Insurgent Infrastructure: Tunnels of the Gaza Strip

Toufic Haddad

This article explores the emergence of tunnels within the Gaza Strip. It argues that tunnels emerged as an implicit response to Israeli policies of separation and control, and the increasingly sophisticated means used to realize these ends during the peace process and thereafter. The latter included approaches that actively embraced a "politics of verticality," incorporating a volume-based approach to Israeli geopolitical interests and designs. Tunnels would come to reify an insurgent impetus vis-à-vis Israeli ideological, political and military doctrines on the one hand, and the structured dependency and ineffectiveness of the Palestinian Authority on the other. Their emergence speaks to the organization and coagulation of many externalities generated by both dynamics, which effectively captured existent infrastructural assemblages toward colonial imperatives.

Keywords: tunnels; politics of verticality; Gaza Strip; separation control; apartheid; captured infrastructure

Introduction

In January 2017, the Israeli human rights organization Gisha[1] issued a report detailing the state of the Gaza Strip's crumbling infrastructure, focusing in particular on energy, water, sewage and communications (Gisha). The report outlines what is by now well established—that Gaza's infrastructure is in a state of advanced disrepair and on the verge of total collapse.[2] Not long after the report's issuing, top United Nations (UN) representatives deemed the territory 'unlivable,' advancing a 2012 estimate that the critical period of unlivability was due to arrive in 2020 (UN 2).

While the deteriorating state of Gaza's infrastructure and economy has been documented for decades (World Bank), there is one set of infrastructure in the Gaza Strip that is thriving: the elaborate tunnel infrastructure constructed beneath Gaza's sandy soils. It is here where a veritable warren of subterranean tunnels has been constructed—and continues to be constructed, so elaborate that some commentators describe it as an 'underground city' (Zboun). While its full dimensions are not known (with all parties engaged in this activity coveting secrecy), former Palestinian prime minister and current acting head of Hamas, Ismail Hanieyh, once hinted in 2016 that the Hamas network was

double the size of the tunnel network constructed by the Vietnamese National Liberation Front (NLF) (al- Ya'qoubi; al-Qutub). If Hanieh's statement is accurate, it would be an impressive feat given that NLF's *Cu Chi* tunnel maze was 150 miles (241 km) in length and so extensive to include hospitals, resting areas, storage facilities, and schools (Mangold & Penycate 120).

While there is no way to confirm if these figures are inflated for a territory only 360km[2], land borders 72km long, and a population a fraction the size of Vietnam's during the height of its active tunnel empire,[3] it is not impossible. The one published Israeli source estimates the Gaza tunnel network at a much more modest—but still considerable—100km, two and a half times the length of Gaza's 40km coastline (Fishman).[4] One Israeli army source estimates this network may be growing at 10km a month (JPost Staff).

The discrepancy between the state of tunnel infrastructure and the existing state of Gaza's civilian infrastructure is a consistent talking point of Israeli military and political spokespersons. In defending its policy of severely restricting movement of people and goods into and out of Gaza—a policy Palestinians refer to as a ḥiṣar (siege) and

which the United Nations describes as a "blockade"—Israeli commentators consistently invoke the "warped priorities" that have led Hamas to prioritizing the construction and upgrading of tunnels over investing in improving living conditions (Eldar).[5]

However, the sensationalism surrounding tunnel discourse from both Israel and Palestinian military factions tends to obscure a more complicated history to this phenomenon—a history that does not exclusively fit the narratives of either side.

Like all infrastructure, and consistent with the theme of this journal's 10th issue, Gaza's tunnels highlight "strong connections between material things, lives, and practice with immaterial and ideational aspects of human life" (META editorial, this issue). They equally articulate various relations of power and domination, albeit not in the typical manner that much infrastructure development takes place in today's world. The Gaza Strip after all, like the entire Palestinian theatre, is under a protracted fifty-year military occupation and subject to a particular variant of settler colonialism that has many geographical fronts and spatial frontiers. Hamas is also an opposition movement within Palestinian politics, attempting to forge a new politi-

cal and military strategy to Palestinian politics overall. On both fronts—fronts which are by no means equal—tunnels feature as a prominent infrastructure of insurgency, reifying political contestations between Israel and Palestinians, as well as within intra-Palestinian political and class struggles.

This article explores some of the historical, ideational, political, and economic forces which play a role in this process of reification, writing tunnels into the research on infrastructure in general and their role in contexts of colonialism, insurgency and counter-insurgency in particular. It argues that tunnels emerged as an implicit response to Israeli policies of separation and control and the increasingly sophisticated means used to realize these ends. The latter included approaches that actively embraced a 'politics of verticality,' incorporating a volume-based approach to Israeli geopolitical interests and designs, as opposed to horizontal/planar ones. Tunnels would reify an insurgent impetus on two fronts: vis-à-vis Israeli ideological, political and military doctrines on the one hand, and the structured dependency and ineffectiveness of Palestinian Authority (PA) on the other. Their emergence speaks to the organization and coagulation of many externalities gener-

ated by both dynamics, which effectively captured existent infrastructural assemblages toward colonial imperatives. The tunnel impetus is thus driven by a series of political, economic and class dynamics that Hamas is able to take advantage of despite not initiating.

While this accounting can only provide a cursory overview of these dialectical historical processes, this article aims to draw more attention to the relational manner by which exogenous and endogenous factors lead to insurgent infrastructure development under contexts of occupation and colonialism, and within a politics of verticality as experienced by colonized/occupied actors.

The Infrastructure Landscape under Israeli Colonialism

Situating Gaza's tunnels on the infrastructural landscape of the occupied Palestinian territories (OPT) entails understanding how this landscape is produced and the policies and power dynamics that guide it.

Eyal Weizman's work reminds us that the various architects of Israel's occupation—state-technocrats, generals, archaeologists, planners and road engineers—conceived of OPT space not as the background for their actions or "an abstract grid on which events take place – but rather the medium that each of their actions seeks to challenge, transform or appropriate" (Weizman *Hollow* 7). This approach was forged in the wake of the 1967 occupation whereupon the post-war reality forced Israel to reconcile the state's self-definition as a "Jewish democratic state," while de facto governing more than one million (non-Jewish) Palestinians in the newly occupied lands. Provision of citizenship to this population would erode the "Jewish character" of the state, while denial of citizenship, its democratic character (Achcar 205-222). The dominant Zionist Labor faction within the Israeli settler colonial movement believed the answer to this dilemma could be found in an approach that aimed toward selectively disengaging from the immediate administration of Palestinian population centers, allowing for forms of Palestinian self-governance to arise there mediated through regional powers, Jordan in particular. But self-governance needed to be strictly controlled so as not to challenge Israeli prerogatives over land and resources, or broader ideological (Zionist), geostrategic, and economic interests. Thus a twin impetus behind Israel's policies vis-à-vis the OPT was forged: the need to separate from the Palestinians, while simultaneously controlling them (Gordon *Colonization*).[6]

In light of these guiding policy imperatives, Israel's architects of occupation reimagined the OPT not "as a two-dimensional surface, but as a large three-dimensional volume, layered with strategic, religious and political strata" (Weizman "Verticality"). By de facto imposing a "politics of verticality" in their conceptual and practical approaches to the OPT, these architects "crashed three-dimensional space into six dimensions—three Jewish and three Arab" (Benvenisti). This elasticized the frontiers of the conflict, unwittingly expanding them where resistance to their plans could also be waged (Weizman *Hollow* 12-15).

The infrastructural corollaries to these guiding Israeli policy frameworks primarily focused on developing Jewish-only colonies, together with accompanying access roads and service centers. But they also entailed the active neglect of existing civilian Palestinian infrastructure across the OPT, which were already dilapidated from the 1948-67 Egyptian/Jordanian periods. For example, despite Palestinians being forced to pay different taxes to the Israeli Civil Administration, not one hospital bed was added to the OPT health infrastructure between 1967 and 1994 (World Bank xiii).[7]

An important economic corollary to these policies also entailed the policy Sara Roy terms "de-development," namely, "the negation of rational structural transformation, integration and synthesis" of Gaza's economy, "obviating any organic congruous, and logical arrangement" of its constituent parts (Roy *Gaza Strip* 129–30). Accordingly, the majority of Gaza's workers were incorporated into the Israeli labor market or worked locally within service sectors, while Gaza's own productive sectors were prevented from being developed through Israeli control of land, water, skills and technology transfer, and trade policies. This created the enormous dependency Gaza would have upon Israeli jobs, and later, humanitarian aid.

While Weizman's work explores the "three Jewish dimensions" of the occupation's spatial frontier within the politics of verticality, finding this in everything from cladding to highway illumination schemes—not to mention, a series of tunnels as well—sparse scholarly attention has been given to the "three Arab dimensions" (Weizman 12-15). But it is precisely in this domain that Gaza's contemporary tunnel phenomenon must be seen. Because Israel's approach toward the OPT and Gaza in particular was characterized by the politics of separation and control,

while entrenching de-development, tunnels would emerge as an infrastructure that held a promise to circumvent and perhaps even subvert both the occupation's tentacles of control, while reconnecting its fragmented parts. This needed to be done below ground within the "three Arab dimensions" because the existing set of civilian infrastructure was subject to Israeli colonial imperatives and was already 'captured,' assembled and aligned to the latter's broader geopolitical and geostrategic logic.

It is important to emphasize that the emergence of Gaza's tunnel infrastructure was by no means linear. No one factor, party or decision led to Gaza's tunnels assuming the formidable proportions that we see today. On the contrary, percolating concerns and interests across various actors and times led to conditions conducive towards tunnel construction as alternative channels to existing political, infrastructural, economic and strategic constraints. In this light, it is inaccurate to portray the tunnel phenomenon as one of 'Israel versus Hamas,' though both sides have an interest in framing it as such. On the contrary, Hamas was not the first to construct tunnels in Gaza, and Israel is not the end destination of most tunnels. In fact, Gaza's tunnels have been built by all political fac-

tions—Islamist and secular alike—as well as by politically unaffiliated individuals and clans. Some tunnels connect Gaza with Egypt, while others are directed at Israel/1948 Palestine areas, and still others remain exclusively within Gaza itself. And while some tunnels have indeed been purposed for military ends, the great majority of tunnels have been purposed for trade, storage, protection and movement of people, goods and finance.

An overview of some of the key historical turning points on this timeline will illustrate how the emergence of tunnels on the quantitative and qualitative proportions seen today took decades to emerge, and only did so after the politics of control and separation would metastasize to extreme proportions within the politics of verticality.

Historical Background
The earliest documented use of tunnels in the OPT can be traced to the case of Mohammed al-Aswad, a Palestinian militant from the leftist Popular Front for Liberation of Palestine, from Gaza's largest (*Jabaliya*) refugee camp. Aswad is considered among the first to have successfully engaged in guerilla warfare from within Gaza post-1967 (and particularly its camps), earning him the title of "Guevara

Gaza," or the man who 'rules Gaza by night' (Filiu 141). His successes were revealed to be partly attributed to his reliance upon an escape tunnel and bunker located beneath a wealthy Gaza family home. While Aswad's example would enter Palestinian resistance folklore, the reproduction of his example was hardly widespread. Israeli general and future Prime Minister Ariel Sharon would crush the early 1970s Gaza rebellion Aswad led, while the PLO effectively deprioritized the OPT 'front' in favor of developing its regional headquarters in Jordan (up until 1970) and Lebanon (until 1982) (Sayigh 143-318).

A more formative role in generating Palestinian experience with tunnels would emerge after the 1979 signing of the Egyptian-Israeli Camp David Accords, which led to the full re-demarcation of the Israeli-Egyptian border and the withdrawal of Israeli troops and settlers from the Sinai Peninsula in 1981. Palestinian residential settlement from the Gaza Strip's southernmost town and refugee camp (*Rafah*) had expanded onto the Egyptian side of the border between 1967 to 1981, extending along its 14 km length. Israel's withdrawal to the pre-1967 line forced a process of partition that split families, as residents were forced to choose which side they

would remain on. A 'tunnel incentive' was in turn born, motivated by the human need to reconnect families and an economic incentive to capitalize on the different economic regimes on either side. It should nonetheless be borne in mind that despite the border's demarcation, nothing separated the Gaza Strip from the rest of territorial Palestine and the Israeli labor market, which continued to employ great numbers of Gaza's laborers.[8] Tunnels accordingly remained a marginal activity linked with petty smuggling efforts, but little more.

Closure and Oslo

The onset of the first intifada in 1987 would activate a new set of Israeli policy dimensions that further laid the basis to Gaza's tunneling impetus.

Israel's policies designed to counter the first Palestinian intifada led to imposing a regime of closure across the OPT, preventing Palestinian movement and access between OPT areas and 1948 Palestine/pre-1967 Israel, as well as between different parts of the OPT itself (between Gaza, the West Bank and Jerusalem). The creation of the 'pass' system in January 1991 reversed Israel's policy maintained since 1967 which had eliminated physical boundaries formally separating the OPT

from 1948 areas, merging its labor and consumer markets (Hass "Israel's Closure").

While Israel justified—and continues to justify—its closure policies as being based on security exigencies, its first incarnations arose in January 1991, well before the spate of Palestinian suicide bombings in Israeli cities of the mid-1990s, which brought world attention to the issue and was used to retroactively justify it. Behind the security justification, however, lay a set of overlapping political and geostrategic interests related to Israel's 'Jewish democratic' dilemma. Closure enabled Israel to demarcate the contours of its separation from Palestinians based on principles of 'maximum territory, minimum population,' enabling it to preserve and consolidate its ideological, political, economic and security interests (Shafir 238). The boundaries of this selective process of demarcation, tested over time, would subsequently consolidate in the 1993 Declaration of Principles (the Oslo Accord) and subsequent agreements[9] signed between the PLO and Israel, establishing the delimited Palestinian autonomy zones that form the basis of the system of governance seen today across the OPT.

Without going too deeply into the history and details of the accords themselves,

whose political, territorial and economic dimensions have been extensively addressed by others (see Said; UNCTAD; Samhouri), let it suffice to say that Israel and the Western donor community maintained the commanding heights within the arrangement—financially, politically, and geostrategically—over the Palestinians, and continually used this vertical positionality to effectively leverage the Palestinian national leadership, institutions and society (see Haddad).[10]

The impact of this regime over the Gaza Strip were severe, and much greater than in the West Bank, given the former's smaller size and resources, together with the systematic de-development the territory underwent since 1967, which was more extreme than other areas of the OPT (Roy *The Gaza Strip; De-development; Failing Peace*). The entire Strip was fenced in by 1995—the height of the peace process—presaging efforts to do the same in the West Bank in 2002 after the second intifada had erupted. Movement of people and goods, and access to lands, economic opportunities, social services and the outside world, were tightly controlled by Israel as the ultimate political and military arbiter of Palestinian affairs. Internally, the Strip was further divided into four sections cut off from one another through the

imposition of Israel's own settler colonial infrastructure (PCHR "Gaza Settlements"). Gaza's relatively flat seaside topography also facilitated easier security arrangements to these installations insofar as the army enjoyed long lines of sight and visibility of surrounding activity.

Most importantly, closure led to loss of the Israeli labor market for thousands of workers in Gaza, causing unemployment rates and poverty to soar.[11] Gaza's economy was woefully unprepared to absorb the huge swell of unemployed, forcing the PA to employ many as civil servants (paid for by the donor community), and hiding them from official unemployment rosters. This practice was willingly sanctioned by Western donors because they wished to preserve the momentum of the peace process itself, rather than confront Israel about the principles and aims of closure (Haddad 260-280). Separation, in fact, had been supported by donors because it was seen as a 'step towards peace' despite the fact that Israel's implementation of this principle through closure "laid the cornerstone" of apartheid, as noted by seasoned Israeli journalist Amira Hass (Hass, "26 Years").[12]

Within this arrangement, the PA had limited political or financial maneuverability

and was expected by donors and Israel to act as the indigenous corollary to Israeli security prerogatives. Tensions of all stripes abounded within this arrangement, laying the basis for conditions that would eventually explode during the second intifada. Yet while the arrangement was pregnant with contradictions, its externalities were left entirely unorganized, despite major consequences on all aspects of Palestinian life and livelihood. The PA was nonetheless institutionally and financially bound within the existing arrangement and prioritized its survival within this asymmetry, rather than challenging its logic overall.

Second Intifada and "Disengagement"
When the peace process eventually collapsed after the failed Camp David summit of July 2000, the eruption of a second intifada would set the stage for the contemporary tunnel experiment to grow. The intifada quickly revealed how most of the "old" forms of struggle against the occupation used during the first intifada—strikes, popular demonstrations and the formation of popular committees to self-organize communities—were now largely obsolete. Oslo's reconfiguration of Israel's occupation map meant that Israeli soldiers were no longer situated within the heart of most Palestinian cities, while the existence

of the PA meant that Palestinians nominally controlled many of their own social services, but could not operate these without Israeli and donors' approval and finance. The arrangement exposed how the Palestinian governance apparatus that Palestinians entrusted with realizing their political and national aspirations, and which donors had financed, was structurally incapable of subverting its asymmetric positioning. Nor could it effectively address the hardships of life this arrangement necessarily entailed, subject as it was to Israeli and donor prerogatives. Collectively these factors pushed conflict dynamics towards militarization, especially in light of soaring Palestinian protester casualty rates, easily picked off by Israeli soldiers located in well-protected military facilities at the gateways to Palestinian cities and towns (OCHA "Casualties"; B'tselem).

On its behalf, Israel's attempts to militarily quash the second intifada led to immediate measures to leverage its position of verticality, further tightening its means of separation and control, and increasingly investing in technologies of surveillance and obstacle construction (walls, trenches, checkpoints, earthen barriers) (UNOCHA "Movement and Access"). Gaza would increasingly become locked down to

human traffic (both within the strip and vis-a-vis the rest of the OPT and outside world), hermetically sealing each section in a manner that had no equivalent in the West Bank. Israel could close Gaza's checkpoints for weeks on end and completely paralyze all economic and social activity that depended on inter-regional connectivity throughout the Strip—to say nothing of movement and access beyond Gaza. It also began to implement military doctrines that saw value in assassinating charismatic Palestinian leaders through strikes from drones and attack helicopters on cars, apartments and homes (PCHR "Assassination"). All territory above ground became a potential target for such attacks as Israeli military superiority from the air, together with its extensive intelligence apparatuses on the ground, gave it enormous abilities to pinpoint Palestinian actors, while controlling economic and personnel flows. To further leverage its advantageous positioning, Israel also worked to extensively widen buffering perimeters around settlements and military bases, beginning massive house demolition and land clearing campaigns using bulldozers and aerial defoliation spray (PCHR "Home Demolition"). Israel's military superiority would be no match for the second intifada's early experiments in armed struggle, which

were of limited scope and sophistication, and led to heavy losses.

Incentivizing Tunnels

As the dialectics of military engagement evolved, the sophistication of Israel's technological advantages over Palestinians widened, and the rejectionist logic of Israeli political and strategic doctrines became more evident and entrenched—that there would be no political concessions to the intifada, and that "what doesn't work with force will work with more force" (Benn; Honig-Parnass 230)[13]—Palestinian political and military actors would slowly look towards a range of technologies—including tunnels—that might be able to provide primitive solutions to some of the new and old problems this situation posed.

Tunnels would be intimately tied with an emergent set of political and economic interests to create an alternative to the existing avenues that were blocked or controlled by the conditionalities of Oslo and Israeli political and military doctrines, and which were left effectively unchallenged by Western donors.

As Israel invested in securing its installations in Gaza from attack, Palestinian militants considered ways to strike these tar-

gets from a distance given their impenetrability on land. Efforts to develop mortars and primitive rocket technology began appearing in Gaza in 2001, imported in part through skills transfer from former senior PLO militants themselves and Palestinians linked to external networks sympathetic to supporting this activity (*Hizbulla*, Iraq, Iran and Libya). Materials needed to sustain military activity against Israel had initially relied upon the Israeli black market for supplies and weapons. But with Israel tightening all channels of movement and access into and within the OPT, Egyptian markets would begin to prove more cost-effective. The Sinai Peninsula was awash in small weapons easily penetrated by smuggling networks. Local Egyptians were also economically marginalized from the Egyptian seat of governance and were largely alienated from the profitable tourism resorts owned by government officials and wealthy capitalists, built on Sinai's pristine coasts, particularly in the poorer northern parts closer to Gaza. These areas of Sinai began deepening economic ties to the Gaza Strip, developing a border economy organized around military supply.

While only a handful of tunnels existed along *Rafah*'s border up until 2000—with this representing the entirety of Gaza'

known tunnel infrastructure at the time— the incentive to dig new tunnels to counter-leverage Israeli vertical hegemony would increasingly emerge as a consequence of an overlapping set of economic, political and military incentives that sustained a maturing militant resistance economy. Additionally, it should be noted, the south of the Gaza Strip was much poorer than its northern parts, where Gaza City's patrician family structures closely associated with the PA (even more so than those of the West Bank), had long integrated into local and regional capital accumulation patterns and networks (Hilal 85-115). This economic and political marginalization also fueled Rafah's gaze southwards (toward Sinai) and underground, as opposed to over ground, as the few economic opportunities that Palestinians had under Oslo and closure were dominated by preferred capital groups associated with the PA. These groups had no interest in the development of tunnels, because they benefitted from monopoly-like concessions on imports into PA areas, through the official channels, as junior partners to the Israeli-dominated arrangement. In this way, Gaza's civilian infrastructure was revealed as doubly captured, servicing Israeli colonial prerogatives and military doctrines, as well as those of favored Palestinian elites

profiteering within the PA's survivalist approach to politics overall.

Thus, political factors (opposition/lack of faith in Oslo) would combine with economic incentives (the profits of smuggling) and political economic factors (disenfranchisement of local actors under Oslo, and within Palestinian social relations) to synergize the tunnel impetus.

Tunnels slowly became pronounced as a viable and effective military tactic in their own right, as they provided militants with the opportunity to approach Israeli targets without detection. The first incidence of this took place in September 2001 when Hamas militants burrowed beneath the hated 'Termid' military installation in Rafah, which overlooked the strategic Salaheddin road, blowing it up and killing five soldiers. At least five other operations using tunnels for detonation or ambush (killing 15 soldiers and injuring 67) made it apparent that Israel's military presence in secure installations throughout Gaza was now not so secure (Sham'a). The simultaneous onset of daily rocket and mortar fire into these areas—surrounded as they were by populated Palestinian areas—rang a death knell for the former arrangement. Israel was forced to internalize a more efficient and effective arrangement to dominating

Gaza, withdrawing its army, 5000 settlers and 21 settlements from within the territorial borders of Gaza, and repositioning troops at a safer distance beyond. In December 2003, then prime minister Ariel Sharon would politically declare his intention to withdraw, announcing his "Gaza disengagement" plan.

The "Gaza disengagement," which in truth was a unilateral redeployment, only strengthened Israeli control over the Strip. It reorganized the features and means of separation and control, attempting to establish and administer it remotely. Helga Tawil-Souri refers to the new regime structure to emerge there as akin to a "digital occupation" whereby unmanned aerial reconnaissance and attack drones, remote-controlled machine guns, closed-circuit television, sonic imagery, gamma-radiation detectors, remote-controlled bulldozers and boats, and electrified fences marked a shift from traditional military occupation toward a high-tech one (Tawil-Souri). For Tawil-Souri, "the technological sealing of Gaza is part of the transformation of the mechanics of Israeli occupation toward 'frictionless' control" (28). This logistical feat would complement its political equivalent, whereby the redeployment was construed by its Israeli architects as a form of political and insti-

tutional "formaldehyde," quoting Sharon senior advisor Dov Weisglas (Shavit).[14] 'Disengagement' gave Israel the opportunity to falsely claim that it had ended its occupation and was no longer responsible for the territory's fate. In truth, it entrenched and metastasized the principles of the previous arrangement—control and separation—doing so in a manner that was exponentially more exclusivist, violent and domineering. It also whetted the illusion that control and separation could be achieved through an unending series of technological fixes of yet higher vertical orders.

Post-Disengagement
Israel's redeployment from Gaza, Hamas' victory in the 2006 elections, and the international boycott on dealing directly with the new government represented the ultimate tipping point in the drawn-out affair of tunnel development.

The international and Israeli responses to democratic elections exposed these powers as less committed to democracy and institution building than they were to sponsorship of political patronage in the form of Fatah control over the PA. Furthermore, the US' attempted sponsorship of a failed coup against Hamas in June 2007, through former Fatah strong-

man Mohammed Dahlan, resulted in a geopolitical division between a Fatah-controlled West Bank and a Hamas-controlled Gaza Strip (Rose). The brazen political nature of both events exposed the extreme measures donors and Israel were willing to take in attempting to prevent the emergence of alternative arrangements that disaggregated or even loosened their vertically-imposed political, economic and infrastructural hegemony. The capture of civilian infrastructure would not be surrendered to the new Palestinian government, but used instead as a means of leverage, given that it ultimately relied upon forms of physical and financial access to operate, which Israel and donors controlled. The further collapse of infrastructure and humanitarian conditions in Gaza was inevitable thereafter, to say nothing of what would become of these in light of Israel's military campaigns against Gaza in 2008, 2009, 2012, and 2014 (UN).

These dynamics would subsequently push Hamas, as the Gaza Strip's new governors, to strategically adopt its own radical means of realizing its agenda, which in the end was an existential test of the organization, its personnel, leadership and program. Tunnel infrastructure development would lead the way forward for the movement to survive, as democratic elections

failed to release the existing civil infrastructure from Israeli, donor and PA capture. However primitive, tunnels offered the only effective means by which its alternative political agenda could take shape within existing constraints. These dynamics in turn represented the formal organization and crystallization of logical tendencies to survive and counter the Israeli, international donor and PA regime constraints.

Hundreds of tunnels under Gaza's soils would thereafter be dug—up to 1500 according to some estimates—with these directed southward towards Egypt (Pelham). These routes became known as "Gaza's lungs" or "veins," just as Israeli military campaigns expressly intended to send Gaza back to the "Middle Ages" (Mitchell), and by 2014, the "Stone Age" (Regev). Nicholas Pelham documents this phenomenal rise, noting how "tunnels became a key driver of upward mobility and social change, empowering previously marginalized groups and spawning a class of nouveaux riches" (Pelham 20).[15] Hamas would use tunnels to establish its own elites within a new political economy, consolidating its rule. The rents generated would give the organization the financial means to deepen its political hold over the Strip, definitively displacing the old

Fatah-aligned elites there while also allowing the organization to pursue its military ambitions without encumbrance from PA security personnel and Western donor state influence.

Tunnels would further prove themselves as militarily effective, demonstrated in the 2006 ambushing and capturing of Israeli soldier Gilad Shalit. Shalit was taken from his military vehicle located on Gaza's borders after militants emerged from a tunnel that opened behind Israeli-held lines. His capture eventually resulted in the release of 1050 Palestinian political prisoners, many of whom were both long-serving and political leaders. The fact that a tunnel proved so effective in coercing Israel to release Palestinian political prisoners entrenched the politics of resistance over those of negotiations within the operational logic of Palestinian political actors. The basis for the reductionist narrative around tunnels expressed at the beginning of this article was thus laid.

Concluding Thoughts

Although contemporary discourse on tunnels is dominated by the narratives of Israeli military spokesmen and Palestinian military factions, this article has attempted to demonstrate that these accountings represent a narrow reading of this phe-

nomenon that tends to reproduce reductionist tropes about the conflict. A more nuanced reading exposes how this infrastructure harnessed a survivalist impetus under increasingly repressive condition that would later become more explicitly insurgent. Because the Oslo peace process failed to challenge the insipient logic of Israel's approach toward the OPT, characterized by the twin dynamics of control and separation, Palestinian actors eventually pursued alternative and parallel political, economic, and ultimately infrastructural avenues to the captured versions on offer.

Israeli and donor intransigence throughout the peace process and the intifada effectively assumed that technological fixes and the politics of verticality could indefinitely contain the contradictions and externalities their policies generated. But as the old adage goes, "if you don't bend, you break"—and Gaza effectively "broke." Tunnels acted as a key infrastructural technology and contribution that could reify alternative political, economic, social and indeed military impetuses. In so doing, they played a part in loosening, at the very least, the monopolistic, self-referential frameworks for how Israeli-Palestinian "conflict resolution" had taken place within the peace process, as overseen by Israel

Toufic Haddad

is the author of Palestine Ltd.:
Neoliberalism and Nationalism in
the Occupied Territory (I.B. Tauris,
2016). This article is based on research
conducted as an Arab Council for Social
Sciences Postdoctoral Fellow exploring
"The Political Economy of Siege and
Resilience in the Gaza Strip", made
possible through the support of a grant
from the International Development
Research Center (IDRC). The statements
made and views expressed are solely
the responsibility of the author.
email: tawfiq_haddad@yahoo.com

and Western donors. Accordingly, rudimentary activities formerly on the margins of Palestinian economic and military activity were given the opportunity to expand, as the economic, military and political conditions and dynamics synergized these dimensions between themselves. Hamas became the political and institutional benefactor of these dynamics, despite the movement not initiating them.

In particular, Israeli doctrines implementing a Zionist variant of apartheid across the OPT should be identified as a chief facilitator of these dynamics, as they separated families, regions, economic actors and infrastructure of all stripes, without recourse. Additionally the imposition of military doctrines of uncompromising force, 'full-spectrum dominance,' attempted omniscience, and "frictionless" remote control pushed forward local military dynamics. The particular asymmetrical manner by which these dynamics were asserted on the ground, together with the widening nature of this asymmetry over time, should also be credited with pushing further resources towards this end. The reification of these dynamics through the burgeoning tunnel phenomenon would thus inevitably align itself within Palestinian social relations and its respective political and class struggles.

Palestinians used tunnels in Gaza as a means to re-stitch their territories and lives while attempting to generate means of survival and forms of leverage that could stave off Israel's destructive policies toward them. This article demonstrates how infrastructure functions as an important frontier in the conflict, with respective political economic alignments, political discourses, financial actors, military dimensions and strategic ends. It thus contributes to an academic literature set on the vertical that both answers Stephen Elden's challenge to "look up" from below, rather than merely to understand things from above, looking down (Elden 49). As Stephen Graham notes, thanks to the proliferating verticalities of our world overall, "it is only through such fully three-dimensional and critical perspectives that the political, social and urban struggles of our rapidly urbanizing world can possibly be understood" (Graham 24). A call for more case studies of the role of infrastructure within the politics of verticality within contexts of occupation and colonialism, resistance and counter insurgency, can help shed light on still more dimensions to these largely understudied and often misunderstood contexts.

Notes

[1] GISHA – Legal Center for Freedom of Movement.

[2] Just one paragraph from the report is worth quoting to gain a sense of the extent of Gaza's infrastructure crisis and its implications on civilian life: "Without a consistent supply of electricity, it is impossible to provide sufficient health, education and welfare services. Some medical equipment is prone to frequent malfunctions due to unstable electrical currents, while other equipment cannot be used at all as it cannot withstand the fluctuations in the current. It is difficult to keep medicine chilled. Untreated sewage gets discharged into the sea, and without the ability to use pumps, water supply is affected. Household appliances like refrigerators or washing machines cannot be used, not to mention air conditioning in summer or heating in winter. With an intermittent supply of fuel, public transportation becomes unreliable and hospitals, schools and universities have difficulties operating. The industrial and agricultural sectors, including food production, are also harmed due to energy deficiencies. Baking is not possible without ovens. Fresh food is hard to sell without refrigerators. Crops cannot be irrigated without water pumps, and fishing boats are difficult to sail without fuel. Commercial companies in Gaza reported a 30% surge in production costs due to disruptions in the supply of electricity. This is the daily routine" (GISHA "Hand" 3).

[3] Vietnam's population was 42 million people in 1970, while Gaza's today has only just passed two million.

[4] Fishman takes the figure from the Israeli Comptroller's Report produced in the wake of Israel's 2014 military campaign in Gaza, and which intended to assess the army's performance and preparedness therein.

[5] Israeli spokeswoman Lt. Libby Weiss from the Israeli Army Spokesperson's Unit for example, provides a "guided tour inside a Hamas terror tunnel" in a YouTube video declaring "These are tunnels that are built with high quality cement–cement that comes into Gaza from Israel as humanitarian aid. On average, every one of these tunnels costs roughly three million dollars. Multiply that by the number of tunnels we found and that comes to US$100 million that could have been invested in schools, community centers, in hospitals, in mosques within the Gaza strip. This tunnel and others like it, clearly reflect Hamas' priorities: rather than invest time and resources in the population of Gaza, Hamas instead chooses to invest in acts of terror against the Israeli public. This is the true face of Hamas." (IDF)

[6] The main tenets of this plan are attributed to former Israeli Defence Minister Yigal Allon, and have since rendered various maximalist and minimalist versions. But the basic principle of containing the Palestinian demographic presence within defined areas of limited self-governance while maintaining the rest of the territory for settlement expansion has been a prominent feature of all Israeli governments at least since 1993.

[7] The report notes: "Government health care services are produced at 14 hospitals and 165 primary health care clinics. The 14 hospitals had a total of 1,546 beds in 1990. Most government clinics are fully staffed for only one or two days a week. The Civil Administration has not increased the number of beds in government hospitals since 1967." For more on the state of infrastructure in the OPT, see World Bank, vol V; Roy, Gaza Strip.

[8] Before the 1994 Interim arrangements, around 115,000 Palestinians–roughly 30% of the labor force in the West Bank and more than 40% in Gaza, legally worked in Israel (Beinin 29).

[9] These Israel-PA agreements included the Oslo II Interim Agreement of 1995, the Paris Economic Agreement of 1994, the Hebron Protocol of 1997, and the Wye River Memorandum of 1998.

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→ [10] Israeli activist Jeff Halper has termed the nature of Israeli control of the OPT as akin to a "matrix of control" that operates similar to the Japanese game of 'Go': "Instead of defeating your opponent as in chess, in Go you win by immobilizing your opponent, by gaining control of key points of a matrix so that every time s/he moves s/he encounters an obstacle of some kind [. . .] The matrix imposed by Israel in the West Bank, Gaza and East Jerusalem, similar in appearance to a Go board, has virtually paralyzed the Palestinian population without 'defeating' it or even conquering much territory (Halper 15). Israel and donor states have also always controlled at least two thirds of PA revenue streams, together with the political parameters of what constitutes actions supportive or detrimental to 'peace'.

[11] During the heavy full closures imposed in 1996-97, these figures dropped to 18 and 6 percent respectively, spiking Palestinian unemployment to around 20 and 30 percent (Arnon 589).

[12] It is worth quoting Hass in full: "Since 1991, the denial of freedom of movement [of Palestinians] has only become more technologically sophisticated: separate roads, checkpoints and search methods that are more humiliating and time-consuming; routine biometric identification; an infrastructure that enables a restoration of the checkpoints around the West Bank enclaves and separates them from each other. The calculated gradualness and failure to announce the policy and its objective in advance, and the internal closure of the Palestinian enclaves surrounded by Area C – all of these normalize the situation. Closure (as a foundation of apartheid) is perceived as the natural, permanent state, the standard people no longer notice" (Hass "26 Years").

[13] Honig-Parnass quotes an interview with Israeli Army Chief of Staff Moshe Ya'alon describing his approach to repressing the Al Aqsa Intifada. Ya'alon likens the intifada to "cancer" and the Israeli army's approach to repressing it as akin to applying chemotherapy: "The facts that are being determined in this confrontation—in terms of what will be burned into the Palestinian consciousness—are fateful. If we end this confrontation in a way that makes it clear to all Palestinians that terrorism does not lead to agreements, it will improve our strategic position. On the other hand, if their feeling at the end of the confrontation is that they can defeat us, our situation will become more and more difficult."

[14] "The disengagement is actually formaldehyde," said Weisglas. "It supplies the amount of formaldehyde that is necessary so there will not be a political process with the Palestinians." (Shavit).

[15] Pelham's article is based on a study the United Nations commissioned on Gaza's tunnels but failed to publish.

Works Cited

Achcar, Gilbert. "Zionism and Peace: From the Allon Plan to the Washington Accords." *New Politics* 5, vol. 3 , 1995, pp. 95–115.

Arnon, Arie. "Israeli Policy towards the Occupied Palestinian Territories: The Economic Dimension, 1967-2007." *Middle East Journal*, vol. 61, no. 4, 2007, pp. 573–595.

Beinin, Joel. "Palestine and Israel: Perils of a Neoliberal, Repressive 'Pax Americana.'" *Social Justice*, vol. 25, no. 4 , 1998, pp. 20–39.

Benn, Aluf. "An Abiding Faith in Force," *Ha'aretz*, 9 October 2003.

Eldar, Shlomo. "Hamas focuses on rebuilding tunnels as Gazans suffer" *al-Monitor*. 5 March 2015. https://www.al-monitor.com/pulse/originals/2015/03/hamas-gaza-strip-tunnel-infrastructure-rebuilding.html. Accessed 23 January 2018.

Benvenisti, Meron. "An Engineering Wonder", *Haaretz*, 5 June 1996.

B'Tselem "Fatalities before 'Operation Caste Lead" B'tselem Israeli Information Center for Human Rights in the Occupied Territories, December 2008. http://www.btselem.org/statistics/fatalities/before-cast-lead/by-date-of-event. Accessed 23 January 2018

Elden, Stuart. "Secure the Volume: Vertical Geopolitics and the Depth of Power." *Political Geography*, vol. 34, May 2013, pp. 35-51.

Filiu, Jean-Pierre. *Gaza: A History*. Hurst & Company, 2014.

Fishman, Alex. "What is Israel doing about the Gaza Tunnels Today?" *Ynetnews*. 7 March 2017. https://www.ynetnews.com/articles/0,7340, L-4931788,00.html. Accessed 23 January 2018.

Friedman, Thomas. "Tipping Points". *New York Times*, 27 February 2005. http://www.nytimes.com/2005/02/27/opinion/the-tipping-points.html?mtrref=www.google.com&gwh=8F0B37E7770D4EE8C4F17550C977CBAB&gwt=pay&assetType=opinion. Accessed 23 January 2018.

→

→ Gisha. "Food Consumption in the Gaza Strip – Red Lines". Gisha – Legal Center for Freedom of Movement. October 2012. http://www.gisha.org/UserFiles/File/publications/redlines/red-lines-presentation-eng.pdf. Accessed 23 January 2018.

---. "Hand on the Switch: Who's Responsible for Gaza's Infrastructure Crisis". January 2017. http://gisha.org/UserFiles/File/publications/infrastructure/Hand_on_the_Switch-EN.pdf. Accessed 23 January 2018.

Graham, Stephen. *Vertical: the city from satellites to bunkers*. Verso. 2016

Gordon, Neve. "On Visibility and Power: An Arendtian Corrective of Foucault." *Human Studies*, vol. 25, no. 2, 2002, pp. 125–145.

---. "From Colonization to Separation: Exploring the Structure of Israel's Occupation." *Third World Quarterly*, vol. 29, no. 1, 2008, pp. 25–44.

Haddad, Toufic. *Palestine Ltd: Neoliberalism and Nationalism in the Occupied Territory*. I. B. Tauris: 2016.

Halper, Jeff. "The 94 Percent Solution: A Matrix of Control." *Middle East Report*. 216, pp. 14 – 19.

Hass, Amira. "Israel's Closure Policy: an Ineffective Strategy of Containment and Repression." *Journal of Palestine Studies*, vol. 31, no. 3, 2002, pp. 5–20.

---. "The Closure of the West Bank and Gaza Has Lasted 26 Years", *Ha'aretz*, 16 October 2017. https://www.haaretz.com/middle-east-news/palestinians/1.817381. Accessed 23 January 2018.

Honig-Parnass, Tikva., and Toufic Haddad. *Between the Lines: Readings On Israel, the Palestinians and the US "War On Terror"*. Haymarket, 2007.

IDF [Israel Defence Forces]. "A guided tour inside a Hamas terror Tunnel." Youtube video, 2 September 2014. https://www.youtube.com/watch?v=HvqEi2aN9TU. Accessed 23 January 2018.

Jpost Staff. "Hamas Digging 10 kilometers of Tunnels Per Month Toward Israel." 28 July 2016. http://www.jpost.com/Arab-Israeli-Conflict/Report-Hamas-digging-10-kilometers-of-tunnels-per-month-towards-Israel-462604. Accessed 23 January 2018.

Mangold, Tom and John Penycate. *The Tunnels of Cu Chi*. Pan, 1986.

Mitchell, Greg. "Prominent Israelis: Flatten Gaza or send it back to the Middle Ages" *The Nation*. 19 November 2012.

PCHR. "A Comprehensive Survey of Israeli Settlements in the Gaza Strip," Palestinian Center for Human Rights, Series Studies no. 10,1996. www.pchrgaza.org/files/S&r/English/study10/Settlements.htm. Accessed 23 January 2018.

---. "Assassination Reports". http://pchrgaza.org/en/?cat=60&filter_by=featured. Accessed 23 January 2018.

---. "Home Demolition and Land Sweeping". http://pchrgaza.org/en/?cat=51. Accessed 23 January 2018.

Pelham, Nicolas. "Gaza's Tunnel Phenomenon: The Unintended Dynamics of Israel's Siege." *Journal of Palestine Studies*, vol. 41, no. 4, 2012, pp. 6–31.

al-Qutb, Nadia. "What are the Vietnamese tunnels that Haniyeh referred to in his Friday Sermon?" *Al Hadath*. 29 January 2016. http://bit.ly/2FDVLng. Accessed 23 January 2018.

Regev, Amos. "Return Gaza to the Stone Age" *Israel Hayom*. 9 July 2014. http://www.israelhayom.com/site/newsletter_article.php?id=18675. Accessed 23 January 2018.

Rose, David. "The Gaza Bombshell." *Vanity Fair*. April 2008.

Roy, Sara M. *The Gaza Strip: The Political Economy of De-development*. Institute for Palestinian Studies, 1995.

"De-Development Revisited: Palestinian Economy and Society Since Oslo." *Journal of Palestine Studies*, vol. 28, no. 3, 1999, pp. 64–82.

---. "The Palestinian-Israeli Conflict and Palestinian Socioeconomic Decline: A Place Denied." *International Journal of Politics, Culture, and Society*, vol. 17, no. 3, 2004, pp. 365–403.

---. "Dubai on the Mediterranean". *London Review of Books*. 27: 21. 3 November 2005.

---. "Failing Peace: Gaza and the Palestinian-Israeli Conflict". Pluto, 2007.

Said, Edward. "The Morning After", *London Review of Books*, 15: 20-21. 21.October 1993.

---. *Peace and Its Discontents: Gaza-Jericho 1993-1995*. Vantage, 1995.

---. *The End of the Peace Process: Oslo and After*. Vintage books, 2001.

Samhouri, Mohammed el-. "Revisiting the Paris Protocol: Israeli-Palestinian Economic Relations, 1994-2014 / Mohammed Samhouri." *Middle East Journal*, vol. 70, no. iv, 2016, pp. 579-607.

→

→   Sayigh, Yezid. *Armed Struggle and the Search for State: The Palestinian National Movement 1949-1993*. Oxford UP, 1997.

Sham'a, Aya. "Gaza's Tunnels: The Veins of Life and Resistance" Palestine Information Center. 8 February 2016. https://palinfo.com/97775. Accessed 23 January 2018.

Shavit, Ari. "Top PM aide: Gaza plan aims to freeze the peace process." *Ha'aretz*. 6 October 2004.

Tawil-Souri, Helga "Digital Occupation: Gaza's High-Tech Enclosure." *Journal of Palestine Studies*, vol. 41, no. 2, 2012, pp. 27–43.

United Nations (UN). "Gaza ten years later. United Nations Country Team in the Occupied Palesitnian Territory, July 2017. https://unsco.unmissions.org/sites/default/files/gaza_10_years_later_-_11_july_2017.pdf. Accessed 23 January 2018.

UNCTAD. "Paris Protocol on Economic Relations (PER) Between Palestine (PLO) and Israel – Critical analysis, historical failings, future options: An extract of relevant UNCTAD reports and studies since 1998." 1 October 2011.

UNOCHA. "Israeli-Palestinian Fatalities Since 2000 – Key Trends. Special Focus." UN Office for the Coordination of Humanitarian Affairs (OCHA) https://unispal.un.org/DPA/DPR/unispal.nsf/0/ BE07C80CDA45794 685257348005002722007. Accessed 23 January 2018.

---. "The Gaza Strip: The Humanitarian Impact of the Blockade." July 2015.

"Movement and Access", reports. https://www.ochaopt.org/theme/movement-and-access. Accessed 23 January 2018

---. World Bank. *Developing the Occupied Territories: An Investment in Peace*. The World Bank, Vol.V, 1993.

al-Ya'qoubi, Yahiya: "Gaza's Tunnels: Double Vietnam's", *Siraj Press*. 2 February 2016. http://seraj.ps/index.php?act=post&id=84437. Accessed 23 January 2018.

Zboun, Kifah. "Gaza's Tunnels. An Underground City. *Al Sharq Al Awsat Weekend edition*, 13 August 2014. https://aawsat.com/home/article/158271. Accessed 23 January 2018.

Weizman, Eyal. "Introduction to the Politics of Verticailty", *Open Democracy*. 23 April 2002. https://www.opendemocracy.net/ecology-politicsverticality/article_801.jsp. Accessed 23 January 2018.

---. *Hollow Land: Israel's Architecture of Occupation*. Verso, 2007.

Shafir, Gershon. "Ideological Politics or the Politics of Demography: The Aftermath of the Six Day War", featured in Association for Israel Studies, Ian Lustick, and Barry Rubin. *Critical Essays On Israeli Society, Politics and Culture*. State University of New York Press, 1991.