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## CHAPTER 7

# Cellular Borders

## Dis/Connecting Phone Calls in Israel-Palestine

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### Telephonic (Im)Possibilities

Contradictory conceptions of borders, frontiers, buffer zones, and divisions have particular salience in the landscape of Israel/Palestine.<sup>1</sup> Depending on one's position and political status, a settler outpost, a Palestinian city, or a checkpoint can be easy for some to pass through or impossible for others.<sup>2</sup> These different territorial and political spaces (illegal towns, open-air prisons, strict border crossings nowhere near a border) mean that flows in, out, and around them are politically constructed to be uneven, depending on one's position.

This chapter deals with two issues. First it takes something as benign as a telephone call—its underlying infrastructure, its political geography, and its political economy—and demonstrates how infrastructure is a dynamic manifestation of the tensions between Israeli practices of control and bordering on the one hand, and Palestinian attempts to mitigate or negate these on the other. In Israel/Palestine, the telecommunications infrastructure is not a metaphor for the conflict, it is the conflict in material form. Who can call what number on what network from what location and at what price are deeply political concerns shaped by the uneven relationship Palestinians and Israelis have to the construction and enforcement of territorial borders. The objective here is not simply to highlight the ways telecommunications is restricted but how they also

follow territorial limitations and thus literally “mark” and “make” the territory as a result of historical-political-spatial processes.

Second, this chapter addresses the politicization of technology and the formations and negotiations of new kinds of borders. It shows how media infrastructures and networks—such as telecommunications—are not in and of themselves boundless and open but function as politically defined territorial spaces of control and are integral aspects of states’ *territoriality*, bringing into stark question assumptions about globalization, communication, sovereignty, and borders—in Israel/Palestine and beyond.

In what follows, I focus on three specific locations and analyze the (im)possibilities of telephone calls between them. I begin with Migron, an Israeli settler outpost in the West Bank and eight kilometers inside the “Green Line.”<sup>3</sup> Next, I move six kilometers directly east as the crow flies, to Ramallah, which has become the de facto capital, of, if nothing else, the West Bank, the Palestinian Authority, most international aid organizations in the Palestinian Territories, and which is increasingly billed as the successful city of neoliberal policies.<sup>4</sup> About five kilometers south of Ramallah (and ten kilometers north of Jerusalem) lies the Qalandia checkpoint, where I end. Qalandia emerged in 2000 and has since become a “terminal,” in the language of the Israeli military, that serves to separate the southern parts of the West Bank (where the cities of Bethlehem and Hebron are) from the central West Bank, as well as the *entirety* of the West Bank from Jerusalem and its surroundings.<sup>5</sup> Rather than depicting the separation and inequalities between these locations through an analysis of land ownership, movement of people, or physical markers such as walls and highways, this chapter analyzes the telecommunications infrastructure that disconnects them.<sup>6</sup>

## MIGRON

- Territorial/political status: illegal Jewish-Israeli settler outpost.
- Landline area code: 02, serviced by Israeli providers.
- Cellular access and area code, serviced by Israeli providers: Cellcom 052/053. Orange 054. Pelephone 050/051/056. MIRS 057. No Palestinian providers or signals.

Israel has one of the world’s highest cellular penetration rates, 132 percent in 2011, and boasts a tied-for-sixth-place position with Denmark, Finland, and Norway for highest smartphone penetration.<sup>7</sup> By 2001 Israel was one of only two countries (with Luxembourg) to have passed the 100 percent cellular penetration rate threshold.<sup>8</sup> To say that cellular phone use and service across Israel are ubiquitous is to state the obvious.



Figure 7.1. Migron and its cellular towers. Photo by author.

In 1986 the national telecommunications company Bezeq launched its cellular subsidiary, Pelephone, which offered mobile service inside Israel and to Israeli settlements in the West Bank and the Gaza Strip. Since market liberalization in 1994 another three private cellular companies provide service: Cellcom, which launched in 1994, MIRS in 1998, and Orange in 1999.<sup>9</sup> The four providers contend that they operate in the Palestinian Territories so as to provide service to settlers, Israelis traveling on bypass roads, and, of course, the military. They generally have the liberty to install their equipment wherever they want inside the Territories, although the majority have been established inside settlements, military zones, and along bypass roads.<sup>10</sup> This means that Israeli infrastructure more or less parallels Israel's territorial presence in the West Bank (since disengagement from Gaza in 2005, Israeli firms no longer have equipment inside the strip).

Settler presence in the Territories vis-à-vis telecommunications poses a chicken-and-egg dilemma, however, in that there have been times when the telecommunications infrastructure was built *before* presence of settlers. For example, in the fall of 2000 Pelephone illegally installed a transmission tower atop a hill six kilometers directly east and in line-of-sight of the West Bank city of Ramallah. The company then pressured the Israeli government to install electricity lines in order to power the tower. It did not take long for a group of

Jewish-Israeli settlers to hook up five caravans to the electricity network and make the hill their home, disregarding the fact that the land belonged, even according to Israeli law, to Palestinian families from villages a few hundred meters away. A few months later, the Israeli Ministry of Construction paved a dirt road and installed streetlights. By March 2001 the Israeli military came to guard the illegal settlers. Ten years later, in 2011, the Migron outpost—whose electrified fence is lined with guard dogs, surveillance cameras, and a gate manned by the military 24/7—was home to more than fifty families. Inside the fence stood a Pelephone and an Orange tower beaming cellular service to Migron's residents, to nearby settlements, and to those driving along Highway 60 (a bypass road that is off-limits to Palestinians).

The story of Migron is significant. Something as seemingly benign as a cellular tower serves as the roots for territorial colonization. But the towers also mark a particular kind of land grab of a digital colonization process that combines territorial and high-tech presence and control, highlighting the paradoxes of (uneven) borders in the landscape of telecommunications infrastructures in Israel/Palestine. Neither Migron nor the presence of Pelephone and Orange is unique. *All four* Israeli providers have dozens of antennas, transmission stations, and additional infrastructure across occupied territory: as of 2009 MIRS owns about ninety antennas and communication facilities built on occupied territory, Cellcom at least 191, Pelephone 195, and Orange 165.<sup>11</sup> Migron was “evacuated” by the Israeli government in late 2012, moving the settlers a few kilometers down the street. The cellular towers inside Migron remain and are still beaming strong signals all around.

Although the Green Line was considered the *de jure* border in 1967, according to UN Resolution 242, Israel has long since trespassed it in (mis)appropriating Palestinian land well beyond it. Some scholars posit that settlements were the edifices that initially ruptured the 1967 boundary,<sup>12</sup> and that since then, and despite the 1991–1993 Oslo Accords, that rupture has expanded into a wider-reaching network that includes the territorial expansion of settlements and burgeoning settler population, the popping-up of outposts such as Migron, the shifting and growing matrix of bypass roads and checkpoints, military zones and “green areas” deep in the West Bank, the widening buffer zone inside the Gaza Strip, the enlarging of Jerusalem's boundaries, and, as in the example above, telecommunications infrastructure. While there exists a matrix that has seeped into Palestinian territory, the presence of Israeli cellular infrastructure, flows, and signals demonstrates the extent to which the boundaries of the Israeli regime are much more fuzzy, wide-reaching, and dynamic than traditionally understood territorial presence. Cellular signals

by their nature do not “know” to stop at political boundaries. Given the location of settlements, outposts, and military areas—ubiquitously scattered and usually atop the highest points throughout the West Bank—Israeli operators’ signals blanket much of the Palestinian Territories. In the case of Migron, Israeli cellular signals can be enjoyed throughout the nearby Palestinian villages and in the de facto capital of Ramallah, easily spotted when standing in Migron (see figure 7.2). As such, the breadth of Israeli presence and control over Palestinians exists throughout the territory of Israel/Palestine, seeping through multiple spaces of Palestinian life.

The four Israeli cellular providers are awarded spectrum from the Israeli Ministry of Communication. None of the providers has faced any difficulty in obtaining licenses or spectrum from the MoC. Pelephone has 46MhZ of spectrum, Cellcom 27MhZ, and Orange 20.4MhZ (MIRS, being the military’s official and exclusive operator, does not make its spectrum allocation publically known).<sup>13</sup> The four companies provide all of the latest technologies to their subscribers: 4G, GPS tracking, online banking, and so on. Each provider is awarded its own area code(s), and providers must establish “bilateral agreements” (in corporate-speak) to connect different area codes and allow users to roam on



**Figure 7.2.** View of Ramallah from Migron. Two other settlements are on the two hills on both sides of Ramallah; a Palestinian town is in the foreground. Photo by author.

different networks. As such, a Migron resident who may be a Cellcom subscriber and whose cellular phone number begins with the 052 area code can seamlessly call a cellular number of a friend in Tel Aviv on the Orange network (area code 054), a landline number in Jerusalem (area code 02), a landline number in the Ofra settlement up the street (area code 02), or a MIRS cellular number (area code 057) whose user happens to be driving along a bypass road somewhere in the Northern West Bank. In short, our Migron resident is unencumbered by area codes, cellular or landline numbers, or the geographic presence of a mobile user. He may be charged differently by Cellcom whether he is calling a landline or cellular number, and he may be charged more for any roaming charges should his Cellcom signal be weak and automatically switched to another provider's network, but he has the ability to make all such calls seamlessly and at local rates (in other words, there is no extra charge for calling across the Green Line). Moreover, should he wish to establish a landline inside his caravan, he would be able to do so through one of the six Israeli landline providers and obtain a 02 area code. The difference, telephonically, between our Migron resident and his Jewish-Israeli counterpart in West Jerusalem or Tel Aviv is nil.

For the Palestinian resident living within earshot of Migron, making *any* kind of telephone call—landline or cellular—is much more complicated, if possible at all. The Israeli-Palestinian technological relationship, like their political and economic relationship, has been one of Israeli control and restrictions and Palestinian dependence. From the outset of occupation in 1967, Israel controlled and maintained telecommunications systems in the occupied Territories and imposed legal and military restrictions. In terms of landlines, despite the fact that Palestinians paid income, value-added, and other taxes to the Israeli government, Bezeq was neither quick nor efficient in servicing Palestinian users. By the early 1990s only 2 percent of Palestinian households in the West Bank and the Gaza Strip had functioning landlines, and about 10 percent were connected to the network. Suffice it to say that, telephonically, Palestinians were enclavized and largely disconnected from the infrastructure, living under a regime that restricted both their mobility and their access to the outside world. Cellular telephones were not permitted at all, under a military rule imposed in 1989 that had also prohibited the use of telephone lines for the sending of faxes, emails, or “any form of electronic posting” from the Territories.<sup>14</sup> Nor were Palestinians permitted to build or have their own infrastructure. In fact, what little had been done with regard to telecommunications in Palestinian areas rendered the network subservient to infrastructure within Israel-proper (in other words, on the other side of the Green Line). All telephone-switching

nodes were built *outside* areas that might eventually have to be handed over to Palestinian control; thus, calls between Ramallah and Nablus, for example, were connected in Afula.

Circumventing regulations on landlines was impossible—if the town was not connected to the network, there was simply nothing to do about it; if the town was connected but Bezeq did not connect the household, or took ten years to do so, nothing could be done about that either. Cellular telephony provided more loopholes. The MoC and military government had stipulated that Palestinians were not allowed to have cellular phones, but not that Israeli providers could not service the Territories. The difference was on the level of the *individual*, not the *territory*. Israeli signals—and by extension technological and economic flows—would be permitted practically anywhere in the territory of Israel/Palestine. Furthermore, the ban on cellular use was restricted to subscribers; thus nothing prevented Palestinians from purchasing Israeli telephones and buying pay-per-use cards. The Israeli cellular providers did not do anything to stop this: they were making substantial profit from Palestinian cellular use. From the Palestinian user's perspective, Israeli cellular reach was effectively boundless with Israeli signals available throughout the occupied Territories, and no authority was preventing pay-per-use service. In short, it made sense to have Israeli cell phones—never mind that there was simply no alternative. Until 1999—when a Palestinian cellular provider was first established, detailed below—there were approximately one hundred thousand Palestinian cellular customers of Israeli operators in the West Bank and the Gaza Strip. Palestinian territory was neither bounded nor bordered for Israeli providers. Such “boundlessness” would become politically and economically critical in the aftermath of the peace accords.

#### RAMALLAH

- Territorial/political status: Occupied city. De facto Palestinian capital; Area A.
- Landline area code: 02, serviced by Paltel (through Bezeq or other Israeli providers).
- Cellular access and area codes: Palestinian carriers only, who must obtain permission from Israeli Ministry of Communications: Jawwal/059. Wataniya/056. Israeli carriers accessible illegally.

The agreements of Oslo I (signed in 1993) and Oslo II (signed in 1995) would reverse many of the restrictions imposed on Palestinians. Palestinians were promised direct domestic and international telephone and Internet access



and given permission to establish their own infrastructures. Oslo II specified: "Israel recognizes that the Palestinian side has the right to build and operate separate and independent communication systems and infrastructures including telecommunication networks."<sup>15</sup> It then went on to stipulate, however, the conditions within which an "independent" Palestinian infrastructure would be constrained:

The Palestinian side shall be permitted to import and use any and all kinds of telephones, fax machines, answering machines, modems and data terminals. . . . Israel recognizes and understands that for the purpose of building a separate network, the Palestinian side has the right to adopt its own standards and to import equipment which meets these standards. . . . The equipment will be used *only* when the *independent* Palestinian network is operational.<sup>16</sup>

That the network would become independent *only* when the system became operational is crucial, because the Palestinian network to this day is not independently operational and continues to rely on Israel's in a catch-22 logic. As with other infrastructures (for example, broadcasting, sewage, population registries, water, transportation), Palestinians were subject to Israeli constraints that would counter their right—or simply their ability—to build separate and independent systems. With regard to telecommunications, Israel continues to determine the allocation of frequencies, where Palestinians are permitted to build infrastructure and install equipment, and much else that shapes the field.

Israel handed over responsibility for telecommunications in 1995 to the Palestinian Authority (PA). What little there existed of a technically debilitated fixed-line infrastructure in permissible areas was handed over; in the remainder of Palestinian territory, the PA would be responsible for building it from the ground up. The PA began to establish a simulacrum of an "independent" telecommunications system and awarded the newly formed Palestinian telecommunications company, Paltel, an exclusive ten-year license to operate fixed-line systems and a twenty-year contract to run mobile services. The license permitted Paltel to build, operate, and own landlines, a GSM (global system mobile communications) cellular network, data communications, paging services, and public phones. While Palestinian telecommunications infrastructure building, development, control, and use were now permitted, it would neither exist nor develop without continued Israeli-imposed limitations. Just as the geographies of the West Bank and the Gaza Strip were increasingly fragmented and contained during the post-Oslo "peace years" by Israeli expansion of settlements, settlers, checkpoints, walls, bypass roads, and the like, the allowable space of communication infrastructure was also confined to follow territorial

boundaries. But only for Palestinians. For as the case of Migron demonstrates, Israeli infrastructure, networks, and signals are unfettered relative to Palestinian ones.

Palestinian infrastructure was—and continues to be—permitted to be built, accessed, and maintained only in the Oslo-defined Areas A and B (10 percent and 40 percent of the West Bank, respectively).<sup>17</sup> What this translated into was a fragmented network that had to physically circumvent more than 60 percent of the West Bank and 40 percent of the Gaza Strip.<sup>18</sup> Thus, landline telephone networks, cellular networks, and Internet connections invoke the parcelization and fragmentation of the Territories themselves.

Telecommunications, and Paltel especially, were celebrated as signs of successful state-building and hailed as the proto-state's entrance into the global network age. Indeed, Paltel was one of the first functioning national institutions. There would, however, be multiple ways in which Paltel—and telecommunications generally—would not be “national.” First, telecommunications did not belong to the people of the nation; it was a private, for-profit enterprise. Second, it would continue to be reliant on Israeli infrastructure. All of Paltel's international calls, whether incoming or outgoing, would continue to be routed through Israeli providers because Paltel was not permitted its own international gateway. All of Paltel's Gaza–West Bank calls would be switched inside Israel because Paltel could neither dig under Israeli land to install a fiber-optic cable nor be allocated enough spectrum bandwidth to use microwave technologies. Paltel calls within the West Bank and within the Gaza Strip would also frequently be routed through Israeli providers because of the limitations of where and what kinds of equipment Paltel could install. Third, therefore, telecommunications would also never be territorially national, in that not all parts of the Palestinian Territories would be wired. Fourth, in the realm of policy decisions, the Palestinian Ministry of Telecommunications (MPTT, later transformed into the MTIT) would be constrained by the Israeli Ministry of Communication and the rest of the Israeli regime's occupation apparatus. Finally, the PA's policies would not challenge Israel's ultimate control over and containment of infrastructure. The reliance on Bezeq for much of their national connections and for all international connections would not end with the advent of Paltel. As Bezeq spokesman Roni Mandelbaum quipped in 1996, Palestinians “are not entitled to any signs of sovereignty. . . . They have to rely on the infrastructure we supply them.”<sup>19</sup> This has yet to fundamentally change. The only “sovereignty” gained by Paltel was due to the liberalization of the *Israeli* market when Paltel could choose between different Israeli providers. Like much else in the post-Oslo era, Paltel was a “national institution” within the confines of Israeli control.

Unlike landline infrastructure, cellular telephony in Israel and Israeli controlled Territories was largely driven by commercial growth and existed primarily in Areas C and Israeli-controlled areas such as settlements and outposts; thus, none of the existing cellular network in any Palestinian territory was handed over in 1995. Paltel had to establish its own cellular infrastructure within the confines of Area A and parts of Area B. Paltel's cellular subsidiary, officially launched in 1999 under the name Jawwal, would also be bound. Everything would be determined by Israeli permissions, from the strength of transmission towers to the kinds of routers and switches necessary to enable cellular traffic, from spectrum allocation to the location of equipment; some of these limitations would simply be imposed by military officials or by the MoC; others, as detailed in annexes of the Oslo Accords, would have to be agreed upon in a bilateral body, the Joint Technical Committee (JTC), in which Israel would have power to veto. For example, with respect to GSM and other cellular frequencies, "mutual participation will be agreed in the JTC according to the planning of each side, and the division of . . . [cellular] frequencies will take into account the users ratio of each side."<sup>20</sup> Given the limitations imposed on the Palestinian infrastructure to begin with, the Palestinian user ratio would be forced to remain lower, thus continuously justifying why Palestinians were awarded less spectrum frequency. Jawwal was awarded 4.8MhZ of spectrum at the 900 MHz range—less than any other cellular provider in the world (by comparison, the largest Israeli cellular operator, Pelephone, enjoyed 46MhZ of spectrum allocation).<sup>21</sup> The annex stated that "frequencies will be assigned upon specific requests" or be assigned "as soon as any need arises"—in both cases, to be decided by the Israeli side.<sup>22</sup> This seemingly simple but extremely important point became a limiting and bordering mechanism faced by Palestinian cellular operators and users for the years ahead.

Telecommunications frequencies and spectrum allocation would remain contingent on "final status issues" in ongoing and often frozen negotiations. The range of the electromagnetic spectrum was also determined by the MoC, so that "any future expansion was difficult to achieve [for Jawwal] and raised the costs of network equipment needed,"<sup>23</sup> as Jawwal would have to install more towers (at lower heights and with weaker signals) to cover a particular area and ensure service for a certain number of users. Constraining issues that limited the building or growth of fixed lines existed in the cellular realm, too: the forbidding of international access, the determining of regional codes, having to submit requests to the JTC for most needs and demands, and so on. The building of any cellular infrastructure in Area C and parts of Area B could only be achieved with Israeli permission, which "in most cases . . . are denied."<sup>24</sup> In the words of Jawwal CEO Hakam Kanafani, "The unique political situation [in Palestine] . . .

means that, unlike any other provider, Jawwal's network expansion is not only linked to financial and demand attributes, but also to the decisions of a foreign government."<sup>25</sup> The limitations often translated into higher setup costs for Jawwal: having to build more towers, not being able to pass directly from point A to point B, having to set up two separate operating entities in the West Bank and Gaza in terms of equipment and employees. Jawwal's first-phase capacity was 120,000 subscribers—a number limited by the combination of technical aspects of switching equipment, the number and strength of transmission towers, and spectrum allocation. The combination of a smaller sliver of frequency spectrum, limitations on equipment, and limitations on where and how strong antennas and base stations could be effectively limited both the number of subscribers Jawwal could simultaneously serve and where cellular users could obtain a signal.

By the time Jawwal began operation in 1999, more than one hundred thousand Palestinian users were already on Israeli networks. As the four Israeli providers had already established presence throughout the Territories, operated in a competitive landscape, and enjoyed 2,000 percent more frequency spectrum than Jawwal, it was all the more difficult for Palestinians to give up using Israeli services, even if increasingly labeled as antinationalistic.

The legal landscape had changed, but the practices continued. The Oslo Accords stipulated that each side's providers would not interfere with the other: "Both sides shall refrain from any action that interferes with the communication and broadcasting systems and infrastructures of the other side."<sup>26</sup> According to the terms set forth by Oslo II, the PA-designated provider (in this case Paltel and its subsidiary Jawwal) was to be the only cellular provider in the Territories, while Israeli providers would continue to serve the settlements.<sup>27</sup> It was illegal, according to MoC regulations and to the newly established Palestinian telecommunications law, for any provider, Israeli or otherwise, to operate in the Territories without the legal protocols for doing so: obtaining a license from the PA and paying taxes to the PA (and obtaining spectrum allocation and an area code from Israel's MoC). But, for the four Israeli cellular companies, such territorial, legal, and political constraints remained largely insignificant. The Israeli providers had unlicensed distribution and sales points in the Territories, did not operate with permits from the PA, nor obliged the Palestinian economy—whether in the form of license fees, taxes, or hiring of Palestinian employees. In short, their operation inside the Territories became illegal (and Palestinian users on those networks continued to be illegal, now also according to Palestinian law). In the words of Jawwal's first CEO, Hakam Kanafani:

Jawwal's starting point was unlike that of any GSM provider in the region and possibly, in the world. . . . In most countries, the first GSM operator is granted

exclusivity for a number of years, during which the operator is expected to introduce its services, reach the breakeven point, and at the same time educate and prepare the market for a second operator. . . . This scenario did not work in Jawwal's case.<sup>28</sup>

Another Jawwal executive summed it up simply: "The Palestinian cellular market is a cost-free market [for Israeli providers]."<sup>29</sup> Israeli providers did not build, install, or maintain any *more* infrastructure than what they already needed to serve settlements and outposts, yet they benefited financially from Palestinian customers/use. Although their presence was in violation of Israel's telecommunications policies, of the PA's, and of Oslo's, they benefited—and continue to benefit—from Palestinian use and never tried to thwart it. This is an economic issue that stems from the uneven relationship between Palestinians and Israel: Palestinians are financially bound to Israel, as a "captive market" for Israeli firms and as an economic "dumping ground" for Israeli goods. But it is also a symbolic, territorial, and political strategy of bounding Palestinians while simultaneously minimizing territorial borders or limitations on Israeli flows—whether financial or technical.

The cellular system is constrained (or bordered) by the inherent design and limitations of the technology itself, as well as its relationship to other technical aspects such as frequency allocation, bandwidth, and transmission power. There is a territorial determination to these technical borders in how far signals can travel. Here, the borders that are enforced on Palestinian cellular flows are multifold, some inherent in the technical system itself (a signal can reach only so far), others imposed by legal and political decisions on the part of Israel. All of these result in a bounded cellular space for Palestinians.

Around the time Migron came into being, a person in Ramallah could legally purchase a Jawwal cellular phone and obtain the 059 area code. The euphoria of being able to support one's own national company made up for the worse-than-Israeli signals and higher-than-Israeli prices. Jawwal's sales had increased to more than one hundred thousand subscribers, in many cases driven by the violence, curfews, and closures of the Second Intifada, which began at the end of September 2000. A Jawwal user could call other Jawwal users, as well as anyone with a landline within the Palestinian Territories (which by this time had risen to about 9 percent of households, thanks to Paltel, compared with 43 percent in Israel). Making a call to a landline in Ramallah required one to dial the 02 landline code. Migron was also under the 02 area code; but a Jawwal user could not call those numbers—perhaps this is sensible, since interactions between Palestinians in the West Bank and settlers in Migron are nonexistent. But the inability to make that call

was a policy/political decision on the part of Israel's MoC. A Jawwal number could not connect to any Israeli cellular number either. Any friend who had a Pelephone, for example, could not be reached from Jawwal. The firms did not have "bilateral agreements." In fact, what became rather common was for Palestinians to have two cellular phones: one Jawwal and one on an Israeli network.

Jawwal's coverage was understandably limited when it first launched, particularly in the West Bank. The fact that the West Bank's topography is hilly certainly did not help—Jawwal would have to install more towers in more places in order to reach valleys and hilltops and thereby further increase its operating costs. Jawwal was also constrained by the strength of signals. In most of the areas outside of downtown Ramallah, for example, Jawwal users simply had no signal. Over time, subscribers found it surprising that their lack of "bars" didn't increase. What those subscribers ought to have realized was that Jawwal had to work around technical limitations imposed not only by spectrum frequency and signal strength but also by the location of settlements, outposts, and Israeli cellular towers. From many parts of Ramallah one simply had to look up to the surrounding hills to understand why Jawwal's signals never arrived (see figure 7.3).



**Figure 7.3.** Ramallah with Psagot settlement and its broadcasting and cellular towers in the background. Photo by author.

At the end of 2000 Jawwal signed an agreement with Orange to share each other's transmission network. The deal made it possible to call an Orange number from a Jawwal number, and vice versa. Dan Eldar, vice president at Partner (Orange's parent firm), exclaimed, tongue-in-cheek, with reference to political negotiations, "I think we can say it's a bilateral agreement."<sup>30</sup> There wasn't much bilateral about the agreement, since Orange didn't need Jawwal's signals in the Territories. For Jawwal the primary reason for these agreements was to provide service in *Palestinian* areas where Jawwal is forbidden to build its network. Jawwal still does not have such agreements with Pelephone, Cellcom, or MIRS.

More and more people subscribed to Jawwal, largely driven by nationalist—not economic or technical—logic. But as Jawwal's network had to handle more subscribers, even though it continued to install new equipment wherever it was permitted, it would continue to be bound by the conditions under which it had first emerged. By 2007 it had 825,000 subscribers; 1.5 million by 2009; and more than 2 million by 2011—but its network *still only supports* its original 120,000.<sup>31</sup> Spectrum allocation increase has yet to be approved for Jawwal, restrictions on equipment continue to be draconian, and location of both Jawwal and Israeli infrastructure continues to be determined by the logic of Israeli occupation. Moreover, Palestinian users are still not permitted to have 3G (let alone 4G), GPS, online banking, and many other new mobile technologies and services because of Israeli policies against them. In December 2009, after four years of delay, Israel's MoC granted permission and spectrum to a second Palestinian provider, Wataniya. Both Wataniya and Jawwal operate under the same conditions. While the presence of two (legal) providers has helped drive prices down, the use of Israeli cellular phones has not decreased, for obvious reasons. In 2012 more than 2.5 million subscribers were on the Jawwal or Wataniya network, with a huge majority of them (more than 2.2 million on Jawwal) and approximately another 1 million Palestinians inside the Territories on Israeli networks. Market share for Jawwal and Wataniya combined is approximated to be between 60 percent and 80 percent of total Palestinian cellular use, as many Palestinians continue to rely on Israeli providers, either solely or in combination. The numbers are impossible to calculate with certainty because Israeli providers do not share that information and claim that they cannot know who is a pay-per-use subscriber (see figure 7.4 for a comparison of total number of subscribers on Israeli and Palestinian networks).<sup>32</sup>

The geography and the *control over* the geography of the Territories makes it possible for Israeli providers to service many parts of Area A and B: they are permitted to install antennas and base stations, and their antennas and cells in Area C have a wider range (thanks to being at higher elevations and stronger signal powers). Moreover, because Israeli providers enjoy a wider spectrum





Figure 7.4. Cellular subscribers on Israeli and Palestinian networks.  
 Graphic by author.

allocation (see figure 7.5), they can handle more subscribers and simultaneous calls per cell. In other words, Israeli signals do not stop at the territorial boundaries imposed on Palestinians, but rupture them, reaching wider ranges before signals fade or are lost. A contradiction emerges about technical borders and to what extent they ought to follow or trespass territorial borders, and for whom.

Israeli cellular signals are exempt from boundaries and exempt themselves—illegally—from any responsibilities, financial or otherwise, toward the PA and Palestinians in general. Israeli cellular telephony functions not only according to the logic of “economies of scale” (the cost advantages a business obtains due to expansion) but economies of spectrum and economies of *spread* or, perhaps more appropriately, economies of digital colonization. Given that Jawwal’s network expansion is beset by various kinds of limitations, its own network coverage lags well behind that of Israeli providers. Digital borders are erected for Palestinian providers and cellular users but not for Israelis. Israeli cellular space is guarded by bordering and bounding any Palestinian presence of “rupturing” or trespassing into it—Jawwal is not permitted to operate in Migron or



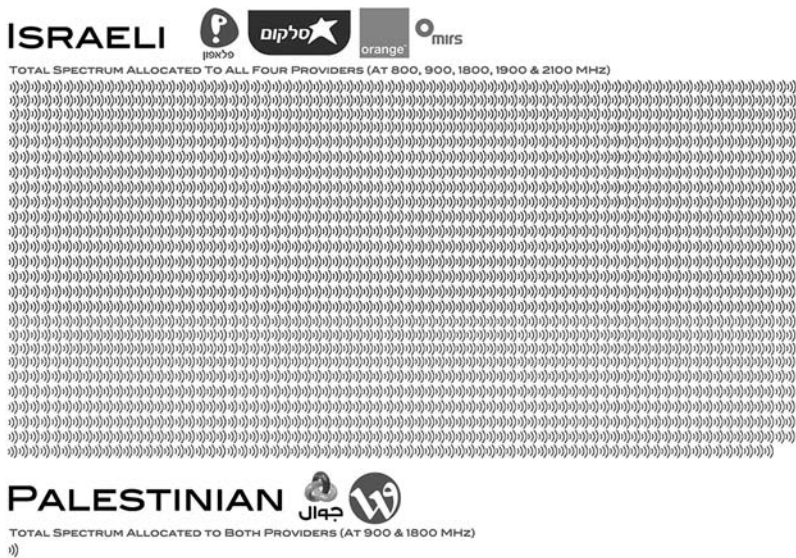


Figure 7.5. Spectrum allocation comparison for Israeli and Palestinian cellular providers. Graphic by author.

Tel Aviv, for example. Thus, borders on and for Palestinians are meant to trace territorial borders imposed by Israel that keep Palestinians contained. Jawwal's containment is determined by real territorial borders. Jawwal (and Paltel, as described earlier, as well as Wataniya) cannot erect antennas, transmission towers, or other equipment in more than 60 percent of the West Bank (and all of Israel). Cellular flows are determined and bound by the territorial landscape designed in the Oslo Accords: fragmented, enclavized, contained.

**QALANDIA**

- Territorial/political status: Israeli-manned military checkpoint. Area C.
- Landline area code: 02. Serviced by Bezeq until 1995; under Palestinian "control" since then, but no new landlines have been allowed since.
- Cellular access and area code: legally Palestinian, but no access available. Israeli carriers accessible illegally: Cellcom 052/053. Orange 054. Pelephone 050/051/056. MIRS 057.

The Oslo Accords territorially defined *where* telecommunications infrastructure could be built and set the context through which Israel could limit the kind of infrastructural equipment used. While service continues to be substandard or unavailable in many parts of Areas A and B, as described above, when it comes

to the remaining 60 percent of the West Bank (Area C), it is more dismal. The accords had specified that “in Area C, although powers and responsibilities are transferred to the Palestinian side, any digging or building regarding telecommunications and any installation of telecommunications equipment, will be subject to prior confirmation of the Israeli side.”<sup>33</sup> In other words, the PA would be given responsibility for servicing Area C, but not necessarily permission. This was reflective of the pseudosovereignty at the core of the Oslo Accords, of the contradiction of absolving Israel of “responsibility” yet keeping it as controlling power. If Area C were not serviced—whether for telecommunications, postal services, electricity, sewage, or otherwise—this would no longer be Israel’s problem. Although the Oslo Accords have been officially “over” since 1998—they were five-year interim agreements—Palestinian telecommunications infrastructure continues to be territorially determined by Oslo’s maps *and* by the Israeli regime’s territorial changes in the form of settlement growth, bypass roads, buffer zones, checkpoints, walls, and the concomitant shrinking of Palestinian spaces.

Ironically, if there is any one place where Palestinians might actually need a cellular phone, it is at places like checkpoints, given that these dot the landscape, have a completely illogical and obscure system of letting people through or not, and are sites of physical violence on the part of Israeli soldiers toward Palestinians. One such checkpoint, only a few kilometers from Ramallah, is Qalandia. Qalandia is more than simply a checkpoint, though. It has for all intents and purposes become a border terminal that separates various parts of the West Bank from each other, as well as the entirety of the central and northern parts of the West Bank from Jerusalem and Israel. Qalandia has also become a central Palestinian transportation hub: it is the place through which all buses and long-distance taxis leave and arrive from all parts of the West Bank (to go from Hebron to Nablus, for example, one must switch buses at Qalandia). At its busiest periods, the checkpoint is a “station” for more than twenty thousand Palestinians per day. Some remain stuck for hours, some get arrested, some are physically hurt, some turn back.

Being in Area C, Qalandia falls under the responsibility of the PA but the strict “security”/military controls of Israel. Jawwal and Wataniya have yet to be given permission to install any equipment there or have their nearby towers beam strong-enough signals to provide service in and around the checkpoint. A Palestinian cellular user cannot call anyone from Qalandia—neither another cellular user on the same network nor one on an Israeli network with whom the Palestinian providers have roaming agreements. That Qalandia is in Area C also means that Paltel faces limitations on installing landlines, and for the majority of the households and businesses around the checkpoint, there is no

fixed-line service either. A call between Qalandia and Ramallah, five kilometers apart, is impossible.

Other locations in Area C—for example, the villages around Migron—enjoy Israeli signals. No such signals are available at Qalandia. Israeli signals are not available there, either, for the simple reason that Israelis do not travel through the area.<sup>34</sup> Qalandia is a telephonic no-man's-land—quite appropriate, since it is, from an Israeli perspective, also a political and territorial no-man's-land, despite being a busy and bustling location.

\* \* \*

The combination of Israeli policies territorially and “ethereally” constrain Palestinian cellular communications. On the ground there is no sovereign Palestinian communications infrastructure, and what exists is fragmented, dispersed, and often disconnected, as well as technologically stunted and overburdened. In many places it is simply nonexistent. Palestinian users and the infrastructure as a whole are territorially (and otherwise) bound by area codes, the landline infrastructure, the kinds of equipment permitted, and the range, strength, and direction of signals, among other policies, all of which follow the narrow and fragmented territorial boundaries of land enclosures.

Telecommunications infrastructures demonstrate the ongoing importance of territoriality—for Palestinians, for Israel, and more generally. Territoriality, and concomitant aspects such as bordering mechanisms, flows, and (im)mobilities, are products of social and material practices, themselves marked by uneven (re-)developments. We have not at all reached the age of the “end” of borders or the decreasing importance of territoriality in a state’s power. Rather, practices of bordering and the continued importance of territoriality mark and stratify territory, people, and flows through different mechanisms. Infrastructures and networks—whether telecommunications or otherwise—are not open, liberatory, de-territorial, and borderless spaces, or certainly not so by “nature,” but represent designed technical activities that are outcomes of social, economic, political, and territorial processes. They can very much function and be made to function as spaces of control and containment.

Territorially defining communication flows is not simply a matter of ensuring control but of bounding, defining, limiting, surveilling, and controlling Palestinian (communication) flows, period. There is, of course, an integral aspect of revenue streams, as described above, due to the reliance on the Israeli backbone. More important here is the issue of Israel’s drive to secure all of its different kinds of borders from Palestinian “ruptures” and trespasses and simultaneously to ensure the containment of Palestinians in the technological

and communication realm, as well as the economic, political, territorial, and symbolic realm.

Qalandia is not on any telecommunications network. In a sense, it doesn't exist. It is the same on Israeli-made maps: Qalandia is nowhere to be found. One can argue that it is, after all, "merely" a checkpoint. But what then can we make of Jerusalem? Jawwal and Wataniya do not have permission to exist in Jerusalem, as the entirety of the city's municipality (itself extended on Israel's maps and its territorial practices) is considered Israeli territory by Israel, and neither of the two Palestinian cellular companies (nor Paltel, for that matter) are permitted to provide services in Israel. Palestinians in Jerusalem have to rely on Israeli cellular providers and fixed-line providers. Jerusalem is part of area code 02, like Migron and Ramallah. However, while a call from Migron to Jerusalem is an ordinary occurrence, just as a call between Tel Aviv and Petakh Tikva is, for example, all calls from Palestinian Territories to Jerusalem are considered *long-distance international* calls. Jawwal, Wataniya, and Paltel are billed surcharges for connections to Jerusalem, just as the rest of Israel, by the Israeli providers. In a way, calling Jerusalem is no different than calling England and having the provider be surcharged by BT. There are no alternative means of connecting; everything is dependent on the Israeli backbone. Jerusalem, then, is in a foreign country: an unattainable capital for Palestinians. This enforced disconnection goes even further. Although the Palestinians were provided their own international dialing code (970) by the ITU in June 1999, despite Israeli objections at all levels up to the prime minister, Paltel is not permitted to install its own international exchange router and continues to rely on the Israeli backbone for *all* incoming and outgoing telephone calls. Area Code 970 is *always* routed through 972 (Israel's international code). Israel enjoys four international switching nodes and has direct links to global undersea telegraph and telephone cables: it is part and parcel of the global network. From the global network's perspective, 970 is not simply cosmetic: it suggests altogether that Palestine does not exist.

## Im/Mobility

The borders of the technological may be less visible than the walls, gates, fences, and checkpoints of the physical world, but they are no less real and significant politically. What the Palestinian/Israeli case showcases is how decisive borders continue to be, how their related processes are shifting and dynamic, and how they are enforced, experienced, and circumvented in different ways and across different spaces. The fragmentation and diffusion of borders lies in the realm

of the technical order we create and disseminate; thus, the other side of today's territorial transformation bears witness to massive fragmentations of landscape and the production of hermetic spaces and territorial, legal, and technological islands. The point is not simply to argue for a flip side of the borderlessness of the network age but to recognize that territorial borders are not only *increasing* (as they are in Israel/Palestine) but are equally manifested in the realm of infrastructure—digital, high tech, media, and all other forms.

Furthermore, that Palestinian technology infrastructures are constrained by Israeli policies demonstrates the spatial reach of Israel's power—well beyond any supposed territorial boundaries. Israel enjoys a monopoly on where to draw and how to secure its shifting borders. It is not a matter of where we are to place the boundaries geographically—the Green Line, around Area A, along the wall and buffer zones, around settlements—but of recognizing that borders are drawn unevenly on Israeli versus Palestinian flows. This invisible yet ubiquitous border enables great elasticity in the territorial aspects of sovereignty. This is a challenge to our conceptions of what it means to live in a global digital new order. We continue to assume stable points of view, a world of places, boundaries, Territories rooted in time and bounded in space;<sup>35</sup> but these spaces have their own (sometimes new) grammar that produces infrastructural contexts that result in uneven immobilities.

We recognize that technology infrastructures are actively involved in the production of space.<sup>36</sup> But the territorial aspect is slightly more complicated and must be understood in relation to im/mobility. Scholarship that has focused on cellular and mobile phones continues to argue that mobile phones *free* us from much spatial fixity and give rise to what might be called “networked individualism.” Yet, as the case of Israel/Palestine demonstrates, mobile phones are constrained by spatial fixities of the infrastructural materiality determined by Israeli interests, and, simultaneously as they intersect—in a segregated manner—with Israeli mobile flows which themselves follow a territorial logic. While Palestinian mobile phone users can carry their phones around with them (and thus can be considered “mobile”), how far signals reach and where the infrastructure of Palestinian cellular networks reach are territorially defined by the logic of occupation.

Telecommunications networks are integral instruments in the production of new spatialities. The case of Migron/Ramallah/Qalandia (and Jerusalem) demonstrates how cellular telephony brings into question the political, territorial, and economic fixity and containment of (im)mobility. Mobility, like power, is highly differentiated and relational.<sup>37</sup> What exist are dynamic and contingent mobilities. As such, the relative immobilities enforced on Palestinian

telecommunications flows (taken together with mechanisms such as checkpoints, bypass roads, walls, settlements, and so on) must be seen in relation to the relative mobilities they create for Jewish-Israelis. Migron's signals exist because Ramallah's are constrained in very real and territorial ways. Qalandia is not part of the infrastructure because it is not a space that Jewish-Israelis pass through. Palestine does not exist on the network because 970 is in actuality 972. The issue, however, is not simply to juxtapose Jewish-Israeli/settler mobility with Palestinian immobility but to recognize that living with and through im/mobility is a crucial and historically longstanding issue for all Palestinians. Being Palestinian is having to live with, negotiate, challenge, and resist various mechanisms and power struggles over movement and sedentariness. Being Palestinian means having to negotiate an unevenly marked and made territory and spatiality that are trespassable for Jewish-Israelis and bound and constrained for Palestinians.<sup>38</sup> The specifics of Palestinian landline telephony are an example of the contemporary processes of territoriality, border making, and an example of the segregation of a network and the processes of a seemingly ethereal but also very territorial *immobility*.

## Notes

1. Scholarship addressing territorial and symbolic borders in Israel/Palestine includes: Ghazi Falah and David Newman, "The Spatial Manifestation of Threat: Israelis and Palestinians Seek a 'Good' Border," *Political Geography* 14, no. 8 (1995): 689–706; Eyal Weizman, *Hollow Land: Israel's Architecture of Occupation* (New York: Verso, 2007); Helga Tawil-Souri, "Uneven Borders, Coloured (Im)mobilities: ID Cards in Palestine/Israel," *Geopolitics* 17, no. 1 (2012).

2. By "position" I mean where one happens to be standing, but also, more important in this case, what access to what network a person may have that is in itself dependent on one's citizenship and/or ethnicity. In the case of citizenship, Arabs and Jews who are Israeli citizens are provided uneven access to circuits of civility by the Israeli state (such as education, housing rights, travel permits); in the case of noncitizens, Palestinians in the Palestinian Territories or in and around Jerusalem are barred altogether from circuits within the Israeli state.

3. The "green line," the 1967 borders, and the 1949 Armistice Line are synonymous, demarcating the boundary between Israel and the Territories it captured and occupied in the 1967 war. It is important to note here that there are no roads that connect Migron to Ramallah; as an outpost—and similar to all settlements in the West Bank—Migron is connected to "Israeli" sites—inside the West Bank and outside—through a network of "bypass" roads, roads open only to Jewish Israelis. Moreover, a resident in Migron would not ever have to pass through, or near, the Qalandia checkpoint either, but he or she can enjoy a direct link to Jerusalem open only to Jewish Israelis. The Ramallah-

Jerusalem road, which has existed for decades, has been severed by Qalandia since 2000; however, Palestinians in the West Bank do not generally obtain permission to travel to Jerusalem; as such, while Qalandia does separate the West Bank from Jerusalem, it is also the point of separation of different parts of the West Bank from each other.

4. See Nasser Abourahme, "The Bantustan Sublime: Reframing the Colonial in Ramallah," *City*, 13, no. 4 (2009): 499–509; Lisa Taraki, "Enclave Micropolis: The Paradoxical Case of Ramallah/al-Bireh," *Journal of Palestine Studies* 37, no. 4 (Summer 2008): 6–20.

5. For a background on the Qalandia checkpoint, see Helga Tawil-Souri, "New Palestinian Centers: An Ethnography of the 'Checkpoint Economy,'" *International Journal of Cultural Studies* 12, no. 3 (2009): 217–35; Helga Tawil-Souri, "Qalandia Checkpoint as Space and Non-Place," *Space and Culture* 14, no. 1 (2001): 4–26.

6. See Weizman, *Hollow Land*; Rafi Segal and Eyal Weizman, eds., *A Civilian Occupation: The Politics of Israeli Architecture* (New York: Verso, 2003).

7. ITU (2013), *ICT Fact and Figures*, and Bruce Sterling, "42 Countries Ranked by Smartphone Penetration Rates," *Wired*, December 16, 2011.

8. ITU, *Stat Shot 7* (August 2011), available at <http://www.itu.int/net/pressoffice/stats/2011/03/#.Unq8viRA9PA>.

9. Cellcom is part of the IDB Group, a conglomerate of Israeli and international companies whose largest shareholders are Motorola and Israeli IT firm Tadiran. Orange is a subsidiary of Partner, which is itself a subsidiary of the Chinese firm Hutchison Telecommunications International. Pelephone was initially invested in by Shamrock Holdings (the investment arm of the Disney Group). MIRS, short for Motorola Integrated Radio Systems, was a subsidiary of Motorola-Israel, and sold in 2009 to Altice Group, a European telecommunications and media private investment/equity firm.

10. Within Israel itself, according to the National Master Plan 36A, cellular companies could erect antennas anywhere they wanted without having to notify neighborhoods and communities in advance and without providing the latter any means of objecting to these structures. The only authorities entitled to combat the antennas are the Defense Ministry and the Civil Aviation Authority, and in certain cases the Environment Ministry. This had led Israeli critics to claim that the country had become a "cellular dictatorship." Arik Merovski, "Combating the Cellular Dictatorship," *Ha'aretz*, June 27, 2005, 7.

11. "The Cellular Companies and the Occupation," *WhoProfits Report*, August 2009, available at <http://whoprofits.org/content/cellular-companies-and-occupation>.

12. Oren Yiftachel, *Ethnocracy: Land and Identity Politics in Israel/Palestine* (Philadelphia: University of Pennsylvania Press, 2006).

13. MoC, Annual Reports for the three Israeli operators.

14. Israeli military order no. 1279: 1989.



15. Oslo 2, annex III.

16. Oslo 2, annex III, emphasis added.

17. The Oslo Accords created “temporary” administrative divisions in the West Bank: Area A in theory would be under full civil and security control by the PA; Area B would have Palestinian civil control and joint Israeli and Palestinian security control; Area C would be under full Israeli civil and security control. These areas were not contiguous and amounted to 18 percent, 20 percent, and 62 percent of the West Bank, respectively.

18. In the case of the Gaza Strip, the entirety of the area was permitted to build on after the Summer 2005 disengagement—however, not within proximity of the expanding Israeli military-defined “buffer zones” inside the strip. It is important to recognize as well that since the 2006–07 blockade, not much telecommunications equipment has been permitted into the Gaza Strip.

19. Quoted in Ilene Prusher, “Palestinians Sprint to Break Israeli Grips on Phone Lines,” *Christian Science Monitor*, August 10, 1996.

20. Oslo 2, annex III, article 36, schedule 5.8. Other frequencies for wireless communications, such as those to be used by police forces or hospitals, to name but two, would also be detailed in the accords.

21. Sources: Israel MoC, Bezeq Annual Report 2011, Orange Annual Report 2010, Cellcom Annual Report 2011. On the issue of operating at a minimum amount of frequency and less than other operators, see Bill Ray, “Palestine Mobile Operator Struggles for Room to Breathe,” *The Register*, October 1, 2009, available at [http://www.theregister.co.uk/2009/10/01/palestine\\_israel](http://www.theregister.co.uk/2009/10/01/palestine_israel) (accessed October 7, 2009).

22. Oslo 2, annex III, article 36.

23. Kanafani, Hakam, “Palestinian Cellular Communications—Jawwal: Success against All Odds,” *Palestinian Private Sector Forum* 5 (July 2004): 4–5.

24. *Ibid.*, 5.

25. *Ibid.*, 5.

26. Oslo 2, annex III, article 36, B.5

27. The desire to open the market to competition would be a Palestinian decision, although conditioned by Israeli acceptance to provide spectrum, an area code, permit the building of an infrastructure, and so on.

28. Kanafani, “Palestinian Cellular Communications,” 4.

29. Personal interview, Jawwal, June 2005.

30. Quoted in Nicky Blackburn, “Partner, Palestinian Telco in ‘Roaming’ Pact,” *Jerusalem Post*, November 12, 1999. At the time, Orange was the third most popular provider in Israel, with Pelephone and Cellcom having clear majority stake over the market, with whom Jawwal had no agreements to either connect to each other’s phone numbers or share roaming privileges. In essence this meant that Jawwal subscribers could still not call the majority of Israeli cellular users, and vice versa.

31. Jawwal, Annual Reports.



32. Pay-per-use is possible to obtain since all cellular communications take place between a phone and particular cellular tower, which cellular companies keep track of.

33. Oslo 2, annex III, article 36, A.2a and 2b.

34. The Israeli military is an exception. Any off-duty personnel who may be in or around Qalandia can use their MIRS military-provided phones for access. MIRS—being the official Israeli military provider—does not make its service and/or phones available to any Palestinians. Phones must be obtained directly from the firm or the military.

35. Tim Cresswell and Peter Merriman, eds., *Geographies of Mobilities: Practices, Spaces, Subjects* (Burlington, Vt.: Ashgate, 2011), 4.

36. A whole range of scholars are pertinent here: Ithiel de Sola Pool, *Technologies of Freedom* (Cambridge, Mass.: Belknap, 1984); Sussman, Gerald, "Urban Congregations of Capital and Communications: Redesigning Social and Spatial Boundaries," *Social Text* 60 (1999): 35–51; Saskia Sassen, *The Global City: New York, London, Tokyo* (Princeton, N.J.: Princeton University Press, 1991); Manuel Castells, *The Rise of the Network Society* (Oxford: Blackwell, 1996); Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (New York: Routledge, 2001).

37. Tim Cresswell and Peter Merriman, eds, *Geographies of Mobilities: Practices, Spaces, Subjects* (Burlington, Vt.: Ashgate, 2011).

38. See Tawil-Souri, "Qalandia Checkpoint"; and Tawil-Souri, "Uneven Borders."