

Circularity on what grounds? Advancing learning for circular area development at the interface of proximity and precarity[☆]

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ABSTRACT

This paper contributes empirically and conceptually to ongoing debates on the social and spatial implications of the circular economy in cities. We aim to offer a perspective on what a practice-based approach delivers in terms of opportunities for urban learning for circular cities, a topic insufficiently addressed in ongoing problematisations of circularity. Our findings are grounded in explorative qualitative research that was carried out over a period of five years, including in-depth interviews, ethnographic observations at local community events and go-along conversations in the Binckhorst area in the Hague. We ask what happens when a long-standing self-supportive neighbourhood is taken apart based on a rather sanitised vision on circular area development with high building densities. Our exploration offers an alternative view on planning the Binckhorst's circular transition, whereby a focus on social practices is likely to render a more humane, inclusive and, not least, sustainable version of circularity. In particular, learning at the interface of proximity and precarity offers potential for reformatting current conditions toward a circular and just neighbourhood and shows how the horizon of potentiality for local circular economies can be broadened.

“Although learning is often neglected in work on urban politics and everyday life – marginalised as a background noise to the stuff of ‘real politics’ – I aim to recuperate learning as a political and practical domain through which the city is assembled, lived and contested, and which offers a critical opportunity to develop a progressive urbanism”

(McFarlane, 2011: 360)

1. Introduction

Despite its rather recent inception, the circular city trope has gathered considerable momentum for its promise toward urban sustainability. Numerous government, societal and business organisations are now incorporating circularity into their visions, policies and plans (Ellen MacArthur Foundation, 2017; Geissdoerfer et al., 2017; Kirchherr et al., 2017). Cities too have started to employ the terminology in their strategic communications, thus expecting citizen groups and business entrepreneurs to participate and actively pursue initiatives that would

ultimately spur their circular economies (CE). However, at the same time, we notice a circularity discourse arising that seems to downplay the injustices potentially coming along with it, that is not fulfilling its social promises (Mullenbach, 2022; Quintelier et al., 2023). Also, when social value is taken into consideration, it is often not viewed in relation to the specifics of social practices. To address this research gap, opening up new lines of inquiry such as the one proposed here can offer new perspectives (Quintelier et al., 2023). Several authors point out that governments are struggling with the specifics of circularity, despite ambitions and advances in mainstreaming the concept, at least rhetorically (Bolger & Doyon, 2019; Corvellec et al., 2021; Ghinai et al., 2020; Prendeville et al., 2018). Others emphasize that CE thinking is not preparing the grounds for radical sustainability (Gregson et al., 2015; Lynch, 2022) and often relying too strongly on the very materials and production methods that caused the environmental crisis in the first place, including a lack of commitment to capitalist consumerism as a fundamental cause behind global environmental degradation (Hobson & Lynch, 2016; Niskanen et al., 2020; Savini, 2019; Savini & Giezen, 2020;

[☆] Pictures: All pictures taken by Marleen Buizer.

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Zink & Geyer, 2017). In a similar vein, various plans are criticised for their excessive concern with the putative gap between policy and implementation, as well as the technical and economic aspects of circularity, while disregarding its social, institutional and spatial articulations (Blomsma & Brennan, 2017; Calisto Friant et al., 2022; Ghisellini et al., 2016; Hobson, 2020a, 2020b; Moreau et al., 2017; Schulz et al., 2019). We argue here that opportunities to seek engagement from citizens, societal organisations, and entrepreneurs toward learning and (co-)developing alternatives to the systematized rationalities of circularity are currently insufficiently utilised when imagining circular futures for neighbourhoods and cities in transition, a gap that this paper aims to address.

Is it possible that the current emphasis in policymaking on the technical and economic affordances of circularity has too much diverted attention from the local opportunities for learning and transformative change? And if so, how to tap into that learning and transformative potential (cf. Buck, 2022)? With these questions in mind, we dwell hereafter on the ongoing redevelopment of the Binckhorst area in the Hague, to show how the municipal plans for a 'mixed-use circular neighbourhood' were justified in terms of an urban densification program largely left to real-estate developers, the realisation of a 'startup incubator', the employment of a 'resource broker' and efforts to realise 'hubs' for building materials and their re-use (Gemeente Den Haag, 2018b;x; see also a more recent plan Omgevingsplan Binckhorst Aanvullend Omgeving Effect Rapport (OER) that was commissioned by the municipality Lindeboom et al. 2021 and the related decision Gemeente Den Haag 2022).

In contrast, by looking into how the ongoing redevelopment influenced everyday lives in the Binckhorst, as well as how the latter differ from what is predominantly communicated in policy reports and glossy brochures, we show how a practice-based approach could render opportunities for urban learning, understood as both a political and practical domain of enquiry.

After offering in the next section a motivation for conceptualising the circular city as an ensemble of practices and related opportunities for learning, we problematise particular social practices and carriers from the Binckhorst. After presenting our methodology, we dwell in the subsequent sections on various affordances of proximity and precarity, which in turn provide clues to the current conditions of (im)possibility for a circular and just neighbourhood.

Overall, the objective of this paper is to show what a practice-based approach delivers in terms of learning opportunities for circular cities. Our main research question is what happens when a long-standing self-supportive neighbourhood is taken apart based on a rather sanitised vision on circular area redevelopment. Our findings are grounded in explorative qualitative research that was carried out over a period of five years, including in-depth interviews, ethnographic observations at local community events and go-along conversations. Lastly, in the concluding discussion, we reflect on the matter of *potentiality* to unsettle the local government's search for a unifying definition and vision of circularity. This arguably offers a means to instil critical learning into circularity thinking.

2. Methodology and methods

A research network was established in 2018 for "Accelerating the Circular Economy in South-Holland" (ACCEZ), to further develop linkages between research, government and private enterprises, with the Binckhorst as one of its pilot cases. The main expectation from research conducted in this context was to provide evidence-based guidelines, and tools through an instrumental approach to learning that would transfer academic knowledge to practice (West et al., 2019). Attention to social practices toward the realisation of a more sustainable and regenerative neighbourhood was needed to complement this orientation.

ACCEZ facilitated opportunities for fieldwork in the case area. Over a period of five years, teaching and student supervision, participation in

the said research team, field excursions, participatory observations at meetings of the local network I'M BINCK, in-depth interviews, and document analysis afforded the field immersion needed to assemble the accounts as they were constructed from an iterative, interpretive process. The adopted focus on social practices required an intensive engagement with the field (Schulz et al., 2019). Our argument here is that a sustained engagement with social practices and their carriers, despite the time-consuming nature of such studies, can reveal a more comprehensive picture of what a circular neighbourhood could entail, as an alternative to the impressions produced by developers and the municipality to attract future inhabitants, start-ups and creatives.

Research activities in the Binckhorst thus build on a suite of methods, with their known practical procedures of seeking access and consent for audio-recording, and ensuring anonymity. Interviews were recorded (film or audio) and transcribed. Ethical concerns about the participants' position in the research were a constant as well as providing all information needed for participants to feel informed, safe and protected. Fieldnotes were taken from meetings organised by ACCEZ, during or shortly after fieldwork. On occasions, we needed to return to research participants to share with them our initial interpretations and, if needed, provide additional insights to arrive at the kind of thick descriptions presented in this paper. Other data generation opportunities involved a 'summer school' (partly disrupted because of COVID), a 'parade' of research-art-policy interactions, a student-organised "visual participatory appraisal" (Boonstra, 2021) and, not least, the collaborative use of ARC-GIS story maps (Barnhoorn, 2021; Van den Broek, 2022).

3. Problematising learning in the circular city

The circular city concept has multiple, shifting meanings (Hobson, 2020a; Prendeville et al., 2018; Williams, 2019). We regard this as an opportunity, because the contestation and multiple value systems involved with the circular city provides fertile ground for exploring a multitude of pathways to put it to work (Escobar, 2018).

What the circularity discourse brings in motion is arguably facilitated by its many definitions: Kirchherr identified 114 (Kirchherr et al., 2017), and Calisto Friant developed a typology of 72 related concepts (Calisto Friant et al., 2020). The CE may be considered a boundary object, as "both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (Star & Griesemer, 1989:393). Consequently, some seek more definitional clarity, as a means to further translate circularity into policy language and action repertoires. The type of learning connected to this instrumental, linear way of reasoning resonates with the common observation of a knowledge-action gap (Shove, 2010). The latter sees knowledge as ideally preceding action and assumes clarity over definitions, benchmarks or standards. Solutions are thus predominantly sought in persuasive communication and top-down participation strategies, technological fixes and smart economic instruments (Schulz et al., 2019). In such understanding, learning is geared toward behavioural change and the role of individual actors (Savini and Giezen, 2020), often with little consideration for otherwise complex and contradictory responses. Simultaneously, the politics of employing the CE-concept remain unquestioned.

By contrast, a relational approach looking into social practices as sites of learning arguably provides a promising way forward to trigger more fruitful policy-practice exchanges about the potential of circularity (Calisto Friant et al., 2020; Shove, 2014). However, questions of power and politics are not the most common feature of practice-based approaches (Anantharaman, 2018; Fuchs et al., 2016; MacGregor et al., 2019), something we will try to tackle more explicitly in this paper.

The practice-based approach to learning considers knowledge and action as inextricably linked. This tallied also with our experience that circular policy discourse was almost absent from everyday talk in the Binckhorst. The practice-based approach shifted our primary focus from the circular policy discourse and how it was projected on the

neighbourhood as if it were an empty canvas, to stories of social practices - a living archive of histories saturated with possibilities to rethink circularity based on local values upheld in the everyday realities of people in the Binckhorst. In the next section, we present five different types of 'circular practices' encountered in the Binckhorst.

Our exploration of 'circular practices' thus became a gateway to mapping connections between circularity discourse and practices-already-there, as they are constitutive of the specific urban context. The adopted focus on practices decentres the individual and shifts attention to the "cultural and material fabric of urban spaces" and their histories (Hobson, 2020a: 908). This normative stance informs our analysis, which arguably enables a more in-depth understanding of a neighbourhood with the intrinsic capacity to take a reflexive stance toward circularity.

What do we look at with practices? Shove and Walker (2010) define social practices as consisting of three interconnected elements: meanings, materiality and skills, or competences. This attention to the material, embodied and ideational components which are embedded in practices moves beyond an individualist focus. Actors or practitioners are involved as hosts or 'carriers' recruited into performing practices. Meanings refer to 'symbolic meanings, ideas and aspirations'; competences to 'skill, know-how and technique'; and materials to 'things, technologies, tangible physical entities, and the stuff of which objects are made' (Shove et al., 2012:14).

Social practices thus consist of elements that come together when a practice is enacted or performed. The interconnectedness between elements can become stronger, stabilised or broken, depending on individuals being recruited into performing practices, thus keeping practices in place socially. Examples are cooking, wine-tasting, cycling, fashion-modelling, skateboarding, etcetera (Shove et al., 2012; Strengers & Maller, 2015; Warde, 2019). Although these are quite different from the social practices discussed in this paper, understanding the latter in terms of their constitutive elements offers a salient means to problematise learning in terms of the shared meaning in 'doings and sayings' (Schulz et al., 2019), materiality, and the skill or know-how required in performing practice.

Contrary to some commonly held assumptions, practice-based approaches do not situate the production of knowledge in one domain and its subsequent application in another but take the (co-)production of knowledge 'in action' as their point of departure (West et al., 2019). The type of learning associated with social practices thus views knowledge and action, theory and practice, as closely entwined in continuous, ongoing iterations, whereby a concept like circularity should be understood as already in the making, locally and across various scales. The remainder of this paper problematizes circularity in two parts. First, through a focus on social practices as ensembles of materiality, meaning and competence carried by social actors in the Binckhorst (see also Appendix 1). Second, by problematising learning at the interface of proximity and precarity concerns, to retrieve some meaningful insights as to what a circular and just Binckhorst could entail.

4. Governing and performing the Binckhorst

Our unique case presents a neighbourhood like many others: a post-industrial site adjacent to a city centre, undergoing a transition to a mixed-use neighbourhood. In view of a massive housing shortage in the Netherlands, the Binckhorst in the Hague was awarded a building task of at least 5000 new housing units (Gemeente Den Haag, 2018), with an even larger stock foreseen by the municipal board (Gemeente Den Haag, Coalitieakkoord 2019–2022: 59). In relation to these interventions, which included a new access tunnel to the city, many buildings previously owned by the municipality were sold to real-estate investors that are currently renting them out until they will be demolished and replaced by high-rise. The Binckhorst still has an industrial character for now and is home to a variety of activities: car repair shops, a waste collection facility, old industrial buildings hosting start-ups and small

businesses, hardware stores, a paint factory, a bakery, and the remnants of an asphalt and a concrete factory. Demolitions and temporary placemaking are the order of the day – think of organised graffiti, the installation of large artworks, the Victory Boogie Woogie references to mark the building of the tunnel with the same name. Finished residential buildings are still largely absent but this will soon change.

With - as yet - few residents living in the area, the municipality seeks possibilities for participation through I'M BINCK, which mainly attracts people working with the established organisations and also from new start-ups. Furthermore, the municipality commissions the organisation of participation processes to consultancy agencies following their Action Plan Citizen Participation (Gemeente Den Haag, 2021). They do so per sub-area and project (e.g. Maanweg, JunoPark, Trekvlitzone) or as thematic roundtables, yet many people in the area still have little say about ongoing developments (Boonstra, 2021). What is most relevant for our argument here is that the kind of participation that involves current residents (living and working) of the Binckhorst into experimental learning attempts to discover what circularity might mean for the neighbourhood is largely absent.

A requirement imposed by the municipality is to have 30 % of the new housing stock reserved for social renting and to accommodate workplaces in the commercial spaces of new buildings. Projected prices for an apartment or workplace (buying or renting) are high. Hence, people currently working and living in the area might have to move. The Binckhorst has seen various activities focused on creating an active community, such as those organised by the network organisation I'M BINCK and the entrepreneurs' association Binckhorst Laakhaven Fruitweg (BLF), with continuous involvement from businesses, societal organisations, former and current residents. For several years, different organisations connected to the Binckhorst advocated the transition to a 'circular' neighbourhood, and the municipality set a 50 % circularity target for the area by 2025, with a focus on materials and resources (Gemeente Den Haag, 2018b, Lindeboom et al. 2021). I'M BINCK refers to it in its slogan 'inclusive, circular and authentic' (<https://imbinck.nl/#speerpunten>, accessed February 16th 2022), while the local cooperative of developers 'Think Binck' adopted circularity as a guiding principle. The developers promote projects like the Binck Blocks, a 115-meter-high residential tower that "represents high circular ambitions", such as capturing rainwater to sustain nature-inclusive gardens on the terraces and façades, and generating its own energy via built-in solar panels (<https://www.itsliquid.com/binck-blocks.html>, accessed November 24th 2023). However, what 'circular' means for the Binckhorst is largely restricted to these promotional expressions and a pending question for many.

Stimulated by the work of I'M BINCK, the municipality supported the establishment of a circular Binckhorst, yet local policies remained rather elusive about the kind of circular neighbourhood it should become, for instance, concerning the volume of housing development and the possibilities to accommodate current occupants (see Section 6 on precarity). In anticipation of the new environment and planning act meant to simplify and integrate several previous laws, the municipality pleads for organic and flexible development (Gemeente Den Haag, 2020) and states that there should be 'room for developers, companies and future residents to develop initiatives themselves and seize opportunities' (Gemeente Den Haag, 2019, p.10). Meanwhile, interpretations of circularity, such as those connected to practices of urban mining and the re-use of materials in housing developments became prevalent. For instance, the municipality commissioned studies that analyse the energy and material flows going in and out of the Binckhorst area (see Jongert & Dirx, 2016), clearly showing that circularity language played out in selective ways, without much attention to social circularity or existing small-scale local practices. Meanwhile, the CE concept remained less articulated among entrepreneurs. We argue here that mapping the practices that those present in the Binckhorst uphold provides important clues to their potential contribution to a future circular city, despite the currently dominant economic paradigm.

An evocative example is hop-growing (see Fig. 1), which may well contribute to the realisation of a circular neighbourhood. During a field exploration, we came across a collection of buckets, with plants and lines reaching 10 m high along a steel framework. Growing hop here is not a lucrative business intention but a way to market a beer that stands as a symbol for the Binckhorst, and appropriating its open space for 'productive green', as one of the initiators calls it. At the same time, it is a means to mark the rough edges, seen as characteristic of the area. Hop-growing requires ample know-how in terms of scaffolding, planting times, fertilising, pruning, harvesting, and even sales. For many beer producers, hop production, beer brewing and distribution happen at a distance, with transport required between locations, but here most of the beer is produced and sold locally by Kompaan. In terms of the practice elements, the skill and know-how, the various meanings attached to the beer, the materials involved, are performed as a conjunction, with interdependencies between growing and brewing. There are several carriers of hop-growing and brewing, and in contributing to the circular-regenerative system at work they are to be well-connected and near each other. Indeed, as Shove et al. (2012:7) suggest, "it is through performance, through the immediacy of doing that the 'pattern' provided by the practice-as-an-entity is filled out and reproduced. It is only through successive moments of performance that the interdependencies between elements which constitute the practice as entity are sustained over time".

The list of practices shown in Fig. 2 is not exhaustive (see also, Appendix 1). Emerging from long-term fieldwork and member checks, we distinguish five categories that bear relationships to the circular-regenerative ambitions pursued in the area, albeit hardly in explicit terms. First, there are the practices focused on 'repair and refurbish'. The many car repair shops in the Binckhorst are a typical example that often rent from real-estate investors. Often, these 'repair and refurbish' practices also incorporate elements of social reintegration, meaning that the carriers of these practices regularly involve people that are learning skills to receive a diploma, or as an activity in the scope of a social program (Carshop owners, Sleutelen met Jongeren, Gered Gereedschap, Foundation Zorgkringloop en Zorgdiscounter). Although practices in this first category may partly take place outdoors, we distinguish a second separate group of practices that is tied to the **outdoors** and public spaces: examples are the mentioned hop-growing for beer production, soil remediation activities, roaming chicken (OpTrek, Watersport clubs, Roaming chickens). The roaming chicken may also be considered a category on their own – the 'carriers' here are the chickens themselves, being 'social' in their own way, as they flock together to become another signature feat of the area. Third, **industrial practices** present in the Binckhorst consist of asphalt and concrete production, and



Fig. 1. Temporary site for hop growing behind cemetery.

waste collection. The presence of various canals and docking facilities is vital for these activities. To have these in the vicinity of the city, where asphalt and cement are (still) needed, and waste is collected, significantly reduces transport distances. A fourth distinctive group consists of **crafts, sports and art-based practices** (Loge the creatures de Binckhorst, stand-up paddle boarding for plastics collection). The projects connected to these practices are spread across the neighbourhood and add up to a patchwork of references to the Binckhorst's past (see for example, the graffiti wall in Fig. 3), and the challenges of its transformation. Fifth, a common set of practices in the Binckhorst consists of **organising community**. This happens in various ways, currently in multi-tenant buildings for small innovative enterprises (Apollo 14, Binck 41, Werkfabriek, Caballero Factory), sports and arts (MOOOF), small-scale manufacturing (De Besturing), or without the requirement of a building when it concerns organising community activities and network meetings (I'M BINCK, BLF).

By exploring social practices as ensembles of materiality, meaning and competence, we identified three interrelated concerns pertaining to questions of proximity, precarity and - subsequently - potentiality. In turn, these concerns helped problematise the ongoing redevelopment of the Binckhorst, in view of circular ambitions. We hence dwell on our findings in the following sections to further explain these key concerns, which may benefit other attempts to grapple with urban learning in neighbourhoods in transition. In concluding, we argue that a view of social practices as core to transformative change increases the chances for a progressive urbanism that is both regenerative and just.

5. Proximity

Regarding social practices, proximity may be understood in spatial terms, to refer to something that is near, for instance, to whether (or the extent to which) the elements of a practice are adjacent to each other. This also concerns the interplay between various local practices, like hop growing and beer brewing in the example above, which already signal proximity as a relevant theme for debating Binckhorst's circular future. For some time, vacant land behind the cemetery has offered a place for hop-growing toward local beer production. Moreover, the resulting yeast ('bierborstel') is used for baking bread by another local entrepreneur (Broodbrouwers). Indeed, circularity is often associated with the local level, because the roles and interdependencies of various actors become apparent locally (Bahers et al., 2017). Proximity may thus also be understood in social terms. Particularly in connection with learning, it is seen as providing the background to creativity and innovation (Waitt & Gibson, 2009). We find several accounts of how spatial and social proximities intersect in the Binckhorst, with proximity providing an opening to circular potentiality.

Another telling example somewhat equivocal regarding proximity concerns the 'salvaged tools' by Gered Gereedschap (literally translated from Dutch: rescued tools). Tucked away in a narrow street, Gered Gereedschap works with local volunteers to collect and repair used tools and sewing machines. The tools are sent to countries in the global south/majority world on request, where they gain a second or third life in workshops that train young people in various crafts. The organisation has various workshops across the Netherlands, with half of its positions being part of reintegration projects, day activities, or welfare organisations. Gered Gereedschap offers a straightforward example of how materials, meanings and skills interact to shape a practice focused on restoration, refurbishment and re-use. Whether it is circular, is questioned by the organisers:

"It (circular economy, added by authors) is a concept that we are generally not concerned with. We restore tools and sewing machines for developing countries. According to the circular economy concept it should be a circle. It should return to the supplier who is able to do something with it. But that is not the case at Gered Gereedschap. We delay the disposal of tools..."

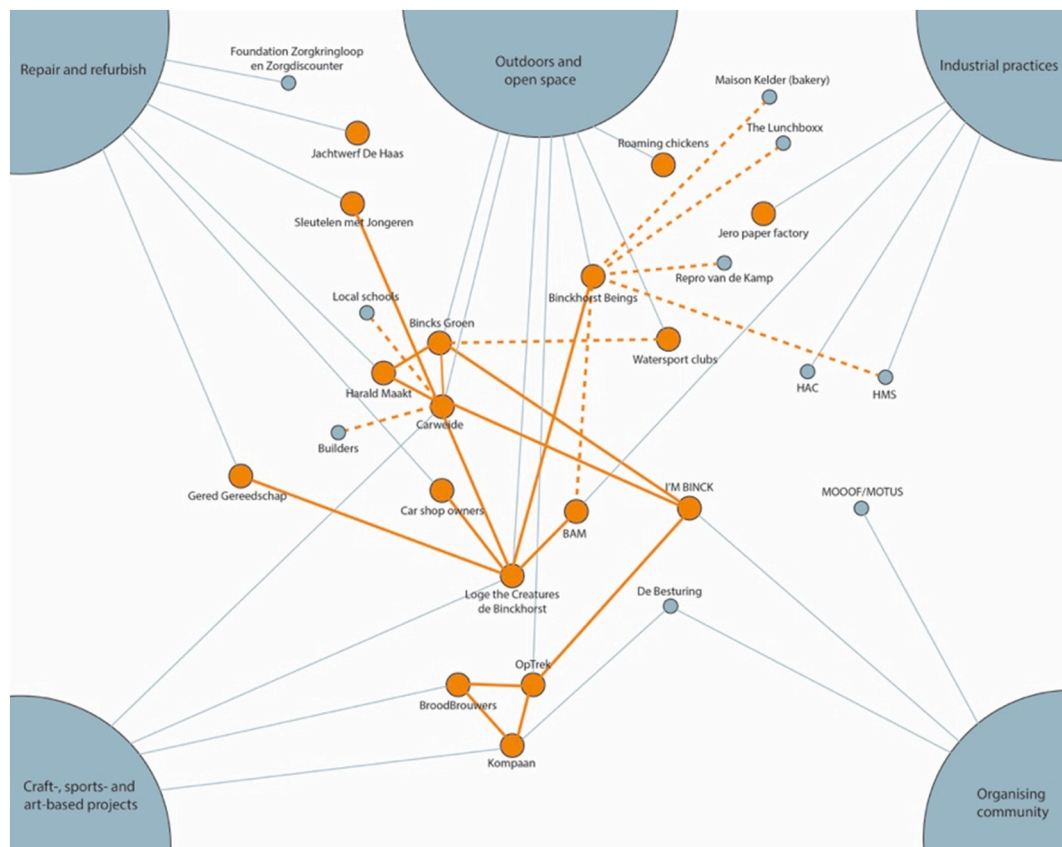


Fig. 2. Overview of practice carriers and their connections. The carriers and connections highlighted in orange are explicitly addressed in the paper. The carriers and connections highlighted in gray were further identified as relevant in view of their circularity potential.



Fig. 3. Graffiti presenting Binckhorst past with (real and painted) chicken and hop.

Some obvious materials involved here are the used tools, restored/ repaired tools, (parts of) sewing machines, shipping containers, the workshops, workbenches, an extraction system for fluids, electric tools, crates for safety equipment, computers, a van and advertisement board. To be able to safely work with (electric) tools, some technical background is a required skill, while others participate on the basis of their business or organisational background. People participate for different reasons. For idealistic reasons, or for developing a skill, or for finding a social connection. To settle into an area takes time, as one respondent

reflects:

"We have been located here for eight years. Before, we were located in a residential area for some time. That has advantages, since you are more involved with the neighbourhood. People easily walk by to donate something. Our current location is more remote. People need to know that we are here, and luckily people are able to find us now."

Aside from the time it took to establish relationships in the Binckhorst, hopes were that they could stay, since the volunteers and people working as part of reintegration projects were familiar with the location. They all had a place to enact the salvaged tools practice and aspire to a future role in the Binckhorst. Similar to Gered Gereedschap, there are various organisations in the Binckhorst that recycle or upcycle materials for future use [MOOOF/MOTUS, Sleutelen met Jongeren, Carshop owners, Foundation Zorgkringloop en Zorgdiscounter, Loge the creatures de Binckhorst, Broodbrouwers]. They are the type of organisations that took some time to settle in the area, as they are dependent on local networks for the supply of used materials and technical skill of volunteers or people reintegrating into the labour market [Sleutelen met Jongeren, Foundation Zorgkringloop en Zorgdiscounter, Werkproject Jupiter, Gered Gereedschap]. As one of the local carpenters eloquently points out:

"Why is it so difficult to imagine that in the proximity of new inhabitants, I can make their furniture instead of IKEA, while new life is brought into the neighbourhood."

In their discussion of creative reuse practices in Amsterdam Noord, Barba Lata and Duineveld (2019: 1761) show how these practices may inform alternative value regimes through the "circulation of heterogeneous ideas and materials". Adding to their account, we suggest that such a dynamic of circulation requires the development of certain

learning routines and skills to gradually but firmly establish local conceptions of value, as it happens with the adjacent repair and refurbish practices in the Binckhorst.

Proximity-related concerns also apply to quite different practices than the ones evoked above. For instance, in the category of 'industrial production and processing' (of concrete, asphalt and waste), the presence of a concrete processing plant and infrastructural facilities afford short travel distances between materials, workers and construction sites. Considering that despite its negative environmental impact, concrete and asphalt will still be used in the near future on sites in and near the Binckhorst, relocation is likely to exacerbate the logistics and related emissions, something that stands in rather sharp contrast with the municipality's ambitions for a circular development of the Binckhorst. This speaks to a host of critical accounts that flag, on one hand, the growing importance of local (re)manufacturing activities toward circularity and, on the other, the tensions those very activities generate concerning real-estate speculative investment and the more general land use policy (Ferm & Jones, 2016; Van den Berghe & Vos, 2019; Williams, 2019). Adding to its relevance toward circularity, the question of proximity is thus notably important to a diverse range of practices (Figs. 4 and 5).

On yet another note, Ben, the retired co-owner of a car repair shop in the Binckhorst, nostalgically recalls how the neighbourhood used to be like a 'village'. He stresses the sense of familiarity and cohesion, how everyone knew everyone and people helped each other. He commemorates at length how the ground floor of various businesses was used to organise gatherings with food, dance and music that brought inhabitants and local entrepreneurs together. He also speculates about how such a convivial atmosphere would benefit the future inhabitants:

"We were often philosophising, and then we could find solutions. It is sad to see that so many of the companies left. The assumption of the municipality is that it is easy to relocate. But that is not how it works. For example, as car repair shops we all have postal code areas assigned. To have to move elsewhere, means losing your customers and connections (...) These businesses are small, their equipment expensive, and time is sparse. Administration is done in the evenings. So it should be made easier for these businesses to make changes, to help them to do circular projects. If they relocate, it means you are losing the jobs that are important for a city like the Hague. (...) You need to provide for possibilities for manufacturing and for public services, open space, and shops."

Ben's account illustrates how social activities and get-togethers provided a space literally and figuratively for establishing connections between businesses and inhabitants. His story is evocative of how spatial and social proximities played out over the years in enacting a self-supportive neighbourhood, with a pronounced community function (Chatterton, 2010). The evoked sense of conviviality, joint problem-solving and sharing of spaces are hence considered essential in sustaining local practices as the ones highlighted above. This view aligns productively with various accounts on urban sociality, notably in view of different forms of association between materials and meanings, social and technical aspects that enable particular conditions of possibility, while obstructing others (Amin, 2014; McFarlane & Rutherford, 2008; Tonkiss, 2013). Such forms of association and their conditions of (im)possibility are rendered explicit through the current redevelopment of the Binckhorst. The ongoing densification program, including the revision of lease contracts, evictions and demolitions, progressively alters both spatial and social proximities, thus placing many of the local organisations and related practices into a precarious position. It did so in ways that disabled the local organisations' capacity to contribute to a circular neighbourhood based on local conceptions of value.

6. Precarity

The above instances of circular manufacturing and entrepreneurship show how the proximity of elements, within and between practices,

cohered into a self-supportive neighbourhood. Importantly, the practices evoked here often depend on affordable locations. At the time of writing this paper, many organisations, or carriers of practices listed in Appendix 1¹ had already moved, quitted or expressed uncertainty about their future role in the Binckhorst, particularly in view of projected demolitions, ending temporary leases, and rising rents. In the consultations with the municipality, there were frequent discussions about accommodating local organisations in the commercial spaces of new buildings, yet without concrete agreements for the post-demolition and redevelopment phase. Despite their connection to what a circular-regenerative neighbourhood could become, the lack of any support and future prospects only amplified the distress of current occupants (see, Madanipour, 2018). The owner of a small paper factory in the Binckhorst, who also plays an important community function in terms of vocational training and reintegration, recounts:

"(You are) of course under continuous threat, because there was never any certainty that 'you can stay here'. The municipality was our landlord for 60 years or more. In the middle of the night, they sold all these premises to a real-estate company for an appallingly low price, without ever offering them to the people who had been working here for 60 or 70 years, and had paid the rent. (...) We kind of learned to live with that uncertainty, (so) we still continue to exist. But there are many companies that cannot cope with uncertainty at all. Because you have to invest in your premises, you have a relationship with your environment, a lot of companies are tied down."

Precarity is an acknowledged, intensifying phenomenon in European cities and the global North more broadly. It becomes manifest in various ways, notably through structural conditions of uncertainty and temporariness, as the ones evoked in the earlier quote. For instance, temporariness is readily apparent in the work of local organisation I'M BINCK. Some of their projects focus specifically on temporary use, such as gardening in mobile planters, or tasking architecture students to think along and design for-the-meantime. Temporary occupation is also visible in the multi-tenant buildings, where many entrepreneurs are only able to use the office or workshop space for a relatively short time due to all sorts of constraints, including fit, finance and lease contracts. The latter are becoming increasingly problematic for both newcomers and established organisations, with the ongoing land transactions and associated speculation toward high-value residential and commercial activities in the Binckhorst. While temporary leases used to be a fairly common practice also in the past, the impending redevelopment of the area has turned short-term leases and property guardianship into the new norm.

Property guardianship is a well-established approach for municipalities and property developers to prevent squatting. Taking the role of property guardian is a choice that some are positive about, as shown by Ferreri et al. (2017) in their study of highly educated dwellers in London, who appreciated the social and economic advantages of temporary housing arrangements. Conversely, for many of the practices we explored in the Binckhorst, such interim arrangements that always carry the possibility of eviction came with significant anxiety and only added to their sense of precarity. For instance, when land behind the cemetery was sold a couple of years ago, the hop it hosted had to be removed. According to Ben, various businesses from the street 'Komeetweg' were evicted in the meantime, and he is deploring the new situation. Gered Gereedschap unwillingly moved to a site some eight kilometres away from the Binckhorst to make room for the new residential developments. When at one meeting it was suggested to house Gered Gereedschap on the ground floor of a historical building, the involved developer

¹ MOOOF/MOTUS, OpTrek, Watersport clubs, Carshop owners, Foundation Zorgkringloop en Zorgdiscounter, Werkproject Jupiter, Volunteers Duurzaam Den Haag, Gered Gereedschap, Loge the creatures de Binckhorst, Jero Paper factory, Stijlbandiet, BAM, HMS, Fungilogics, Precious Plastics, see appendix.



Figs. 4 and 5. Left - one of the last boats for transport of materials for cement and asphalt; and right - Binckhorst Being, made of local materials, of the Loge de Creatures du Binckhorst, signposting asphalt making, an activity that has disappeared in view of housing development.

responded that such would not be 'profitable'.

If some might associate the profitability argument here with a proof of astute business thinking, we find it problematic in multiple respects. Among others, the dismissal of such organisations' contribution to a diverse and resource-profuse Binckhorst stands in sharp contrast with the idea of a circular-regenerative neighbourhood. The consequences of how Binckhorst's redevelopment is currently staged are part of a well-rehearsed 'operational matrix', whereby the government's retrenchment is often done at the expense of socially and spatially vulnerable ones, as eloquently shown by [Jamie Peck \(2012: 626\)](#) in his discussion of austerity urbanism. Austerity-led urban politics was often evoked as a pervasive phenomenon in the aftermath of the Global Financial Crisis of 2008 ([Fuller, 2017](#); [Gray, 2018](#)), and the Binckhorst was no exception. At the time, most of the grand redevelopment plans were put on hold or cancelled, thus provoking a shift in the municipal approach toward interim arrangements that would grant local organisations enough leeway to continue operating in the Binckhorst. While such provisional arrangements are considered yet another means of normalising precarity ([Ferreri et al., 2017](#); [Vasudevan, 2015](#)), they also emerge as an expression of hope through those very practices that "seek to make better, though imperfect, urban spaces; which work both under and against current economic and political constraints" ([Tonkiss, 2013:323](#)). It is in view of the latter that we retrieve a more hopeful take on the question of potentiality and the openings provided by the interplay of proximities and precarity in the Binckhorst.

7. Potentiality

We have already alluded to the circular potential of practices with a historical presence in the Binckhorst, particularly when discussing the importance of proximity. Characterised by close relationships, the exchange of materials and input of diverse skills that developed over a long time, these practices frequently involved a pronounced community function. Proximity was a key aspect of their co-existence and interdependencies, something that inspired new forms of social entrepreneurship, a rethinking of the connections between production activities and public spaces, as well as multiple instances of mobilising local materials that would comfortably fit under the 'R strategies' of circular economy frameworks. Somewhat paradoxically, those very practices ended up in a particularly precarious condition. Their potential contribution to a future circular Binckhorst remained largely below-the-radar, thus raising questions about why the municipal policies ignored them so far. We envision an important role for learning toward participation here, from the catalytic potential of proximity to how insecurity

and temporariness offer valuable insights into how "the city is assembled, lived and contested" ([McFarlane, 2011: 360](#)).

In an ideal circular world, the processing of concrete, asphalt and waste, all historically present in the neighbourhood, are replaced by more sustainable means or prevented altogether. However, in the short to medium run, these materials will still be used in the Binckhorst and The Hague. The ongoing densification program is bound to stricter environmental standards, requiring adaptations that some of the larger producers were willing to take on (asphalt, waste). However, for the construction of new housing to proceed, some were simply bought out, and the asphalt plant was abandoned in late autumn 2021. In terms of circular (re)development, the departure of these carriers and related infrastructure from the Binckhorst is likely to compound their environmental impacts, as yet another instance of problem shifting ([Van den Berge & Verhagen, 2021](#)).

In addition to the previously evoked interdependencies between practices (e.g. hop-growing for beer production), we often encountered other connections in our conversations with carriers of practices in the Binckhorst. In accounts of manufacturing activities there was often a link with art or other creative initiatives. Those entailed, among others, reusing residual materials from the paper factory or print shops, sharing access to large spaces for music performances, or upcycling scrap metal into street art. One particularly interesting initiative concerns the soil remediation plan proposed by members of the local rowing club. According to the initiators, their solution based on the extensive use of fungi and helophyte filters would prevent the removal and transport of contaminated soil from the Binckhorst, as well as allowing the possibility of decentralised sanitation on-site. Furthermore, their knowhow and willingness to address soil pollution in the area may also create opportunities for broader engagement in greening initiatives. These revealing instances suggest in fact that much of the envisioned transformative potential of circularity was already present in the Binckhorst, albeit acknowledged in a rather informal and seemingly selective way.

For instance, the municipality, I'M BINCK organisation and several developers initiated more recently the 'Bincks Green' collaboration. They formulated 5 types of projects, which include roof gardening, bee-hotels, routes for active mobility, edible and temporary green, and soil remediation. Since the selection of local projects a year ago, the soil remediation initiative has still not received any funding from the municipality. However, a sixth project was added to the list and received support after the expropriation and demolition of a DIY store (Karwei). The land became derelict and had to be used in line with the future destination in order to prevent legal action against the expropriators. So it became a temporary parking lot combined with green elements, Car

Weide (a referral to the Karwei, meaning Car-meadow). I'M Binck saw opportunity for a placemaking project to realise a green, central meeting place, and inaugurate the mentioned green planters and bee-hotels, as a showcase of its ambitions toward public green in the Binckhorst (I'M BINCK website) (Fig. 6).

On the 'Carweide' location, the initiative assembles different practices in close proximity to each other. A tree nursery with seedlings collected from nearby wasteland, beekeeping and gardening in planters are envisioned to circulate through the neighbourhood as opportunities arise and disappear. Here, temporariness is explicitly invoked as an opportunity to mobilise support and diverse social involvement for a further 'greenification' of the densifying neighbourhood. It is certainly an important step toward a more circular neighbourhood, yet on the flipside it also evokes the fragmentation and precarity perpetuated by a rather sanitised, market-driven view of what counts as circular and what not. Going beyond the more immediate reference to the local circulation of various materials and emergent infrastructures, green or otherwise, an important question about the social affordances of circularity is still pending: potentiality for what purpose? A possible opening is provided by [Fran Tonkiss' \(2013: 313\)](#) emphasis on the conditions of possibility arising "in the cracks between formal planning, speculative investment and local possibilities". Following this line of reasoning, we may question how learning at the interface of proximity and precarity is re-formatting current conditions of (im)possibility toward a circular and just Binckhorst.

8. Discussion: circularity, on what grounds?

In this paper, we offered a practice-based account of the Binckhorst's transition toward a circular mixed-use neighbourhood. The evoked instances prompted an in-depth engagement with the materialities, skills, aspirations and experiences of those (formerly) present in the Binckhorst as carriers of practices. As noted, the ongoing transition, as well as the resulting evictions and demolitions have substantially altered local practices, their constitutive elements and relationships, thus hindering the workings of a self-supportive neighbourhood. We sought an alternative perspective to how the Binckhorst's circular transition is currently staged, and how this alternative could offer a starting point for urban learning. Such alternatives distinguish themselves in exposing the limitations of 'clean slate' versions of circularity that mainly prioritise technical and economic aspects, at the expense of social and even sustainability ones ([Corvellec et al., 2021](#)).

The current 'housing crisis' is often invoked as reason for accelerating the redevelopment of post-industrial areas in cities, yet such a sense of urgency should not gloss over the kind of urban learning evoked here. Beyond the more immediate matter of recognition, local practices as the ones presented here arguably provide important clues for more progressive forms of urbanisation, to effectively work toward the envisioned transformative potential of circularity, also in the context of

housing shortages. The current redevelopment of the Binckhorst hence begs the question if such transformative change is indeed desired by decision-makers. Conversely, we cannot help but wonder whether our observations are only the surface manifestation of what [Saskia Sassen \(2014:5\)](#) calls "deeper systemic dynamics that articulate much of what now appears as unconnected". The practices we identified in the Binckhorst did not stand alone; when taken together they suggest a deeper system dynamics of displacement, one that profoundly altered the social and spatial relationships defining the neighbourhood (Fig. 7). To argue with [Friedmann \(2010: 157\)](#) here, regardless of the intervention, "whether it's slum clearance or gentrification, the results are the same: the erasure of places is a violent act, as established patterns of human relationships are destroyed".

When considering this context of expulsions and seemingly lost opportunity, are there still prospects to reroute the current transition to a more hopeful course of action? We believe there are, particularly when considering the interplay of various proximities and precarity, which indicate ample transformative potential, so often neglected in the current instrumental approach to circular area redevelopment. Hence, we concur with [Kueffer et al. \(2019: 388\)](#) here to contend that:

"[T]ransformation is a metaphor that tends to put novelty, disruption, and radical change in the limelight (...), while neglecting the cherishing of the existing, old-growing solutions and evolving adaptation processes. We might more often than not have to re-learn forgotten knowledge and skills, or re-appreciate what still works (including solutions of marginalized social groups that do not have the power and voice to be heard)".



Fig. 7. Billboard of future resident building with cappuccino bar and tesla.



Fig. 6. Community activity at Carweide kavel where multiple materials social activities and meanings are assembled.

The Binckhorst's practices evoke much of those 'existing, old-growing solutions', a perspective that productively aligns with earlier work on the 'transformative potential in the cracks', as a manifestation of austerity-led urban politics (MacGregor, 2021: 329, see also Fuller, 2017; Peck, 2012; Tonkiss, 2013). In a similar fashion, Robin and Castàn Broto (2020: 873) point to the "below-the-radar forms of action (and) their transformative potential and capacity to improve living conditions for the urban majority under climate change". The effort of learning with the 'below-the-radar' practices and forms of action arguably offers a window to forms of social circularity that currently receive too little attention (Corvellec et al., 2021). These speak to Hobson's account that "part of the CE problem is that it is operating under an impoverished theory of both human action and the contexts that are being transformed, given the complex entanglements of materials, capabilities, and meanings (e.g. see Shove & Walker, 2007) that constitute our everyday lives" (Hobson, 2020a:101). The focus on Binckhorst's practices thus provided an alternative, meaningful way of exploring the social and spatial implications of a local circular economy in the making (Hobson, 2020b).

9. Conclusion

With our research, we wanted to show what a practice-based approach delivers in terms of learning opportunities for circular cities, so we asked what happens when a long-standing self-supportive neighbourhood is taken apart based on a rather sanitised vision on circular area redevelopment. To achieve this, we delved into the myriad stories of social practices to explore what possibilities they comprised for the circular city. The conclusion that the Binckhorst transformation represents yet another instance of the global trend of gentrification and displacement is arguably too easy and too little hopeful. Our study showed *how* practices that connect people and places are at risk to be lost, while these can be extremely valuable for envisioning pathways toward a circular and just Binckhorst. The focus on local practices revealed a great deal of what is considered of value locally, including those resources and action repertoires that could become the building blocks of a circular and hopefully regenerative neighbourhood – a true 'living archive'.

We believe that the resulting potentiality argument can incite critical engagement with a transformative urbanism that instils learning more pronouncedly into urban transformation agendas, such as those connected to circularity. When considering proximity and precarity in relation to each other, it appears that precarious conditions could, for those who were active in the Binckhorst for considerable time, be overcome by the proximity of others and their practices. However, the pronounced community function that developed over decades and the potentiality stemming from this was disrupted when demolitions, rising rents and evictions broke the vital connections between the practice-specific materials, meanings and skills. Instead, the latter were replaced by a rather sanitised vision for a circular neighbourhood

Appendix 1

Circularity practices. Contributions to this overview: Van de Weijer (2019), Barnhoorn (2021), Boonstra (2021), Van den Broek (2022). NB the overview is an (always) work in progress and snapshot of when it was created.

Carriers of the practice	Practices: meanings, materiality, skills The table presents vignettes of practices, summarising how the three elements are connected.
1. MOOOF/MOTUS	MOOOF hosts various arts and sports activities. The interior is partially constructed from reused building materials. The building will be demolished to accommodate a housing project. The community aspires to then develop a new modular building to be made entirely from reusable materials. MOOOF is on the move (to the Saturnusstraat within the Binckhorst) at the time of writing as their future envisioned space in the WOW zone is uncertain.

developed from scratch.

By and large, this particular version of circularity seems rather accommodating to what is makeshift and temporary, with limited connections to the Binckhorst's legacy, thus inhibiting its longstanding practices and forms of collective action. Our study thus resulted into an in-depth understanding of circular potentiality connected to proximity and precarity concerns, whereby social practices are seen as essential to transformative change and learning toward circularity. We explored how learning at the interface of proximity and precarity can reformat current conditions of (im)possibility toward a circular and just Binckhorst. Such ideas are plentiful in the neighbourhood, and while inhabitants currently experience being left in the dark, the Hague's participation processes can still much firmer tap into these. Therefore, we believe that strategies for urban learning could more productively build on the various affordances of proximity and precarity to genuinely accommodate the diverse host of local practices and resources, and ultimately encourage a more imaginative and inclusive spatial planning (Albrechts et al., 2019). Such a move, we expect, would contribute in a significant manner to the effective implementation of circular-regenerative systems in the Binckhorst, and other neighbourhoods more broadly.

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CRedit authorship contribution statement

Marleen Buizer: Conceptualization, Funding acquisition, Methodology, Supervision, Writing – original draft, Writing – review & editing. **Iulian Barba Lata:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Joep van de Weijer:** Conceptualization, Methodology, Writing – original draft.

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Carriers of the practice	Practices: meanings, materiality, skills The table presents vignettes of practices, summarising how the three elements are connected.
2. OpTrek	OpTrek grows hop for beer production. Vacant land behind the cemetery has, for some time, offered a place for the growth of hop for local beer production. The residue is used for 'bierborstel' that is used locally by Broodbrouwers for the production of bread. When the land was claimed a couple of years ago, the hop was moved to a place outside of the neighbourhood.
3. Watersport clubs	Watersport clubs developed a plan for soil remediation - a challenge widely relevant in the Binckhorst. By using helophyte filters and fungi, contaminated soils do not need to be moved to other locations and can be sanitised 'on location'. Realisation is still uncertain, dependent on funding.
4. Sleutelen met Jongeren (Tinkering with the youth - SmJ)	Youngsters that have dropped out of the school system learn how to repair cars as 'day activity' and as a way to obtain a diploma and finding access to the labour market. Next to cars, car parts and tools for repair, other materials - such as furniture for the youngsters - make up this practice. SmJ is located in one of the 'industrial halls' with a monumental status at the Orionstreet.
5. Carshop owners	Small carshops have always been a characteristic feature of the Binckhorst. Re-use of parts and materials is key to their daily work. Most of the carshops have already disappeared from the Binckhorst, with a few remaining.
6. Roaming chickens	Roaming chickens have become a symbol of the Binckhorst. Students have, on several occasions, taken up the chickens in proposals for urban agriculture that produces local food. The roaming chickens have been removed on a few occasions but continue to return, including on graffiti and artists impressions of the Binckhorst.
7. Foundation Zorgkringloop en Zorgdiscounter	The foundation collects used - but still usable products from the healthcare sector and then sells or rents these out at low prices. This way dumping these products to waste after a first cycle of use is prevented. They were housed in an affordable shed but have moved.
8. Werkproject Jupiter	At the 'Jupiterkade' Werkproject Jupiter organises daytime activities with homeless people and ex-prisoners that are doing a reintegration project. Werkproject Jupiter has moved out of the Binckhorst to Zichtenburg, Zinkwerd (rented via Anna Vastgoed).
9. Volunteers Duurzaam Den Haag	Lifting street tiles for lessening hard surface, a better urban climate and growing vegetables and herbs for the restaurant, using worms for composting. The planters and worm farms have been removed when construction works started.
10. Gered Gereedschap	Volunteers and employees reintegrating into the job market repair used tools and sewing machines to be used in educational facilities in the global South. Gered Gereedschap has moved to a neighbourhood on the other side of The Hague, some 8 km from the Binckhorst.
11. De Besturing with occupants such as Dennis Slootweg	The building 'the Besturing' provides working spaces for some forty artists, designers, and craftsmen and women. The machines are shared and some of the occupants seek to expand the sharing. In contrast to other such buildings in the Binckhorst, it is now the property of its occupants, who since they bought it when there was a window of opportunity during the GFC, have improved its energy efficiency and insulation. As a self-proclaimed 'cultural breeding ground' the Besturing houses initiators like Dennis Slootweg who designs furniture with redundant materials e.g. from glass plates from greenhouses.
12. Loge the Creatures de Binckhorst - various makers	The Binckhorst Being are art-objects from used materials as signs to navigate the Binckhorst (Binckhorst Beings). They are made of materials typical for the Binckhorst and function as road signs that point to a range of companies in the Binckhorst, to make them more visible in the area. Currently the contracts for the public space locations have expired, and their future is uncertain. Several of the signs point to practices no longer present (e.g. 'making asphalt')
13. Bincks Groen	A recent initiative of I'M BINCK, developers and the municipality, for green place making and providing a starting point for the further greening of the Binckhorst in the future. Carweide is Bincks Groens' flagship project (see main body of text) that links various of the other carriers (e.g. Harald Maakt, Huygens Lab, see below, schools for helping with the construction) and materials collected in the neighbourhood (donated pallets from building sites, wheels from children's bicycles for the movable planters), watering by Stichting Nelis (a glasswasher for youth with difficulties finding jobs).
14. Broodbrouwers	Bakery of artisanal and organic bread that works with people with physical or mental limitations. During weekends the Broodbrouwers organise pop-up events with people from the neighbourhood, such as cabaret, children's theatre and music. They moved to the Binckhorst in 2015 and are hoping for more inhabitants in the area.
15. Jachtwerf de Haas	Workshop for renovation of private boats. A place where people gather and socialize to come to work on their boats. At the same time it is a workshop for youth from the area with mental issues that help with DIY projects on Wednesdays and Saturdays. The Jachtwerf hoped that future inhabitants will not complain about noise nuisance. Burned to the ground early 2022.
16. Dutch Language Café	A meeting place and language café for youth and expats who want to learn Dutch through activities such as cooking, knitting and playing games. Knitwear is made from second hand wool and donated to organisations for the homeless. The café has a temporary contract with Anna Vastgoed with a notice period of two weeks.
17. Jero Paper factory	Jero Papierfabriek is housed in a historical complex recognised as a monument. It has - for 70 years - produced paper products such as trays and coasters in this location. The organisation does not use computers. The company prepares youth experiencing difficulties with learning or communication for other jobs. The part of the complex adjacent to Jero will be demolished because of housing development and there are concerns about the stability of the construction.
18. Stijlbandiet	There are various workshops like Stijlbandiet in the Binckhorst, who are refurbishing furniture. StijlBandiet is a vintage furniture shop that gives a second life to secondhand or vintage furniture, with a temporary contract to rent a location for which its future is uncertain.
19. Fokker Terminal	Event location located in a monumental aeroplane terminal with 600 solar panels on its roof. Hosting carbon neutral events and compensating for their drinking water by investing in drinking water projects in developing countries. From 2000 to 2008 the building was on a demolition list but was taken off it. The municipality owns the building.
20. I'M BINCK	I'M BINCK is organising network meetings and initiating projects such as identifying a network of cultural heritage sites (BinckPlekken) and lobbying for attention for keeping makers' spaces and manufacture in the Binckhorst. Their slogan is "an inclusive, authentic, circular Binckhorst". Based on extensive community meetings, a set of 'core values' was agreed on.
21. ResourceCity	A plan of local entrepreneurs of I'M BINCK to establish a reusable sustainable, innovative design and research oriented multi-purpose building. The project was not realised for lack of support from the municipality and lack of funding.
22. BAM	Production of asphalt and concrete. Both disappear from the Binckhorst in view of housing development and environmental rules (odor and fine dust).
23. HMS	Waste collection. Whether the facility will stay or have to go is still pending. One of the directors had students elaborate a plan for establishing a park on top of an educational and practical site for a demonstration of the 10R's
24. Afval Loont	HMS had a project 'Afval Loont' (waste rewards) for the collection of waste for re-use with a small repayment. It provided a link to the adjacent neighbourhood 'Molenwijk' and its initiative 'Quartier Laak' but it stopped.
25. Harald Maakt	Harald is a woodworker, making all kinds of furniture , kitchens, interiors of campervans, etcetera. He also worked with the school children of the Corbulo College to make the mobile planters for the Bincks Green initiative, using pallets donated by builders in the Binckhorst, and second hand wheels from children's bicycles.
26. Fungilogics	Making insulation materials from mushroom soil. Disappeared.
27. Precious Plastics	Collecting the caps of plastic bottles. Went bankrupt
28. Tankstation	Family-owned for a long time that wants to be a frontrunner for hydrogen gas as a fuel.
30. Rechtstreef (Apollo 14)	Selling food products from producers in the vicinity directly to customers.

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Carriers of the practice	Practices: meanings, materiality, skills
	The table presents vignettes of practices, summarising how the three elements are connected.
31. WEPCircular (Apollo 14)	Recycling plastics to 'close the plastic loop'.
32. SIBO (Apollo 14)	Making food products from crickets.
33. WANT (besturing)	Housed in the Besturing, WANT has designed a wooden motor bike that uses oil from algae as its fuel.
34. Has no carrier yet	Stand up paddle boarding for waste collection, with Harrie Ozinga of the Huygens Labs, SupBinckies and Noria. Huygens Labs connects technologies and schools.
35. Masterpiece	Library for clothes (Apollo 14)
36. Repro de Kamp	One of the initiators of the Binckhorst Beings. Active in 'M BINCK like many others, creative projects and donating and creating with left-over materials for decoration and other purposes.
37. Huygens Labs	Connecting schools and activities for the youth with makers' spaces and businesses, see 34. Actively involved in the Bincks' Green projects.
38. Stichting Nelis	Washing windows for youth with difficulties finding jobs, involved in watering the 'BinckBakken' at the Carweide.

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