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Missing Teeth and Sticky Parts of Urban Plans: The Case of Patrick Geddes' Tel Aviv

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Abstract

This paper is focused on the rise, development, and current state of the built environment of Tel Aviv, specifically looking at (1) the historical context within which Tel Aviv's origin story is situated; (2) the ideals initially espoused by Patrick Geddes in his master plan for the city, and how the built environment mutated as varying pressures began to push and pull at its seams in the decades that followed; (3) the parts of the initial master plan which maintained their tenacity within the built environment, in comparison to the parts which were absorbed by the weight of rapid urbanization; and (4) the unexpected micro-architectural typologies that have emerged within the built environment of Tel Aviv, anchored within the micro-scale urban morphological niches framed by Geddes' original master plan. The first two points, located within the discursive landscape of architectural and urban history, are addressed via a historical methodological approach. The latter two points are scrutinized via an analysis of the contemporary built environment of Tel Aviv, with the final point specifically utilizing an ideal-type analysis often deployed within psychological and sociological research. The findings presented across the paper are in close relationship with the growing body of literature attempting to partially steer the discursive landscape concerning Tel Aviv away from an obsessive focus on the city's modernist architectural legacy and towards a deeper understanding and recognition of what has pejoratively been deemed the background fabric of the city.

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Keywords

Tel Aviv; Patrick Geddes; Master Planning; Built Environment; Architecture

1. Introduction

The dominant architectural protagonist found across the built environment of Tel Aviv is a low-rise multi-family housing typology, with clear setbacks on the side and rear, giving the built world room to breathe and space to take in the Mediterranean sun. As early as the 1930s, this repetitive low-rise typology formed the bedrock of the city's built environmental narrative (see Figure 1).

Given that Tel Aviv itself was master-planned in the mid-1920s and this low-rise typology was observed ubiquitously across the urban fabric soon after, there is a commonplace discursive presumption that this building typology was part of the original framework for the city, as penned by Patrick Geddes (Hoffman, 2009, pp.72-73).

Figure 1: Postcard of Herzl Street, Tel Aviv (circa 1930). (Source: Eliahu Brothers (Jaffa / Tel Aviv), public domain)

As a byproduct of this presumption, significant portions of the discursive landscape struggle to imagine the origin story of the city in the absence of this architectural character, giving rise to the myth of Tel Aviv as a dense city that suddenly "rose out of nothing" (Hoffman, 2009, pp.72-73), or "a city that grew from the sands" (Harris, 2008, p.89). A secondary byproduct is that contemporary analyses of Tel Aviv's built world tend to focus on this low-rise typology at the expense of other typologies or architectural phenomena encountered within the cityscape.

This paper attempts to cross-examine these discursive elements, specifically by: (1) framing evidence counter to the idea that Tel Aviv was a city that suddenly emerged as a multi-story built-environmental landscape out of a tabula rasa condition; (2) refuting the assertion that the low-rise architectural typology predominantly observed across Tel Aviv was part of Patrick Geddes' initial master plan for the city; and (3) shedding light on another building typology which emerged within the parameters of Geddes' master plan that has heretofore been overlooked by the discursive landscape.

With this cross-examination effort, the text aims to contribute to the growing discourse critically analyzing the myths, histories, and realities underpinning Tel Aviv (LeVine, 1999; Mann, 2006; Rubin, 2013; Rotbard, 2015; Azaryahu, 2020), while opening up the examination of the built environment of the city to more-liminal and -background building and spatial typologies (Epstein-Pliouchtch and Fuchs, 2008; Haque, 2008; Aronis, 2009).

2. Materials and Methods

This text disentangles three layers of fiction, inaccuracy, and oversight concerning the history, development, and contemporary state of the urban fabric of Tel Aviv. This is achieved by leaning on historical methodology as well as ideal-type analysis. While the former is commonly utilized within the analysis of the built world, the latter is fairly uncommon within built environmental studies, being a qualitative methodology used within psychological and sociological research (Stapley et al., 2021; Stapley et al., 2022).

The historical methodology utilized leans upon secondary and primary resources to challenge two specific arguments—namely that: (1) Tel Aviv was a city that arose out of nothing, and (2) the multi-story apartment typology ubiquitously observed across the urban fabric of Tel Aviv, was a typology suggested by Patrick Geddes in his original master plan for the city. These points are addressed in Sections 3.1 and 3.2, respectively.

The ideal-type analysis utilized in Section 3.3 anchored the remote field research conducted on the urban fabric of Tel Aviv between 2018-2019 and 2022-2023, analyzing a specific micro-architectural typology which was observed within the six-to-eight meter inter-building gaps originally designed into the master plan by Geddes (Kallus, 1997, pp. 297-299). For data collection, systematic random sampling was utilized to investigate the urban fabric, with every third street being omitted from the data mining process. Given that most of the streets in Tel Aviv face north-south or east-west in a fairly gridded fashion, this type of systematic sampling was rather straightforward. Through this data analysis, a total of 220 examples of this micro-architectural typology were observed. Based on the systematic

omissions embedded into the sampling process, it is estimated that over 330 such examples would be observed across the urban fabric in its entirety.

Google Earth Pro was the main software utilized for data mining across the urban fabric. The historical imagery embedded into this software proved particularly useful in that it permitted the assessment of how specific areas of the streetscape changed over time.

The images sourced via this platform are used in this paper as primary figures. This is done to maintain methodological transparency across the research as a whole and to support the gradual expansion of the range of methodologies and methodological outputs conventionally used in the analysis of the built environment, which, in the context of architectural research, has tended to be anchored around historical methodological conventions.

After this dataset was established, the ideal-type-analysis methodology, as outlined by Stapley et al. (2021; 2022), was utilized. This involved a seven-step process which included: dataset familiarisation (step 1), case reconstruction (step 2), construction of ideal types (step 3), optimal case identification (step 4), formation of ideal-type descriptors (step 5), checking credibility (step 6), and making comparisons (step 7) (Stapley et al., 2022). This was not a linear process where steps 1 through 7 were achieved in a single stroke, but rather a back-and-forth process wherein checking of credibility (step 6), for instance, often led back to the refinement of ideal types initially constructed in step 3. Five ideal types were established at the end of this process.

3. Results

The findings of this paper are broken down into the following three areas of focus: (1) the historic context within which Patrick Geddes' master plan for Tel Aviv arose; (2) Geddes' initial ideals for the city, and how those initial intentions changed as differing societal demands and pressures imposed themselves upon the urban fabric; and (3) the rise of a micro-architectural infill typology, incubated within the side setbacks initially established by Geddes' master plan for the city.

3.1. The Myth of Bare Sands and Nothingness

The enactment of the U.S. Emergency Immigration Acts of 1921 and 1924 imposed severe restrictions on Jewish immigration to the United States (Alroey, 2006, p.273). As a byproduct of these restrictions, significant portions of global Jewish immigration began to look to Mandatory Palestine as a preferred region of asylum (ibid.). Tel Aviv was one of the safe harbors for this vast global movement of people. Having grown from a population of just over 2,000 in 1919 to one of nearly 40,000 by 1925, it was in the early 1920s that the Tel-Aviv City Council called on Patrick Geddes to compile a report for the future northern expansion of the city (Kallus, 1997, p.290).

While previously composed mainly of agricultural pioneers, the new wave of immigration included large numbers of middle-class Eastern European urbanites (Kallus, 1997, p.295). These new arrivals, looking for secure investments for their liquid assets, began to direct portions of their funds into the burgeoning urban fabric of Tel-Aviv, causing urban investment to nearly triple between 1924 and 1925 (ibid.).

The city of Tel Aviv was granted autonomy from the municipal council of Jaffa in June of 1921 and gained the capacity to raise taxes, negotiate contracts, and pass bylaws (LeVine, 1998, p.41). The city was bound by Jaffa to the South, the Mediterranean Sea to the West, and the village of Sarona to the East (ibid., p.40). It looked North for potential development, noting the "virgin, undeveloped, or never before urbanized territory" that lay therein (Welter, 2009, p.110).

According to LeVine (1998, p.36), the lands to the North of Tel Aviv were often described as uninhabited. It was this initial "discursive disappearance" of the half-dozen Arab villages to the East and North in the early 1920s that subsequently propelled their later actual disappearance (ibid.). Welter (2009, p.110) echoes this discursive-erasure tendency in writing, "Tel Aviv's extension [...] was to be built on sand dunes, orange groves, and vineyards, all slated to disappear", with no mention of any existing villages.

LeVine (1998, p.41) notes that the expansion of Tel-Aviv during the 1920s was propelled by three factors: (1) the political strategy to appropriate as much of the coastline as possible in order secure an economic future while also geographically dividing Arab-controlled regions; (2) the rise in the population of Tel Aviv; and (3) the rise in speculative land prices in both Tel Aviv and Jaffa that the aforementioned population boom fueled. Kallus (1997, p.297) in turn notes that land acquisitions in the 1920s and 1930s in Tel Aviv were conducted by three entities: (1) profit-seeking private speculators; (2) the Land Department of the municipality of Tel Aviv; and (3) private individuals and families looking to gain a foothold in the burgeoning city.

At this time, the original Ottoman Land Laws, which formed the politico-legal fabric underpinning the region, were not fully understood by the British Mandate (LeVine, 1998, p.38). The British codification of land conducted in the area in the early 1920s uprooted the previously established Ottoman Land Law of 1858, which had classified the various and specific forms of private, joint, communal, and public land ownership prevalent in Arabic settlements (Atran, 1989, p.725; LeVine, 1998, p.379). A British government official, in the late 1930s, complained that these changes had not achieved as complete an impact as he would have hoped:

> "It appears evident that, in certain areas, the Arabs regard this (masha'a) system of tenancy, destructive as it is of all development, as a safeguard against alienation. […] Imagine an English village where every farmer each year is compelled to pass on his lands and buildings to a neighbor... and receive some other neighbor's farm in exchange, [you] will get some inkling of what obstacles to progress can exist to agricultural development in Palestine" (Atran, 1989, p.727).

Atran (1989) offers the following retort:

> "It never seemed to occur to the 'experts' that such a scenario was as bizarre as the forced attempt to convert Palestinian fellahin into yeomen. Yet, that is precisely what British policy aimed to do at every turn, it being 'considered that the principles of the English Law (with regard to agricultural holdings), with some simplification, are applicable to Palestine'" (Atran, 1989, p.727).

Under the British system of land codification of Mandatory Palestine, land previously (under the Ottoman Land Law) classified as public, communal, or temporarily fallow, could be reclassified and subsequently acquired via municipal or private channels (Levine, 1998, p.47). Such acquisitions and expropriations weren't one-sided activities. In the case of a road proposal that was set to disrupt a village to the north of Tel Aviv, for instance, contrasting local opinions regarding the unfolding event could be observed:

> "[…] while the villagers strongly opposed the road scheme, the owners of the targeted land supported it […] The wealthier landowners did not mind having the land expropriated because they knew they would receive adequate compensation, while the poorer residents of the village knew they would receive nothing. Indeed, a number of Jaffa notables (including two mayors) were involved in land sales, though for the most part not in the Jaffa district, at the same time that they publicly criticized British support of Jewish land purchases" (Levine, 1998, pp.47-48).

This story was not an isolated one:

> "Awni Abd al-Hadi, now president of the nationalist Istaqlal Party, defended the tenants in the last stages of litigation against the Jewish Agency and the administration. Previously, while serving on the Arab Executive, he had represented the Tayan heirs and colluded in their scheme with the Jewish National Fund to have the Wadi el-Hawareth put up for public auction so that the tenants could not exercise the preemptory right of first purchase that accompanied regular land sales. Although the Palestine Land Development Company had agreed to a purchase price of LP 136,000, a fictitious mortgage was arranged. After default and foreclosure by the Nablus Court, the Jewish National Fund 'bought' the land at auction for LP 41,000 but actually paid the prearranged price to the Tayan heirs. When, in 1933, the Mufti's supporters advertised the affair in the Arab press, Awni's prestige suffered considerably" (Atran, 1989, p.733).

Was the case of the expansion of Tel Aviv in the 1920s and 1930s predominantly a microcosm of a much larger ethnic struggle that was fought in the municipality via economic and institutional channels? Was the case of Tel Aviv a somewhat anomalous economic class struggle, a case of gentrification, within which ethnicities happened to, by and large, fall on opposite sides? Are both narratives accurate, and if so, are both of comparable weight?

Although the vocabulary of ethnic segregation seems to be able to recite a partially truthful perspective of the history of Tel-Aviv for this time period, it does seem to fall short. The explicit actions of private and public entities at the

time *were* focused on codifying and expropriating very specific somethings rather than merely developing the purported nothingness of virgin dunes. Yet, while this was a type of expropriation that was drawn around ethnic lines, it was also one that fell within a rather strict capitalistic framework of land speculation, densification, and economic stratification—a repeating Tel Avivian story which echoes into the current day:

> "[In contrast to Jerusalem] all that continues here [in Tel Aviv] is an eternal struggle over property, status, success, and benefits. This is a traditional competition; its teeth are blunt, and there is no blood or madness in its eyes. Meanness is regular, banal meanness, devoid of the charm of radical meanness. […] There is no tangible hatred in the streets. Today's Tel Aviv is the city of the old Yishuv in the actual meaning of the concept" (Nitzan-Shiftan, 2007, p.100).

The historical record is clear in its refutation of the idea of Tel Aviv as a city that arose out of nothing. However, the lingering matter that the discourse must continue to digest is whether economic or ethno-cultural narratives can lay claim to the dominant arc of Tel Aviv's origin story.

While it is beyond the capacity of this paper to make a definitive assertion on the matter, it is important to note that urban narratives tend to be complex and multilayered. In the context of Tel Aviv, what has been particularly counterproductive in the discursive landscape is the attempt to create an artificially monolithic and sterilized conception of the city's contemporary roots.

> "As the 'first Hebrew city,' Tel Aviv was endowed by writers, painters, photographers, and city planners with an image as new, clean, and modern—everything the crowded neighborhoods of Jaffa were not—a city sprung from the sands. Avraham Soskin's famous photograph of the land lottery, where a group of new 'shareholders' stands huddled together in the sands, is a carefully staged portrait. The angle and perspective of the photo set the horizon on the dunes. There is no sign of the city of Jaffa to the immediate south, nor of the Jewish neighborhoods of Neve Tsedek and Neve Shalom (founded in the 1880s), nor of the Templar settlement of Sharona or the extensive Arab agriculture in the form of orchards just to the east. The city is formed ex nihilo—*yesh me-ayin*—despite the protest of the lone figure at the top of the photo who, as legend has it, yelled out 'Meshuga'im, eyn kahn mayim!' (You're crazy; there's no water here!). (In a later reproduction of the photo, the figure has been erased, his dissenting presence removed, perhaps by the photographer; he no longer disturbs the unified ring of 'pioneers.') This image has become ubiquitous in histories of Tel Aviv" (Mann, 2006, p.74).

3.2. Ideals, Pressures, and Apartments that Rise out of Houses.

Prior to the master plan commission for Tel Aviv, Patrick Geddes was professionally active in the region quite extensively. He had conducted or submitted: a proposal for improvements to the Wailing Wall (1919); a planning report for Jerusalem City (1919); a proposal for Jerusalem Hebrew University (1919); a proposal for a new synagogue at Jerusalem (1920); a planning report for Haifa City (1920); plans for a synagogue in Tel Aviv (1920); a general report for Tiberias (1920); and reports for Kfar Saba and Tel Adas (1920); among others (Kallus, 1997, p.299).

Geddes' proposed plan for Tel Aviv had four main anchors.

The first concerned plot size—Geddes expanded the minimum allowable plot size from the 300-400 square meters previously maintained by the Tel Aviv City Council to 560 square meters. According to Kallus (1997, p.295), this enlarged standard was based on a recommendation given to Geddes by the town planning committee, later validated by Geddes himself as a climatically appropriate plot area. Welter (2009, p.102) argues that Geddes had come to this standard based on his understanding of "mass public opinion" that favored such a large lot size as suitable for future homes.

The second anchor concerned ideal building typologies. Geddes deemed that lots were to support "no more than two small houses with a common gable," which were to maintain three-meter setbacks from the streets and six- to eight-meter gaps between neighboring structures (Kallus 1997, 297-299). The footprint of each building was to cover no more than one-third of the total lot size (Aronis, 2009, p.162).

Thirdly, Geddes' plan shaped a hierarchical grid of streets. There were four variations to be established: major streets running North-South; secondary streets running East-West; tree-lined boulevards; and a network of minor streets spread throughout the city (Welter, 2009, p.102).

Last was the notion of urban nodes—specifically, a concentration of cultural institutions that was to be placed upon "the noblest site within its area […] [like the] Acropolis of old" (ibid., pp.106-107). This was to be composed of

theaters, museums, opera, and educational institutions, placed in tight proximity, so that "mutual forgetfulness" could be prevented (ibid., p.107). The location of the Habima Theatre today forms what Geddes proposed to be the city's unifying cultural and intellectual feature, with the proposed economic center of Tel Aviv, Dizengoff Square, found in close proximity.

Geddes deemed that Dizengoff Square was to be composed of four-story structures with "shops and offices on the first two to three floors with apartments above," intended to function as a business and shopping district linking new Tel Aviv back to Jaffa (ibid., p.109).

Geddes' overarching vision for the city was based around the ideal "of the Garden Village" (ibid., p.103). His understanding of nature as a socially, culturally, and intellectually restorative element coincided with his own upbringing in Perth:

> "My home was on the hill-slope above Perth, and its windows and tree-tops, and still more the walks over moor and through wood above, and from crofts and cliff-edges to southward, gave an ever-delightful variety of impressions, near enough for detail, yet broad enough for picture. Clear as on a map, just at the tidal and navigable limit of its river lies the city, neatly bounded between two ancient parks […] Roads, still of country type, converge upon the town from all sides, still keeping much of their country beauty, while for the daily passages along the noble bridge there opens a choice of views immediate and remote: here the clear swift river, with salmon nesting among the pebbles, and yonder Birnam Hill and the distant mountains, now snowy against gray skies, or blue upon the sunset-the scene of which Ruskin has written so admirably, and to which 'Modern Painters' plainly owes so much" (Geddes, 1909, pp.54-56).

Geddes observed a significant neglect of private and public access to nature in contemporary cities. His insistence on lower densities for Tel Aviv also appeared to stem from his lifelong relationship with high-density informal settlements and the oft-deteriorated and insalubrious conditions he observed within them (Kallus, 1997, p.299). Tenement buildings, he argued, were an inhumane form of human warehousing (ibid., p.299).

The oddity is that the suburban condition outlined in his plan for Tel Aviv would have had a proclivity for hindering the lower rungs of the socioeconomic fabric from gaining comfortable footholds within the city. Welter (2009, p.104) confirms that even in this time period, Geddes would certainly have been informed by the findings of his urbanist peer, Henry Vaughan Lanchester, that "low-density dwellings in huge gardens […] would disadvantage poor citizens."

The biographical details of Geddes' life seem to support this narrative. It is unlikely that Geddes was simply overlooking the lower socioeconomic rungs of society with this rather suburban level of density designed for Tel Aviv. Aside from having willfully moved himself and his family to an informal settlement of Edinburgh during the early years of his marriage, to test his theories on "conservative [urban] surgery" (Haworth, 2000), Geddes was also in close contact with various informal settlements of India during his active professorship in Mumbai (then Bombay). One point of urban improvement he outlined while working in an informal settlement in Mumbai was that residential door dimensions should be expanded to at least be able to allow "a pregnant woman carrying a pot of water on her head to walk through with ease" (Kumar, 1987, p.50). This shows a detailed sociological understanding of the context within which he was working and a rather noteworthy level of professional restraint. He did not attempt to radically alter the conditions of the informal settlements he encountered to fit the middle-class Anglo-Saxon norms and values of the time. Rather, his approach was contextually reactionary and often quite subtle.

Underpinning Geddes's leaning towards a low-density urban condition for Tel Aviv seems to be his belief that he was setting forth the framework for an urban-agricultural utopia, composed of communally owned *kibbutzim*, tying Jewish diaspora "back to the land" (Welter, 2009, p.106). Geddes was framing the expansion of Tel Aviv not in the blindness of the urban exclusivity often ingrained within low-density urban design, but rather under the belief that he was setting in motion a societal construct which would be free of such socioeconomic stratification altogether. Photographs taken before the 1920s capture this low-density built environment quite readily across Tel Aviv (see Figure 2).

The socioeconomic trajectory of Tel Aviv was set to change quite drastically from the 1920s through the 1940s. This change would exert enough pressure on the urban dynamics of Tel Aviv so that the city would take shape in a manner far different from Geddes' original urban-agricultural framework.

Supporting a population of just over 2,000 in 1919, Tel Aviv experienced a population boom that would bring it from a city of 40,000 in 1925 to one of 80,000 by 1933 and to one of 160,000 by 1944. Kallus (1997, p.296) asserts that this growth was largely due to the vast influx of Jewish immigrants coming from Europe and Asia, coinciding with the Third, Fourth, and Fifth Aliyah, taking place in 1919-1923, 1924-1929, and 1929- 1939, respectively.

Given the significant and rapid influx of population and investment that flowed into the urban fabric during this time, and the profit- and density-based expectations that invariably followed such movements of finance and persons, a city with "low density, extensive public amenities, and vast open spaces, [proved to be] unrealistic" (Kallus, 1997, p.297). It is in this context that rapid changes in the urban typologies of Tel Aviv during the late 1920s, 30s, and 40s were observed. It is difficult to pinpoint the exact timeframe at which higher-density typologies started to pervasively overshadow lower-density ones, but it is clear that even by 1925, "single-family homes were being replaced by two and three-story houses" (Bar-Gal, 1989, p.43).

While the apartment-centric description of density framed by Hoffman (2009) accurately describes the condition of Tel Aviv as observed from the 1930s up to the modern day (see Figure 3), it was not at all the urban condition initially authored by Patrick Geddes.

> "The neighborhood had originally been planned as a quiet, affluent suburb of Jaffa, with one- and two-story single-family homes surrounded by private gardens. This plan, and the landowners' subsequent brief flirtation with Patrick Geddes' garden city model, eventually gave way in the face of an increased demand for housing and commercial development." (Mann, 2006, p.97)

In contemporary days, the uniquely Tel-Avivian multistory building typology can be observed ubiquitously across the urban fabric. This typology, and the "unprecedented diversity of variants" it supported, is often the discursive focus of the architectural heritage of Tel Aviv (Hoffman, 2009, pp.72-73).

The ubiquitous presence of this typology is self-evident. However, the discursive restructuring of the ideals and conditions set forth by Geddes' initial master plan to falsely accommodate this urban typology within the very seeds of Tel Aviv's built world is not accurate. This effort seems to be another example of the Geddesian master plan being subjected to fictional restructuring to accommodate contemporary ideological needs (Rubin, 2013, p.114).

Aside from specific nodes in the urban fabric, such as Dizengoff Square, the multistory apartment typology of Tel Aviv cannot be traced back to Geddes' initial master plan for the city. It is a manifestation of a much lower-density urban-agricultural vision for the city mutating under the pressures of significant and rapid socioeconomic growth.

Figure 2: Photograph depicting the Western Part of Rothschild Boulevard, Tel Aviv, circa 1911. Note the lower density, broadly suburban nature inherent to the built environment of the city at the time. Source: Government Press Office (Israel), circa 1911, public domain.

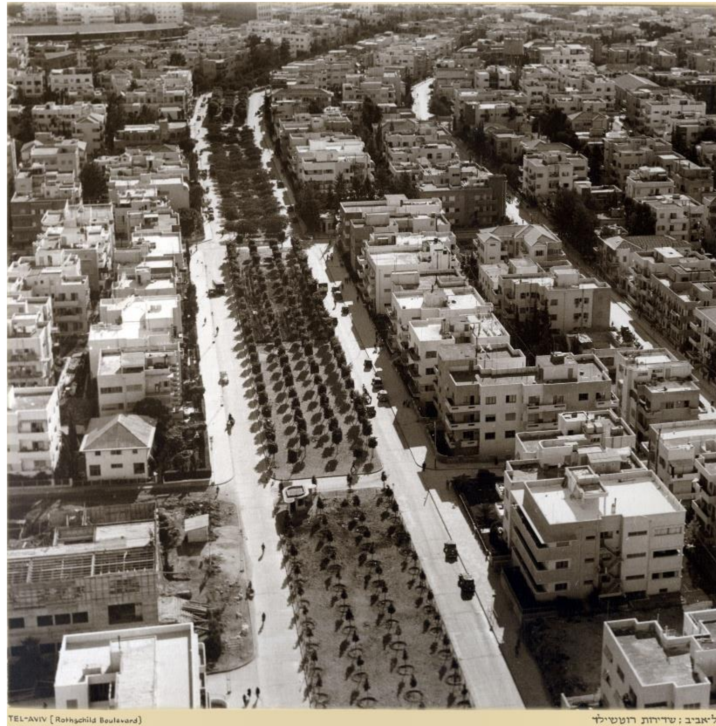


Figure 3: Rothschild Boulevard, Tel Aviv, circa 1937-38. Note the multistory building typologies repeated across the built environment, now of a much higher density when compared to two decades prior (as seen in Figure 2). (Source: Zultan Kluger (Tel Aviv), public domain)

3.3. Geddes' Gaps and Micro Infills.

In the initial master plan, Patrick Geddes called for the maintenance of six- to eight-meter gaps between adjacent buildings (Kallus, 1997, p.299). While not much of the built environment of Tel Aviv can be traced back to the initial Geddes plan for the city, these inter-building gaps can still be observed throughout much of the urban fabric (see Figure 4).

Figure 4: Intersection of Ya'el Street and Shlomo HaMelekh Street, Tel Aviv (March 2015). Source: Google.

A confluence of factors seems to reaffirm the functionality of this urban morphological trait. In climatic and environmental terms, these inter-building setbacks allow for the provision of daylighting and ventilation to the sides

of multi-story buildings. This coheres with the inter-building porosity oft prescribed for humid climates (Lau et al., 2005, p.535) as is typified by Tel Aviv—supporting not only a macro-scale improvement to airflow across the urban fabric, but also better indoor environmental quality for the residential or commercial units nestled into the sides of these building typologies. This latter aspect is, on the one hand, beneficial for the tenants within said units, and on the other hand, quite a useful capitalistic parameter allowing for greater extraction of value from limited available real estate. Most importantly, these setbacks do not limit the potential densification of the city, at least in as significant a manner as some of the other urban parameters called for within Geddes' initial master plan.

One-to-two story height limitations and the overall restriction of urban development to single-family homes, although integral to Geddes' initial vision for Tel Aviv, did not operate in a comparably productive manner across this range of factors. These height limits not only imposed significant restrictions on the potential density that the city would be able to achieve, but they also did not support urban dynamics that were climatically or capitalistically favorable. The inter-building gaps, on the other hand, did not significantly hinder density potential, supported urban-scale climatic benefits, and supported unit-scale indoor environmental quality benefits (and real estate value production). One can extrapolate that it is due to this favorable performance across a range of built environmental dynamics that Geddes' gaps have maintained their urban morphological relevance, or stickiness, to the current day.

The utilization of such setbacks within the design of urban form is not often extolled. Alexander (1977, pp.531-534) for instance, citing a picture of a setback between two multistory buildings very much reminiscent of contemporary Tel Aviv, argues that "isolated buildings are symptoms of a disconnected sick society" and that one should "connect buildings up, wherever possible, to the existing buildings [around]." Jacobs (1993) comparably asserts that gaps between adjacent buildings, appearing as missing teeth in the urban form, should be avoided in favor of a more continuous urban street front.

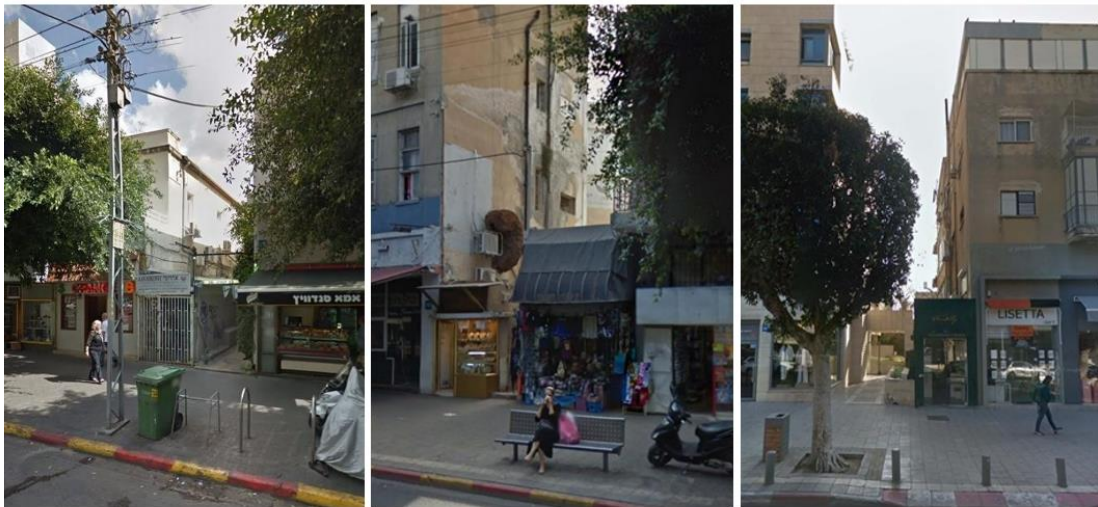
Figure 5: 53 King George St, Tel Aviv (November 2011). (Source: Google)

There is, however, an overlooked wrinkle about these setbacks. They have emerged as incubation spaces for micro-architectural typologies in Tel Aviv. Small-grained economic activities, housed by fine-grained architectural typologies, have gained unique footholds in the city via these inter-building gaps (see Figure 5).

Based on an analysis of these inter-building gaps across the city, utilizing systematic randomized sampling, 220 instances of this micro-architectural typology were identified across Tel Aviv. Accounting for the systematic omission embedded into the sampling process, it is extrapolated that approximately 330 instances of this typology should be present throughout the entirety of Tel Aviv's cityscape.

These micro-buildings were sorted into five categories using an ideal-type analysis methodological structure (Stapley et al., 2021; Stapley et al., 2022). While the typological classifications have been refined several times via the dynamics of this methodology, these categories should still be taken as an incipient framework attempting the initial classification of this micro-typological phenomenon. These include:

- Category 1 - the minimal frame (Figure 6)
- Category 2 - the open shop (Figure 7)
- Category 3 - the closed shop (Figure 8)
- Category 4 - soft use above the closed shop (Figure 9)
- Category 5 - closed multi-story (Figure 10)



Figures 6-8. Figure 6 (left) shows 38 Ben Yehuda Street (2011) with the micro-building on the rightmost inter-building gap representing the Category 1 typology, *the minimal frame.* Figure 7 (middle) shows 50 Allenby Street (2011) with the micro-building on the rightmost inter-building gap representing the Category 2 typology, *the open shop*. Figure 8 (right) shows 244 Dizengoff Street (2019) with the micro-building on the rightmost inter-building gap representing the Category 3 typology, *the closed shop.* (Source: Google)

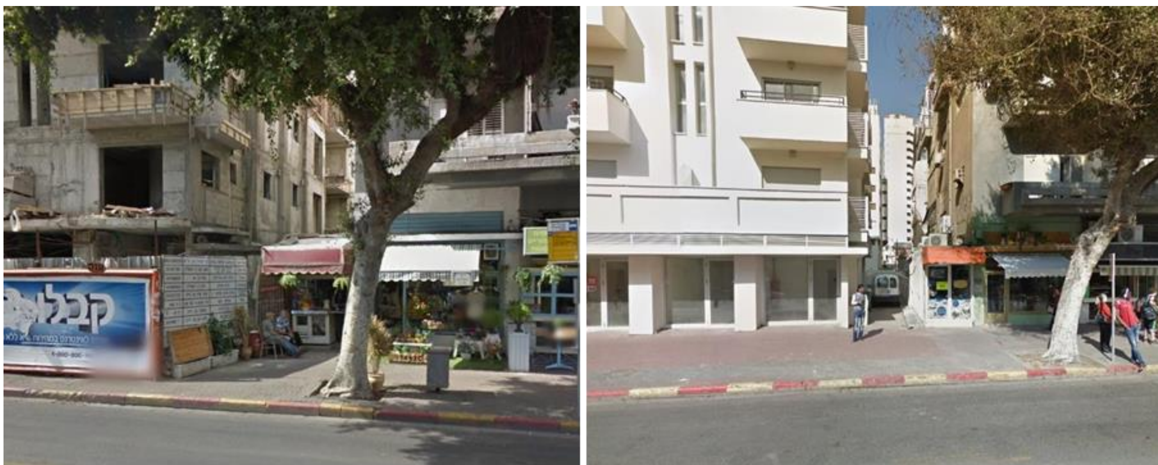
Figures 9-10. Figure 9 (left) shows 30 Hei-Be-Iyar Street (2012) with the micro-buildings in both inter-building gaps representing the Category 4 typology, *soft use above the closed shop*. Figure 10 (right) shows 1 Tchernikhovski Street (2011) with the micro-building on the leftmost inter-building gap representing the Category 5 typology, *closed multi-story.* (Source: Google)

These 5 categories have been established to distinguish different levels of investment within the micro-infill typology occupying the inter-building gap. *The minimal frame* contains the bare minimum of signage and threshold delineation.

In *the open shop*, an enclosed shop is established; however, there is no strong separation between inside and out (e.g., no glass façade separating the street from the shop interior). Within *the closed shop,* the separation between the shop interior and the street is formalized via a physical partition (e.g., a glass façade), with the shop often taking on a less informal aesthetic quality. In the next category, *soft use above the closed shop,* a further refinement of the shop is observed, most significantly with the roof element, which has now been solidified and bound with a parapet wall that allows for a secondary use to sit above (often linked to the adjacent residential unit occupying the *piano nobile*). Within the final category, *closed multi-story,* a fully enclosed multi-story micro-architectural condition arises, with potential for different uses across floors.

Looking longitudinally at some individual instances of these micro-architectures, gradual built-environmental changes can be observed. In some instances, the shifts maintain the micro-typology's categorization but indicate novel investment. For instance, in Figures 11 and 12, the refinement of a *closed shop* (Category 2) is observed on 244 Dizengoff Street between January 2012 and February 2019. In other instances, these changes shift the micro-typology's categorization altogether. For instance, in Figures 13 and 14, a transition from an *open shop* (Category 2) to a *closed shop* (Category 3) is observed at 37 Ben Yehuda Street between October 2011 and March 2015.

Figures 11-12: 244 Dizengoff Street in 2012 (left) and 2019 (right). Within this time frame, while the micro-architecture remains a *closed shop* typology, an investment in and alteration of the building envelope is observed. (Source: Google)



Figures 13-14: 37 Ben Yehuda Street in 2011 (left) and 2015 (right). Within this time frame, the emergence of a formal façade, solidifying the threshold separating the shop interior from the street, is observed. (Source: Google)

The unplanned overlap between these micro-scale urban morphological decisions and the emergent micro-scale urban economic activity presents an unexpected wrinkle within the story of Tel Aviv. Given that these small-scale organic infill elements were not within the scope of Geddes' original vision for the city, and that they are effectively filling in, at the ground floor, one of the last remaining elements of said master plan for the city, would Geddes' overarching urbanistic worldview cohere or conflict with their currently-observed behavior?

Welter (2009) understood Geddes' reading of the broader cityscape surrounding Tel Aviv at the time as follows:

> "[A] new-old relationship is embedded in Geddes' evolutionary reading of the varying patterns of the land division that were observable in the neighborhoods around Jaffa. This urban growth illustrated a 'gradual (and almost subconscious) change from bad planning in the south, and to better planning toward northward.' South did not refer to Jaffa proper, it needs to be emphasized, but to the Jewish neighborhoods of Neve Tzedek and Neve Shalom, 'the continuance of the old Menshieh quarter with its many small streets, crowded together, and as close as small plotting can admit.' This footprint resulted in the waste and inefficiency of 'mean and dusty thoroughfares' while too little land allowed for dwellings oriented east to west. By comparison, old Tel-Aviv was better planned with 'an orderly plan, with its homes, its Town House and Boulevard.' Geddes was especially impressed by the formality of Herzl Street, which led straight to the front of the gymnasium building that stood at the end of the street. […] Thus, the urban fabric illustrated the evolution of modern urban design from its dense beginnings outside Jaffa to later developments with patterns more generous and more responsive to geographical and climatic conditions" (Welter, 2009, p.112).

Through this text, one gets the impression that Geddes would favor the order of "modern urban design" over the complex layering of organic urban environments. The theoretical framework underpinning Le Corbusier's *ville radieuse* comes to mind. If this was indeed Geddes' broader urban worldview, it is highly likely that the small-scale urban interventions infilling the inter-building gaps seen above would be viewed negatively.

It is important to note, though, that Welter (2009, p.112) is framing Geddes' reading of Tel Aviv and its surroundings in the context of Geddes' impression that the city was on a trajectory to becoming a low-density agricultural townscape. The urban conditions Geddes is appreciating or depreciating in the above quote seem to be conditions or parameters that are well- or ill-suited for this specific urban-agricultural utopian vision for Tel Aviv.

When contextualized within Geddes' broader body of work, however, it becomes quite problematic to conceive of the Corbusian urbanist language noted above as being emblematic of Geddes' more fundamental understandings of the city.

> "[…] town planning is not something which can be done from above, on general principles laid down, which can be learned in one place and imitated in another—that way Haussmanism lies. It is the development of a local life, a regional character, a civic spirit, a unique individuality […[the problem before us […] is to survey our modern towns, our ancient cities anew, to decipher their origins and trace their growth, to preserve their surviving memorials and to continue all that is vital in their local life; and on this historic foundation […] go forward to plan out a bettering future with such individual and collective foresight as we may" (Geddes, 1915, p.205).

Given this more fundamental theoretical contextualization, it is quite challenging to assert that Geddes would have objected to the urban layering achieved via this juxtaposition of big and small architecture and big and small economic activity, particularly since these small-grained organic interventions quite clearly personify the *local life* referred to in the quote above. This type of juxtaposition is not absent from Geddes' initial plan for Tel Aviv. Dizengoff Square, for instance, was always framed as a dense, multi-functional, and ultimately highly meaningful node within the urban fabric, designed to sit in close proximity to what was initially envisioned by Geddes as a lower-density settlement structure (Welter, 2009, p.109).

Geddes' understanding of the value of a hybrid and pluralistic urban fabric is rather unique for the time, when much of the early-20th-century architectural and urban discourse consisted of an obsessive compartmentalization and segregation of functions and building typologies. Nearly a century later, the work of Davis (2012) casts light on the importance of the city to support a similar fine-grained collision of uses and typologies, epitomized here by the shop-house:

> "The shop/house is ordinary, up until now neglected in architectural writing, and largely unrealized in recent practice. It is, however, in many places, the ultimate 'fabric building,' the background against which other buildings of the city can express their own uniqueness, and the anchor for a fine-grained neighborhood economic life. Its ordinariness has its own story, straddling the boundaries between architecture and the contexts within which architecture exists" (Davis, 2012, p.232).

The manner in which the socioeconomic fabric of Tel Aviv has learned to metabolize the inter-building gaps in Geddes' plan is, of course, coincidental, occurring beyond the weight of Geddes' initial vision and intentions. It is nonetheless an intriguing outcome that even in the absence of the initial author's control, these manifestations of local

life seem to fit quite succinctly with the broader urbanistic framework outlined in Geddes' writings, as well as those who have followed in his lineage.

While much of the discursive landscape concerning the urban fabric of Tel Aviv has continued to focus on the architectural stock and legacy inherent to the White City construct, there is a vast diversity of urban phenomena occurring within the cityscape that is not being given due attention. These micro-infill typologies are an example of urban phenomena that have succumbed to such oversight. Prior literature has attempted to open up the discourse to critical "background typologies" (Haque, 2008, p.105) and "liminal spaces between the private sphere and public arena" (Aronis, 2009, p.157) uniquely observed within Tel Aviv. This paper aims to add this micro-infill typology to that conversation.

4. Discussion

It is rather an unusual occurrence that despite a rather robust discursive landscape focused on the rise and evolution of the built environment of Tel Aviv, there are critical and repeated oversights concerning not only the historic context within which the master-planning of Tel Aviv took place, but also the specifics of that initial master plan authored by Patrick Geddes in the 1920s.

Patrick Geddes' plan for Tel Aviv was prepared in the middle of an urban tectonic shift, wherein the city was caught between its urban-agricultural utopian vision and the demographic and financial surge that would eclipse it. Many of the parameters innate to Geddes' initial conception of the city were absorbed and transformed via these rapid demographic and economic changes. What was subsequently implemented was the substructure for a collectivist urban-agricultural city, upon which a dense urban condition was constructed.

This construction did not take place upon a tabula rasa condition. Rather, within the decades preceding the radical growth of the city starting in the mid-1920s, a gradual urban morphological transcription can be observed, wherein more rural settlement structures were incrementally written over via denser structures. The mechanisms for the transfer of land ownership underpinning this transformation fell partially along ethnic lines, but more broadly seemed to coincide with a more blunt capitalistic framework of land speculation, densification, and economic stratification.

The low-rise multi-family housing typology observed ubiquitously across the urban fabric of Tel Aviv today was not a cornerstone of the original master plan for the city. Patrick Geddes' vision for Tel Aviv was of a lower-density urban-agricultural construct. Much of this vision has been lost to the pressures of growth over time.

One of the few remaining smaller-scale elements of Geddes' vision for Tel Aviv is the side setbacks between buildings. Within these gaps, a rather intriguing micro-scale building typology has emerged over the years—a typology that this paper has attempted to flesh out to some degree.

The issues pertaining to the origin story of the city and the origin story behind the low-rise housing typology dominantly observed across the Tel Avivian urban fabric are of primary concern to the historico-theoretical discourse concerning the built environment of Tel Aviv. This previously overlooked micro-scale building typology, supported by the micro-gaps initially embedded into the urban morphology by Geddes, bears some significance in the consideration and design of urban form.

Such inter-building gaps are often deemed unideal conditions by seminal works within the relevant urban discourse (Alexander, 1977; Jacobs, 1993). Yet, what is observed in Tel Aviv is that these micro-gaps appear to provide a significant number of incubation spaces for a micro-scale economy and a micro-scale of building typology to take root. During the development of this manuscript, a comparable urban morphological trait was also observed by the author within the urban fabric of Ankara, Turkey, with similar micro-scale building typologies inhabiting the micro-gaps found between buildings. More research is required, however, to establish a comparative analysis of the two observed instances of this urban morphological phenomenon.

5. Conclusion

This text attempts to frame a three-fold cross-examination of some of the myths, misconceptions, and oversights embedded within the discursive landscape concerning the built environment of Tel Aviv. What is argued, is that: (1) Tel Aviv did not rise out of uninhabited sands and nothingness, but rather out of clearly documented something-ness; (2) the multistory architectural typology that has come to typify the built world of Tel Aviv was not part of Geddes' initial authorship, but rather a mutation of some of his initial ideas; and (3) the inter-building gap initially authored by Geddes is not only one of the few elements remaining from the initial master plan, but it is also an urban morphological element which has intriguingly created the substructure for micro-architectural typologies and micro-scale economic activities to find unique footings within the Tel Avivian urban fabric.

The findings of this paper are in close relationship with the growing body of literature attempting to partially steer the discursive landscape concerning the city of Tel Aviv away from an obsessive focus on the the low-rise multi-family housing typology that forms the dominant character of the city's urban fabric—a discursive monopsony that is quite active within the literature concerning the White City (LeVine, 1999; Mann, 2006; Rubin, 2013; Rotbard, 2015; Azaryahu, 2020) and quite counterproductive for framing a deeper understanding and recognition of what has been pejoratively deemed the background fabric of the city (Epstein-Pliouchtch and Fuchs, 2008; Haque, 2008; Aronis, 2009).

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