wave of protests in Hong Kong. As such, they provide an enhanced framework through which to surface, interrogate, and evaluate, care-tographic practice as encountered in the wild.

CONCLUSION

This chapter has sought to explore a 'care-tographic' landscape, rendered from, and through, various digital mapping platforms. It does so in order to recast the possibility of a digital, cartographic politics forged through a new mobilization of the feminist concept of care. This extends the representational consideration of 'spaces of care' within critical cartography and GIS to consider the navigational properties of a 'care-ful practice'. Following Fisher and Tronto,⁹⁸ I consider this care not as an emotional force, or moral principle, but as a pragmatically oriented interrelation between thought and action.

But this interweaving of careful thought and action in cartographic politics is nothing new. Maps, mapping, and navigation have always involved

a care-ful sensibility, despite often being used, or created, carelessly.⁹⁹ Nonetheless, it has been a latent dynamic, waiting to be surfaced. Fisher and Tronto's¹⁰⁰ four phases of care – attention, responsibility, competence, and capacity – provide a productive infrastructure to thinking both abstractly *and* concretely about how care-tographic projects may play out in the future. Additional insights from protests in Hong Kong – nearly ten years after student protests in London during which Sukey was launched – suggest the presence of other phases, or concerns, that provide a fuller picture of how maps enable caring practices. I have referred to these as the provision of self-care, the resilience of caring infrastructures, and the expiration of care needs. Yet many more situations, beyond protest events themselves, offer the possibility of thinking about care-tographies: from the mapping of informal settlements, to the operation of maritime rescues. While in the former, mapping is often uncritically seen as 'empowering', in the latter, map apps have (falsely) claimed the ability to help identify stranded migrants.¹⁰¹ In both, there are clearly care-ful dynamics at play, but these remain underexplored, even by well-meaning participants. Thus, this chapter is an attempt to 're-animate' a careful logic that underlies all counter-mapping projects: a desire to care for lost, disorientated, or in danger. Rendering this logic legible is the first step.

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