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8 Beirut

Metropolis of Darkness and the Politics of Urban Electricity Grids

Eric Verdeil

Introduction

Despite massive investment in infrastructure reconstruction, Beirut has never fully recovered 24/7 provision of electricity after the civil war (1975–90). Since 2006, partly as a result of Israeli bombings, infrastructure decay has worsened the situation. In addition, an atmosphere of political bickering in the country has delayed the implementation of new projects. Lighting for the majority of households (93 per cent) is supplied through a publicly owned transmission and distribution grid run by the state utility *Electricité du Liban (EDL)* (Central Administration of Statistics, 2008). However, on average, electricity is supplied for only half of the day, severely affecting the daily life of the city's nearly two million habitants, who are forced to cope with extended periods of darkness and generalised power failures. As a result, across the majority of the population and through all facets of urban life, electricity flows have been substantially reorganised around alternative informal electrical grids running on privately owned small-scale generators. These emerging flows, crafted to cope with the pervasive reality of power cuts, build new infrastructural, social and political dynamics in the city. The multiple facets of electricity and its shortages have become the subject of heightened controversies in the political arena, fuelling various forms of political mobilisation and challenging government policies in several crucial areas. The domains at stake transcend the very materiality of power cuts, including the management of utility workers in an era of neoliberalisation as well as struggles for power and control over the privately owned and informally established electricity generators now powering the city. Unfolding protests centred on electricity have taken to the street, threatening the nation's political order, the unity of the country and, seemingly, its very existence (Figure 8.1).

Researching electricity crises in Lebanon poses unique dilemmas given their embeddedness in everyday life. In Beirut, like in many other cities of the global South, everyday infrastructural interruptions – such as power outages, traffic congestion and road blocks – represent a 'new normality' (McFarlane, 2010). Yet, as McFarlane (2010: 133) suggests, such 'everyday forms of interruption have received relatively little attention in urban studies'. Beirut's electricity crisis, as an everyday force, has become a major factor in the (re)production of the uneven



Figure 8.1 A smelting Lebanon, lit by candle

Source: Abdelhalim Hammoud (used with permission)

geography of the city. Through this, it produces a new urban politics, the subject of this chapter. As McFarlane and Rutherford argue, ‘the politics underpinning urban infrastructural transformation are rarely more evident or visible than in times of crisis or rupture’ (2008: 6). The electricity crisis is openly contested in the ‘back alleyways’ of the city (Bayat, 2009: 11) as much as in Parliament, on social networks through cyber-mobilisation, and on the streets through public demonstrations. This chapter thus questions how these new forms of electric ‘politics’ reframe broader ‘political’ domains in the city (Swyngedouw, 2011). In doing so, the chapter is in line with approaches which, within urban and infrastructure studies, displace the centrality of regulatory reform and the governance of the sector (Graham & Marvin, 2001; Coutard, 2008). Rather, its concern lies in an analysis of the impacts of infrastructure policies on the social fabric of cities (Monstadt, 2009; Jaglin & Verdeil, 2013; Rutherford & Coutard, 2014), unpacking issues of energy justice (Bickerstaff et al., 2013), particularly at an urban scale.

Consistent with other academic accounts of the politics of urban infrastructures (Heynen et al., 2006; McFarlane & Rutherford, 2008; Graham, 2010), the uneven geography of electricity supply in Beirut reproduces existing social and

political hierarchies. It favours the city of Beirut and its richer population over that of its suburbs whilst also reinforcing the political and sectarian lines that divide the country. The main objective of this chapter is to analyse the forms of mobilisation and politicisation around electricity issues in Beirut, recognising the centrality of the material and spatial dimensions of the infrastructure network in these emerging forms of social protest. Here infrastructure acts to redistribute the agencies of power in the city, contesting existing social and political hierarchies and prompting the emergence of new, alternative but precarious, configurations of power. Such a novel configuration can be further understood through Timothy Mitchell's notion of a 'power from within the energy system' (Mitchell, 2011: 12), in this case via the city's electricity grid. This involves reflecting on the grid's political geography and examining ~~the articulation of~~ how urban politics shape grid politics. The main body of the chapter is divided into four sections. The first, drawing on the work of Mitchell (2011) and Cupples (2011), proposes a framework for analysing the politicisation of infrastructure in cities. This is followed by a geographical analysis of the social and political context of the Lebanese electricity crisis, highlighting the prevailing uneven access to electrical power and the resulting street protests that, with little success, have occurred during the last ten years. The third section examines the different forms of protest and dissent that, by drawing on its material and relational properties, are entangled in the electricity grid. Specifically, two forms of grid-embedded resistance are examined, both representing what has been termed as 'the end of the [electricity] line': the ability of electricity workers to disrupt the system through strikes and the capacity of users to establish forms of passive resistance through meter tampering. The fourth section scrutinises the new social and power relationships built around alternative and informal electricity networks based on private generators. Finally, the conclusion elaborates a typology based on various combinations of grid and urban politics.

The chapter's empirical material consists of interviews with a variety of stakeholders within the Lebanese electricity industry. This included representatives of public and private electricity companies, civic and industry associations, political parties, government and municipal officers, consultants, informal entrepreneurs operating the emerging network of generators and electricity users. These interviews were complemented with an analysis of official documentation, data provided by the utility company and a review of the Lebanese press and blogosphere relating to this issue since 2005. This analysis helped to capture the discourses justifying policy interventions, supported by mapping key controversies, and identified the most visible forms of protest.

Energy Inequalities, Street Politics and Urban Grid Politics

Infrastructure, being at the core of the production and sustenance of the city, is directly involved in the production of urban inequalities and thus in the shaping of social and political hierarchies (Swyngedouw, 2004; McFarlane & Rutherford, 2008; Graham, 2010). Without rejecting the structural dimensions of such domination, scholars have stressed that in everyday life such processes of establishing

social and political hierarchies do not go unchallenged. This pervasiveness of contestation demands a reorientation of research towards the agency of ‘minor’ actors, the sites and moments where and when protest and dissent is enacted, and how the political order can be challenged, shaken and even reversed (at least partially and temporarily), as occurred during the Arab Spring (Mitchell, 2002; Parker, 2009; Bayat, 2012; Bayat, 2013). In the Arab world and beyond, street politics have emerged as a highly visible way of staging protest, with major squares and arteries becoming a symbol of the revolts (Swyngedouw, 2011). Yet, contesting the political order, and urban injustice through this, is not only a matter of street protest. It also involves dissenting through other forms of action (Bayat, 2009; Allegra et al., 2013): a more ordinary form of street politics (Bayat, 2012), often intersecting with a politics ‘from within the energy system’ (Mitchell, 2011: 12).

Timothy Mitchell’s (2011) book *Carbon Democracy* offers a useful framework to unpack the links between the specific materiality of dominant energies (such as coal or oil) and the democratic order. Mitchell (2011: 252–3) achieves this through ‘follow[ing] closely a set of connections that were engineered over the course of a century between carbon fuels and certain kinds of democratic and undemocratic politics’. In this way, ‘exploring the properties of oil, the networks along which it flowed, and the connections established between the flows of energy, finance and other objects provides a way to understand how the relations between these various elements and forces were constructed’. In Mitchell’s analysis of energy flows in the twentieth century, the concentrated nature of coal and the large workforce involved in its excavation and transportation gave workers the power to advance their democratic rights. Conversely, the greater fluidity and lightness of oil, together with the lower number of workers involved, allowed firms and oil states to circumvent and counter the power of democratic forces. Such mapping of energy circuits provides insights into the political and contested nature of the connections that allow the continued circulation of energy and capital at different points in the networks. A key advantage of Mitchell’s analysis is the unravelling of the vulnerability or precariousness of these connections, to be understood as socially constructed and inherently political. Cupples’ (2011) analysis of protests against the privatisation of an electricity distribution utility in Nicaragua intersects and helps to transpose Mitchell’s work to the city scale. Like Mitchell, Cupples emphasises the political effects of the materiality of the network. Here this materiality plays out in various settlements as customers ‘tactically and creatively enrol the nonhumans’ by tampering with electric meters, so as to disrupt a device that both symbolically and materially enacts the commodification of electricity (Cupples, 2011: 945).

In transposing the framework advanced by Mitchell and Cupples onto the urban level in Amman and Tunis, recent research has emphasised the vulnerability of a specific segment in electricity circuits: the ‘end of line’ (Verdeil, 2014). Comprised of transformer stations, poles and meters, this segment of the electricity infrastructure enables various actors to deploy their agencies and interact with the grid. In the context of the material and social vulnerability of the ‘end of line’, utility workers repair circuits, collect bills and fight illegal connections whilst dwellers and customers hook up lines and tamper with meters. Workers also use

their strategic position to disrupt the circuits of money and energy when they strike (Verdeil, 2014). This account of the ‘end of line’ is also applicable to the case of Beirut, yet it needs to be refined in two directions. First, the embeddedness of such struggles in urban space as well as of their political meaning and reach needs further consideration. While Cupples (2011) describes anti-neoliberal campaigning targeting electric meters, Bayat (2009) offers a wider understanding of street politics encompassing not only protests staged on streets and squares with explicitly political slogans but also ordinary practices in ‘back alleyways’ and popular neighbourhoods. These everyday practices, which he calls ‘the quiet encroachment of the ordinary’, may express more dissent than open protests; they are enacted through ‘non-movements’, or ‘collective actions of non-collective actors’ (Bayat, 2009: 14). In this respect, they are less politicised – which does not mean non-political. Following this line of thought, this chapter emphasises the forms of these political mobilisations (collective/group-specific/individual) and their democratic content, that is, their capacity to advance social rights and to define a common future.

Second, it is necessary to go beyond the very material end of the grid (the ‘end of line’), and understand not only the politics of disrupting circuits but also that of imposing one’s power on the grid. Mitchell (2011), analysing the geopolitics of oil production and supply, shows how energy firms built cartels in order to control supply and through this oil prices. Such form of control over the network could succeed only thanks to alliances with actors – external to the energy circuit – that exert forms of sovereign control over the territory crossed by the flow of oil. These (imperial and business) actors helped dismiss attempts at building an international and democratic sovereignty over the oilfields at the end of First World War and during the Interwar period, continuing the control and expanding repression of workers’ unions. Such powers, such as the royal family of Saudi Arabia, are to this day considered to be among the least democratic forces in the world. These notions of alliances, of building local power over territories to enforce the political security of energy circuits, and the regressive politics this entails, is used to analyse the alternative electricity grids that Beirutis resort to during power cuts, since they are organised as small local-level monopolies.

In what follows, the chapter successively examines the uneven geography of accessing electricity and the associated establishment of relationships of domination linked to supply within the Lebanese electricity crisis. It also looks at strategies of resistance to domination based on a struggle around the control of the electricity grid and the new relations of power built around emerging informal territorialised electricity grids that spread across the city. This highlights the various ways in which urban electricity is politicised, and if and how it contributes to reconfigure the existing political order.

Uneven Geography of Electricity Supply and the Sectarian Order

For years, an electricity crisis has been at the core of Lebanese politics. In 2010 the electrical output of EDL, the national public utility, amounted to about 1,500 MW – significantly less than the estimated 2,300 MW required to satisfy

demand (Bassil, 2010). The electricity supply suffers from heavy shortages and long lasting power cuts on a daily basis (8–12 hours a day on average in 2012). EDL records heavy annual losses (\$1.5 billion in 2008–10), constituting a major part of the ballooning state deficit. On the one hand, the rising price of imported fuels is not reflected in the tariffs paid by customers. On the other, rampant corruption, theft and poor collection rates aggravate the company's financial burden (Verdeil, 2009; Hasbani, 2011). Numerous policies have attempted to reform the sector and since 2002 successive governments have discussed the privatisation of the electricity sector. However, until 2011 the key interventions in the state-owned utility were limited to reducing investments and retrenching the workforce as the company moved to using contractual workers, often employed through clientelistic channels.

The current electricity supply in Lebanon is marked by strong inequalities, particularly noticeable through both an uneven geography of access and the unequal subsidies that several groups of customers enjoy. Such an energy configuration further reinforces the country's existing inequalities, while solidifying the sectarian divide that characterises Lebanese politics. The most striking feature of this uneven supply lies in the uneven service which favours Beirut over other parts of the country. Since 2006, Beirut receives about 21 hours of power a day, while elsewhere in the country daily power cuts can reach 12 to 16 hours. The contrast is particularly felt in the city's immediate suburbs, differentially affecting people living in the same urban fabric since areas outside the municipal boundary – from one side of a street to the other – live with very different conditions of electricity access and supply (Figure 8.2).

Favouring Beirut over the rest of the country is undoubtedly a political choice, though no reason has ever been publicly given. From the point of view of the utility, this choice secures its financial income since Beirut's customers are responsible for the highest share of electricity consumption in the country, with little electricity theft and non-payment recorded there. The most obvious economic implication of this arrangement is the protection of the country's main economic sectors (banks, administration and hotels) from power cuts, in this way securing the private interests of their owners. Yet the choice of prioritizing Beirut's municipal boundary can also have political undertones. Between 2009 and 2013 the Ministry of Energy was in the hands of the Free Patriotic Movement (FPM), a Christian party claiming to rationalise the management of the sector. Allied with the Shia parties of Amal and Hezbollah, the FPM claimed – and seemed to have – the political means to push for a more balanced distribution of supply. This move would have also fitted the political interest of the alliance, since all three parties had their power bases in the suburbs (north and east for the FPM; south for the Shia). But the national level Council of Ministers rejected two such attempts. This failure highlights the complex nexus of business and elite interests inside the governing coalition that resisted the change.

Technical factors also play a role in the configuration of an uneven geography of electricity, aggravating the already unbalanced official supply schedule. Indeed, lack of investment in infrastructure alongside sprawling and overcrowded

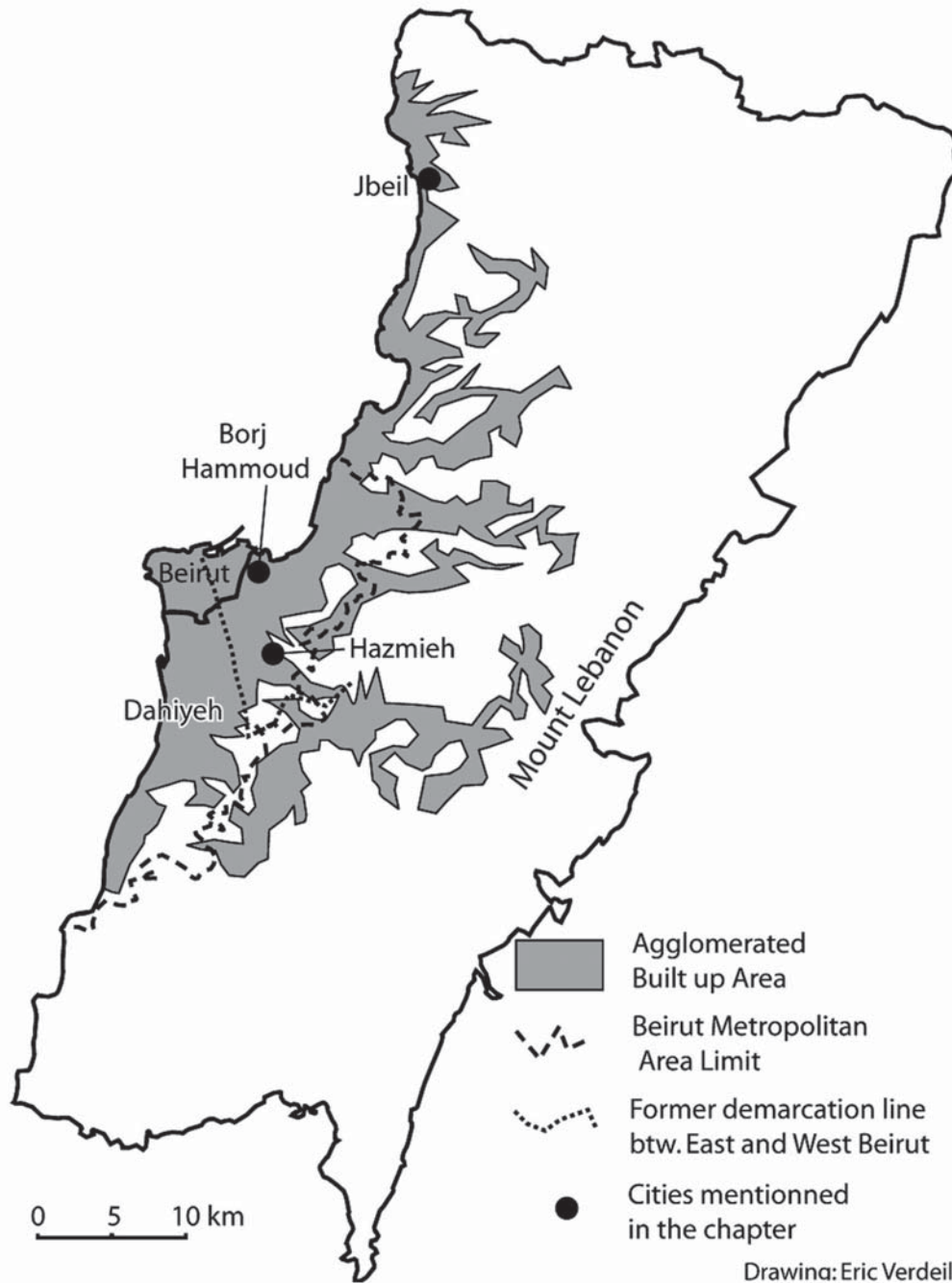


Figure 8.2 Map of Beirut, its suburbs and Mount Lebanon

Source: the author

suburban sectors during and after the civil war have resulted in an undersized distribution grid, increasing local shortages. For example, in Dahiyeh, the southern suburb of Beirut, technical limitations restrict supply whilst the not so distant city centre enjoys extensive surplus capacity (Wehbe, 2012). As a consequence, Beirut

dwellers – on average the wealthiest in the country – are also the best supplied; the lower-income dwellers of the suburbs bear the bulk of the shortages.

This territorial and social inequality is reinforced by the subsidy system governing electricity tariffs. The tariff has not been updated since 1996, while the price of fuel – purchased on the international market – has more than quadrupled. Electricity is sold well under the cost of generating it (Bassil, 2010). This means that those who consume the most receive a correspondingly larger subsidy from the state budget. Beirut dwellers, wealthier and better supplied than their suburban counterparts, enjoy a larger share of this indirect form of government aid, though no data is available to estimate it. Residents with infrequent and disrupted electricity are increasingly forced to use costly generators (World Bank, 2009). The resulting imbalance is augmented by the financial burden that those with limited and intermittent electricity access have to bear in order to alleviate power cuts: purchasing electricity from privately owned generators running on diesel, the cost of which is non-subsidized and suffers from international price fluctuations.

In Beirut, the uneven supply and distribution of electricity across the city region has prompted numerous popular mobilisations in public spaces. Yet such protests have never coalesced into a unified movement; instead, they have served sectarian and local political agendas, reinforcing the city's current political fragmentation. Street demonstrations against darkness have taken two forms. First, and less frequent, are big demonstrations backed by political parties at symbolic urban spaces. This form of protest can be exemplified by a demonstration that took place in Chiyah, on the former demarcation line between East Christian Beirut and the Southern suburbs, on the 27th of January 2008. This was mostly attended by Shia people from Dahiyeh, probably those most affected by the power cuts at the time. The protest resulted in riots and other forms of violence, with nine deaths and accusations between opposing political parties about the cause of the conflict. Government backers claimed that Hezbollah, the main political force in Dahiyeh acting at a time of fierce political struggle, wanted to use this event as a way to pressure the government, in effect overlooking the reality of the uneven service supply and the legitimacy of the protesters' claims. Yet Hezbollah itself, apparently losing control over the mobilisation, made efforts to calm down popular anger and reaffirm a patron-client relationship by bringing in new generators to the suburb (Chit, 2009).

The second form of protest against darkness relates to small neighbourhood-scale protests where mobs, apparently without the formal backing of political parties or other organisations, disrupt mobility and circulation in the city by burning tyres in important thoroughfares. In their demands, protesters, mostly young and deprived, make few connections with wider economic and social issues such as joblessness. The political elite respond to such protests in sectarian and divisive terms. For example, the response of the Minister of Energy and Water, Gebran Bassil, to the street mobilisations that characterised the heat wave of August 2010 reveals a common type of sectarian politics when dealing the uneven condition of service access in the city. Bassil, a member of the Christian FPM, declared: 'In some districts, protests against power cuts are politically motivated'; slamming

Muslim districts, he added, 'it is not permitted for a region where illegal hook-ups multiply to protest against power cuts. . . . It appears that Christian regions pay their due more than others, but it's the truth' (L'Orient-Le Jour, 2010).

These sectarian narratives, which permeate public discussions about the city's unequal access to basic services, overlook a more nuanced account of the geography and sociology of electricity fraud; one that highlights the role of local political leadership in covering illegal grid connections (Verdeil, 2009), and one which, stepping away from blanket approaches, considers the quantities consumed. In 2009 the Head of the Higher Privatisation Committee, a government body established to support the privatisation of a variety of public services and entities, acknowledged that 'richer customers that have higher electricity bills cost the state more money' than illegal dwellers who 'steal to light a small apartment' (Hayek, 2009: 31). Several industrial operations, leisure clubs and even political leaders have been singled out by the press for illegal electricity hook-ups or lack of bill payment. This acknowledgement by the Higher Privatisation Committee also means that fraudulent big customers, even in small numbers, are responsible for a large amount of lost income for the electricity utility, outweighing 'small fry' fraudulent customers whatever religion they belong to. However, like with many other social struggles in the country (Abi Yaghi & Catusse, 2011), the sectarian discourse prevents an alternative approach to electricity loss and access, particularly obscuring the class dimensions of the problem.

Grid-Embedded Resistance

The lack of efficacy of voicing dissent in the public sphere prompts an examination of other forms of politicisation of electric issues that are emerging in the current crisis: the use of the material and social configuration of the grid itself in order to advance social and political claims around service provision. In these situations, actors involved in conflicts with the state utility try to reap advantage from the technical-political vulnerability of urban electricity circuits. In contrast with the more universal claims for access and equality examined in the previous section, here claims tend to be more group or place-specific. Not all of these forms of resistance are successful, and the struggles appear to fail to open new democratic horizons for all citizens. Conversely, such forms of grid protest can feed more divisive politics, be it sectarian or class based.

One example of such grid-embedded resistance is provided by an examination of how workers in the electricity distribution sector exert a form of power that originates from their strategic location and function inside the grid. Between May and September 2012, EDL contractual workers – enrolled on a daily basis and without social benefits – fought for more than four months against a law that would contract electric distribution to private firms and turn them into employees of these new businesses. Workers claimed a right to be public employees officially working for the publicly owned utility. They feared the law was a first step towards the dismantling and privatisation of the utility company. In response, they implemented a strike during the summer months, a time where the usual power

cuts are particularly long and heavily felt. Workers stopped repairing disrupted infrastructures damaged because of strong electricity demand, further aggravating the power cuts experienced by users. They retained payments collected from customers, causing the company an additional loss of income and preventing it from buying the fuel required to generate electricity. In their actions, they were making use of their position as indispensable pivots in the operation of the grid. Though their fight was unpopular and they received no support from the electricity union (which limits its representation to workers that enjoy the status of civil servants), their actions enabled them to reach an agreement with the government. Contractual workers were promised a facilitated recruitment procedure for their formal integration within the utility. Whilst this struggle had a clear class dimension, its sectarian dimension cannot be dismissed: since the majority of the workers belonged to the Shia denomination of Islam, Christian politicians opposed the agreement with the argument that it would create a sectarian imbalance.

In contrast to that workers' struggle, the everyday fights of dwellers in some informal neighbourhoods to secure and defend electricity access proves to be much more precarious and politically disappointing: the tampering of electricity meters. The 'end of the grid', where electric power is transformed from medium into low voltage, is a liminal space where connections between utility networks, customers and electricity workers take place. Its sub-stations and transformers are physically located within the neighbourhoods, and whilst entering (or tampering with) them can be dangerous, they are easier to access than any other segments of the grid. After the transformers, electric power flows through low-voltage lines towards the dwelling, and skilled people can relatively easily hook up illegal or informal connections (Zaki, 2011). The connection materialises once again through the electricity meter, which itself can be targeted, bypassed and tampered with in various ways. Tampering with meters is ~~an un~~common practice in Lebanon since the civil war. Non-technical losses, once estimated over 50 per cent (Badelt & Yehia, 2000), now amount to about 23 per cent of the total output (Hasbani, 2011). However, though the utility has taken significant steps in order to eliminate meter tampering, the practice increases each time the political bickering in the country results in a governmental stalemate. They are actions that take advantage of the physical vulnerability of the network, despite new anti-theft technologies such as twisted wires and sealed meters which, after the civil war, made illegal hook-ups more difficult.

Yet, the connection between the network and the customer is not configured solely through physical devices. It also materialises in the periodic meeting of collector and customer, when the collector reads the meter and distributes the bill to the customer. Here again the customer can display its power by refusing to pay in time. In doing so, they expose the household to the possibility of being cut off – excluded from the grid. But such a move can only be achieved through a team of utility workers capable of visiting the building for the purpose of physically disconnecting the line. Since broader power dynamics frame these relationships, these micro-resistances and the possibility of disconnection cannot be understood

outside of the overlapping political geography of the city. Such practices of resistance, for instance, are easier in areas that enjoy political backing by local forces usually connected to powerful parties. It means that grid-embedded resistance is entangled in classical patron-client relationships. Sometimes, even dwellers that don't enjoy such protection oppose a physical resistance to the anti-fraud teams. The press regularly reports on such incidents (L'Orient-Le Jour, 2004; The Daily Star, 2009). In such cases, Bayat's suggestion of 'politics of redress', or the collective action required in order to defend the gains achieved through the 'quiet encroachment of the ordinary' (Bayat, 2009: 58), may be useful. In troubled political times, as has been the case in Lebanon since 2005, these resistances have prevented or limited crackdown campaigns, a phenomenon acknowledged by state authorities. For instance, on the 19th December 2006, *L'Orient-Le Jour* cited Mohamad Safadi, acting Minister of Energy, speaking of an 'increase of power theft from the grid, [alongside] EDL employees being unable to report or monitor the infractions, given the current situation in the country' (L'Orient-Le Jour, 2006).

In contrast to the Nicaraguan campaign of resistance against privatisation described by Cupples (2011), tampering with electricity meters in Beirut is a form of grid resistance that is not explicitly accompanied by clear demands expressing a political meaning. Dwellers in Raml al-'Ali, one of the poorest informal neighbourhoods in the southern suburb of Beirut, reported poverty and the high cost of electricity as the main reason for illegal (or pirate) electricity hook-ups (Khayat, 2008). Dwellers in the neighbourhood did not expect an improvement in the provision of electricity, and made do as they could. Khayat's survey highlighted a lack of solidarity between dwellers regarding hook-up practices. For instance, they prefer to hook-up to a wire already illegally connected to the grid in order not to be ticketed. Dwellers had frequent disputes about the responsibility of incidents caused by hook-ups – such as overloads, which can create long lasting power cuts – because the utility company did not provide its repair services in such cases in order to 'punish the pirates', as an engineer once expressed (interview, Beirut, June 2006).

The capacity of electricity workers to disrupt the system and gain bargaining power to improve labour conditions, coupled with the vulnerability of the modern metropolis to power cuts, echoes Timothy Mitchell's (2011) arguments around the power of coal workers and their ability to fight for democratic rights. Similarly, the dwellers' strategy of 'pirate' hook-ups and meter tampering rest on acquiring a power of action 'from within the new energy system' (Mitchell, 2011: 12). Both agents target vulnerable points in the electricity circuit of the city, and exploit a favourable balance of power in certain places. Yet these forms of resistance are precarious and often depend upon patron-client relations that forgo the possibility of structural improvements. Moreover, it appears that such actions do not express common strategies and rely mostly on individual and opportunistic behaviour, rather than on a collectively devised project of enhancing rights to resource access.

The Geographically Splintered Politics of Informal Electricity Grids

This last section turns to another case of electricity politics in Beirut: the informal grids established around privately run diesel generators. This pervasive form of supply, which has spread since the civil war (Awada, 1988; Davie, 1991), now constitutes a consolidated form of service provision in Lebanese cities, foremost in Beirut and its suburbs. Born out the need to rely on emergency sources during long power cuts, these electricity networks proliferated initially as individual solutions and later as collective responses operating at the scale of the building of private firms and even entire neighbourhoods. Originally run in a spirit of solidarity, they have gradually taken a commercial orientation with segregating effects. By 2007 and 2008 it was estimated that private generation in Lebanon amounted to 34 per cent of total electricity production, with 56 per cent of households relying on private suppliers for lighting (Central Administration of Statistics, 2008; World Bank, 2009). Since interruptions in the average daily supply of electricity have only worsened, particularly in Beirut where people used to enjoy almost full supply until 2006, this figure has probably increased. The use of electricity generators and their associated micro-grids provide a relevant case study to evaluate the governance of the new social relations shaping resource vulnerability in the city and the failures of its infrastructural network.

Widely used, private electricity generators and their grids are not only temporary and superficial fixes to the daily interruptions of service characteristic of the city. They have constituted an infrastructural geography deeply embedded in the everyday, which restructures the urban fabric according to its material, social and political characteristics and produces its own form of politics. These wire networks servicing dwellings are spread chaotically from generators located in convenient places in the neighbourhood – such as vacant spaces or abandoned factories. At the dwelling, they connect to the internal network via a manually operated switcher that is activated whenever there is a power cut (Figure 8.3). Gradually, these informal grids have concealed new devices, slowly embedding them into other urban objects. For example, in new buildings, a secondary network parallel to the official one runs inside the walls, using automatic switchers that enable connection and disconnection from the formal grid as required. Marketing material for new gated communities in Beirut speak of 24/7 water and electricity delivery as distinctive features, achieved thanks to generators run by real estate developers. The generator has been normalised as a basic service, invisible to the user, just like public infrastructure has been black-boxed and buried over time (Kaika & Swyngedouw, 2000). In new buildings, notably in high-end neighbourhoods, the arrangement of generators is embedded within the overall building design, in this way avoiding or limiting nuisances such as the smoke of the generators for final users (Figure 8.4). This trend toward business-oriented grids has spurred the development of new commercial services, for instance, through differentiated levels of supply – exhibiting an ability to incorporate and respond to the variable needs and capacities of, for example, smaller or poorer customers. Consistent with the advancement of a splintering urbanism (Graham &



Figure 8.3 The grid of a generator in Zaatriyeh, a popular suburb east of Beirut

Source: the author

Marvin, 2001), the new grids mirror existing social hierarchies and, to an extent, reinforce the city's inequalities.

The emergence of these new infrastructural capabilities has produced its own politics. The state, still promising 24/7 electricity, has never recognised the



Figure 8.4 A generator serving a middle class building in Beirut, 2014

Source: the author

generators sector; yet, it has never repressed it. Generators, as ‘grey spaces’, remain between the whiteness of the law and the darkness of what is supposed to be demolished or expelled (Yiftachel, 2009; Gabillet, 2010). Such grey spaces are temporary, at the same time tolerated and condemned, always waiting to be

cleared. As such, they can be used as a tool for governing without granting rights to users; there are no rights attached to a service that should not exist. Electricity via these small generators has become a profitable business abiding to no rules. Depicting generator businesses as mafias is common (Batah, 2011; Mohsen, 2012), a reference related both to the nature of their profits – which escape any kind of tax and state regulation – as much as to the abuses committed against clients and competitors. The businesses tend to organise spatially as a local monopoly, are defended by violent means and clients have little recourse against wrongdoings such as unjustified pricing and defaults. Rumours of politicians being involved in the business in their regional strongholds are numerous. Turning back to Mitchell (2011), who emphasises how building monopolies operate as a means to control output and price on the energy market, it is clear that in Beirut this cannot be done solely from ‘within the network’ but only through alliances with local political forces and the exploitation of local power configurations.

The case of Hazmieh, a middle class suburb of about 30,000 inhabitants in the southeast of the capital, illustrates a common situation where the owners of generators operate their business with the backing of the municipality under a *laissez faire* approach open to bribes and corruption. Prices for electricity are higher here than in other parts of the city. Voter power and the possibility of pressure from the electorate for the regulation of generators is out of the question, since most citizens only recently settled in the suburb and are not registered on the local voting lists. This leaves residents vulnerable to higher electricity costs, a common condition in Lebanon (~~Favier, 2001; Verdeil, 2005~~). The case of Jbeil illustrates another example of these electric politics (Gabillet, 2010). This town of about 40,000 habitants is less a suburb of Beirut than a small tourist city in the outskirts of the metropolis. There, the firm *Karhaba Jbeil* (Electricity of Jbeil) holds a private concession dating back to the French mandate, formally replacing EDL as supplier of electricity. Several informal generator businesses operated in the city, but a mayor elected in 2004 decided to clear the landscape of these technologies in order to beautify the city. He pressured the operators of generators to withdraw their electricity from the market by blocking their use of the poles that belonged to the municipality. Instead he pushed *Karhaba Jbeil* to become a monopolistic actor. The mayor was able to deliver this policy through a deal with the supplier to keep the electricity costs low and forestall attempts to re-install the generators.

The case of Borj Hammoud, an Armenian suburb just outside Beirut with about 100,000 inhabitants, offers another illustration of the strong role municipalities can play in regulating the private grids (Gabillet, 2010). Since 2010, in response to calls by civic and consumer associations for regulating the sector, the Ministry of Energy issues a monthly suggested tariff for their output and leaves open the option for municipal governments to enforce this pricing. Borj Hammoud has been among the pioneers. Local police have been enrolled to monitor the generators output. Both the use of public poles and the location of generators in public spaces are negotiated between owners and the municipality. But the negotiation also includes electricity prices. Decisions are made public through a local Armenian TV channel. This innovative municipal involvement in the emerging

micro-grid of the generators rests on re-taking control of the grid, via poles, wires and even meters for each generator. Arguably, this type of municipal involvement is also linked to the political agenda of the Tachnag Party, the major Armenian political power in the country, to maintain a local political hegemony and thus to prevent conflicts around an important issue for its constituents. Such processes are less about granting rights than *de facto* ruling a service that remains outside of the remit of the law.

The actions of Borj Hammoud lay at the intersection of holding power on the grid and a territorial power that not only permits the enforcement of the monopoly but also regulates relations between producers and customers. The case of Hazmieh is one where the owners of the informal grid operate with the support of a local power, whereas the case of Jbeil illustrates a more interventionist approach, but where the private firm is given free rein. In all cases, citizens have limited rights and few means to defend themselves against the power of these new grids. Local voting rights provide little leverage, given the disconnection between the place of residence and the place of voting, a common issue in Lebanon. One of the only situations where citizens can exert their rights is in the context of a commercial relationship, as is the case of high-end condominiums and gated communities. Here neighbourhood associations can, for instance, cancel the services of a service provider whose performance does not fit the agreed standard. But such actions are restricted to a wealthy minority (Glasze, 2003). The politics created by private energy grids are not only highly uneven between social classes, but also geographically fragmented according to specific local political contexts. This highlights the impossibility of a shared governance of electricity at the level of the city, illustrating, to return to the cartoon of Abdelhalim Hammoud (Figure 8.1), the infrastructural disintegration and meltdown of the country.

Conclusion

This chapter mapped the disruptions and reconfigurations of electricity circuits in the Greater Beirut region, and demonstrated how such disruptions both reflect and create particular configurations of power. To do so, it built on Timothy Mitchell's (2011) project to follow the tracks of energy, their vulnerabilities and the struggles that take advantage of them. It also built on Cupples' (2011) commitment to unravel the precarious agencies involved and the enrolment of material devices in the process of advancing social rights. The analysis allowed an understanding of the kind of politics such endeavours produce: the manifestation of discomforts via protests and dissent in the public space, highlighting collective, 'non-collective' (Bayat, 2009), corporatist and individual forms.

Through this conceptual approach, the chapter discussed what such mobilisations managed to achieve, alongside their political reach in view of advancing democratic rights. This can be summed up through a typology of grid politics based on their ability to disrupt and alter the power relations built in and around electricity supply (Table 8.1). A central concern here is to reflect on the specificity and efficiency of forms of political action which, paraphrasing Mitchell and

Table 8.1 The various types of grid politics in Lebanon

<i>Cases examined</i>	<i>Type of actors</i>	<i>Type of claims</i>	<i>Form of politics (street/ from within the grid)</i>	<i>Political horizon of the struggle</i>
Burning Tyres/Mass demonstration	Citizens/ customers	Right to light	Street protest	Sectarian politics
Utility workers movement	Workers	Right to formal job (job tenure + benefits)	Disrupting the grid (+ street protest)	Defence of the national utility
Informal dwellers hook-ups and meter tampering	Customers	Access to light (not claimed as a right)	Individual quiet encroachment/collective politics of redress using power from within and around the grid	Overcoming and defending local advantages
Regulating neighbourhood generators	Municipality	Access to light (not granted as a right)	Control on the grid	Local politics (often sectarian)

Cupples, work from within the energy system and tactically and creatively enrol the nonhumans. These have varying degrees of success in advancing democratic rights in the face of expanding forms of privatisation and, more globally, the subjugation of citizens to a prevailing unequal socio-political order.

In the context of Beirut, the typology distinguishes four key domains. The first one is the politicisation of electricity provision through various kinds of street protests. This fails to exert sufficient pressure on the political order and is handled rather through sectarian means. The second domain, the struggle of workers, highlights the power of those who, operating from within the power grid, disrupt flows of electricity and capital, and therefore exploit to their advantage the fact that electricity is an indispensable infrastructure of life in the metropolis. Just as in the case analysed by Mitchell (2011), such conflicts can advance democratic rights. In parallel, these workers claimed the defence of a national cause – the public role of a national utility, threatened by unbundling and privatisation in the electricity sector.

A third domain of politics, the struggle to access electricity through illegal means in remote suburbs, illustrates an attempt to use the same kind of power from ‘within the energy system’. But in contrast with the previous case, these achievements are more precarious. They depend upon local political support – often involving sectarian politics – or can be sustained only as long as the political stalemate lasts. It is more an opportunistic way for disenfranchised people to access free electricity in a particular local context rather than a struggle with a broader social scope. Such fights are plagued by internal strife and a lack of solidarity.

A fourth and final domain of politics analysed in the chapter is related to the informal grids supplying power from generators. These grids echo other informal

infrastructure services in cities in the global South, with two distinct features. First, they do not generate a place-specific form of service provision, to be found only in poor areas bypassed by infrastructure. Since power cuts are more or less ubiquitous (though their duration reflects uneven access), private grids are not located in specific areas but everywhere in the city. Second, they coexist with the main electricity grid, using some of its infrastructure, notably poles and neutral lines. Therefore, they are not class-specific, as both poor and rich makes use of such informal infrastructures. One of the more salient political features of such a networked system lies in the emergence of a violent localised form of electric capitalism, constructing and exploiting the position of power that local monopolies grant to their private owners. Only the municipalities can challenge this, thanks to their level of territorial control and, hence, control of the grid itself. This case highlights the interface between territorial power and the power from within the grid. In some configurations, local policies can be less detrimental to the citizens-customers, though it cannot be conceived of as really democratic but rather less regressive. In the Lebanese case, nevertheless, the splintering dynamics that are at work at the local scale do not produce any converging direction in these struggles and are blurring any shared metropolitan and national horizon.

The political struggles examined in this chapter highlight the deep inequalities produced by the long lasting electricity crisis in Beirut. Achieving energy justice, particularly where democratic forms of politics are significantly impeded, can pass through other kinds of politics, combining grid power and local territorial power in order to disrupt circuits, redress eviction threats or protect advantageous configurations of access. This involves scrutinizing the minor human and non-human agencies that are too often overlooked or dismissed. Nevertheless, these forces remain entangled in divisive schemes of power that prevent them from achieving any major reshuffling of the political system or long lasting changes to the electricity system.

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