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Hacking the Taste Cycle: A process-oriented view for sustainable interior fit-out

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Abstract

Interior design is a discipline concerned with human inhabitation. It provides the capacity for inhabitant identities to inform and be informed by the interior. Interiors are cultural products, reflective of societal identity and taste (König & Khan 2015). Following Bourdieu (1979 [1984]), tastemaking is a repeated, cyclic process. As tastemakers, interior designers are responsible for deciding how selected goods are made desirable through responding to, interpreting and shaping the tastes of society. The cyclic nature of interiors is prevalent in the commercial realm. The conventional fit-out lifecycle is governed by lease periods of five years and the physical deterioration of shopfitted elements after ten years of use. This results in the recurring disposal and generation of interior fit-outs within each decade. From the perspective of environmental sustainability, this repeated cycle of production to consumption to disposal is problematic in its contribution to wasteful practice.

In a conscious movement towards sustainability, we recognise the role of interior design as providing an opportunity to influence inhabitants' tastes for environmental awareness. Since interior design is a reflection of societal taste and acts to re-inform taste, we suggest that this consciousness be integrated within designing itself with a re-defined concept for the production of interior fit-outs.

The aim of this paper is to address the wasteful aspects of cyclic interiors through a process-oriented-view, a philosophy of the food cycle (Meisner-Jensen 2011), interpreted as an approach for interior design. It shifts tastemaking in and for interiors from a product-driven to a holistic, process-oriented approach, emphasising the lifecycle of space and its artefacts.

Following this holistic view, the paper suggests a set of guidelines based on the application of process-oriented-thinking within conceptual design phases. It asserts for multi-dimensional approaches in which all aspects of the lifecycle are considered from the onset of the design process. The intention is to contribute towards developing sustainable practices for interior design while promoting 'a taste' for sustainable consumption to inhabitants.

Keywords: Environmental sustainability, interior design, lifecycle, process-oriented view, tastemaking

Cyclic taste and the disposal of out-dated interiors

Interior design is concerned with human inhabitation (Clemons & Eckman 2011). As cultural products (Königk 2015), interiors inform and are informed by inhabitant identities. This occurs through tastemaking in which interior designers work with the production and consumption of taste (Königk & Khan 2015). Interior designers are cultural intermediaries or tastemakers (Königk & Khan 2015). Through tastemaking, designers investigate, interpret and reflect the tastes of inhabitants through the design of interiors (Dennington 2017; Khan & Königk 2018). This is consistent with the notion that interior design centres the user as an explicit informant to the design product (Clemons & Eckman 2011; Khan & Königk 2018).

Interiors are reflective of societal identity and taste, with interior designers acting as agents in shaping and defining culture through design (Dennington 2017; Julier 2014; Königk 2015; Sparke 2012). Through cultural production, interiors are inhabited by users, through which their status is defined and affirmed (Bourdieu 1979 [1984]; Dennington 2017; Königk & Khan 2015; Khan & Königk 2018). Acts of inhabitation are acts of consumption in which the user's expression of identity may be attributed to their conspicuous association with one interior over another (Douglas 1996; Königk & Khan 2015).

Following Khan & Königk (2018), tastemaking entails the circulation of cultural products within society. Taste-makers activate this process through the interpretation of cultural capital of the social groups for whom products are intended and produce new, desirable products. These cultural products satisfy the desire of users who wish to stay at the forefront of popular culture (Dennington 2017; Julier 2014; Khan & Königk 2018). Interiors operate similarly. The interior design industry is subject to the taste cycle, in which interiors are produced, consumed and re-produced according to societal taste (Königk & Khan 2015).

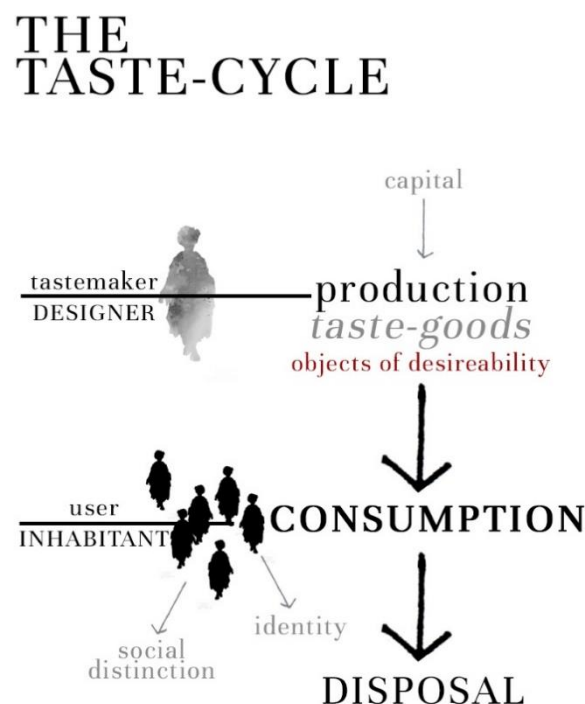


Figure 1: The taste-cycle

Interior design is primarily concerned with commercial expression, in the form of corporate offices, retail, hospitality and leisure (Khan & Königk 2018). In commercial environments, clients appoint interior designers to create identifiable spaces that reflect their unique corporate characteristics (Bitner 1992; Kent & Stone 2007) and distinguish them from competitors. As consumer interest is subject to the needs and desires of society, taste becomes an informant to commercial endeavours. Taste is temporal (Königk & Khan 2015). The dynamic nature of societal taste is reflected in changes to interior design. These function as commercial contributors beyond functional spatial use (Khan & Königk 2018). In order for a commercial client to remain relevant with target markets and retain their interest, commercial interiors must keep up with the times through adaptation in their identities. Mesher (2010) affirms the need for cyclic updates to interior design, particularly in the retail industry. The conventional commercial lease duration of five years and the physical deterioration of interior fit-outs after a period of five to ten years provide functional parameters that motivate the cyclic re-design of interiors. Therefore, the industry norm of five-to-ten year interior replacements serves both pragmatic and cultural roles. From the perspective of taste, should commercial clients resist replacement of their interiors, they risk survival due to loss of user interest and the high saturation of commercial competitors willing to invest in interior revamps.

Although adaptation to interiors provides opportunities for renewed societal expression and affords the interior designer, the creative opportunity of cultural production, the negative impacts of the recurring replacement of interiors must be interrogated. When new cultural products are placed at the forefront of the taste cycle for consumption, the disregard for the treatment of displaced cultural products is problematic. When obsolete interiors are discarded, the impact on environmental systems is critical (Königk & Khan 2015).

Although the act of interior design implies efforts towards environmental sustainability through the re-use of existing buildings in favour of their demolition (Bullen 2007), engagement is required surrounding the unique issues of fit-out (following Forsythe & Wilkinson 2015). This is pertinent in the commercial realm, in which the adaptation versus demolition of architecture becomes a non-argument for projects in which the design project scope concerns an individual commercial client leasing a segment of a larger scale building (such as a retail store in a shopping centre or a corporate office in a building occupied by multiple tenants).

The destiny of obsolete interiors as disposed waste is a crude response to environmental concerns and one that requires the attention of interior designers. Given the cyclic nature of commercial interiors as commodities subject to shift in societal taste, the question arises: how can interior designers satisfy the cyclic nature of tastemaking while striving towards environmentally sustainable interior design? The aim of this paper is to address the wasteful nature of recurring replacements of commercial interiors, by introducing a re-defined concept for the production of interiors that facilitates the creation of taste towards more sustainable interiors.

Creating a taste for sustainable consumption

Consumers are becoming increasingly aware of the social impacts of their consumption choices (Kaufmann, Panni & Orphanidou 2012). By associating with products and service-providers who portray social responsibility, consumers are displaying a desire to assert a taste for more ethical and sustainable consumption choices (Mohr, Webb & Harris 2001). 'Green'

or sustainable consumption is a particular area in which consumers strive to assert their social values (Lin & Niu 2018).

Sustainable consumption refers to policies, processes and spaces that promote and encourage pro-environmental consumer behaviours (Jackson 2005). This aims to minimise negative impacts on the environment and users while maximising the positive impacts on the environment, economic and social systems. In the report, 'Motivating Sustainable Consumption', Tim Jackson states that user behaviour, specifically when consuming, has an indirect and direct impact on the environment. This is based on the user's actions and choices towards living (Jackson 2005). It affirms that what users consume can positively contribute to improving environmental sustainability. It can be argued that interiors, as cultural products designed for consumption, can offer users the opportunity to embrace sustainable behaviour through reflecting environmental values.

As acts of spatial inhabitation are choices of consumption, it is notable that interior selections are a reflection of the inhabitant's identity (Douglas 1996; Khan & Königk 2018). The inhabitant's choice of the interior is reflective of the social ideals, status, identity and affiliations with which the inhabitant subscribes (Douglas 1996 in Khan & Königk 2018). In the spatial realm, sustainable interiors indicate an integrated approach to systems and materials. Lifecycles are a pertinent area for consideration (Stieg 2006). Interior designers may use tastemaking as an opportunity to produce space that influences inhabitants to strive for sustainable qualities in their desired identities and the cultural products they consume.

Based on the shifting awareness of users towards ecological concerns (Kaufmann, Panni & Orphanidou 2012), there is a growing taste for sustainable consumption within society. However, environmentally sustainable products and spaces only hold a marginal share of the market due to affordability (Lin & Niu 2018). Further, users do not always know or understand the constitution of a sustainable product, nor do they always prioritise its consumption (Murto, Person & Ahola 2014). Although users may be behaviourally inspired to act with sustainable consciousness through their exposure to 'green design', the creation of sustainable interiors are not always holistic or transparent, nor is the perception of interiors linked to consumption behaviour.

For the design of sustainable interiors, a range of tools is available. This can occur through testing the design through professionally recognised rating systems developed by authorities such as the Green Building Council of South Africa (GBCSA). Although the GBCSA has developed a specialised rating system for interior fit-out, called the Interiors V1 Rating Tool (Di Monte-Milner 2017), the tool focuses on the interior as a product. The value of a sustainably designed interior is attributed to its existence as a solved product, rather than the process by which it is made and the lifecycle it fulfils.

Although rating tools act as viable informants to sustainable design, there is a need for engagement with sustainability that encompasses the role of taste in interior design (Khan & Königk 2018). Further, in an ecologically depleted context, interior designers have the responsibility to consider environmentally sustainable design as a form of social good (Anderson, Honey & Dudek 2007; Clemons & Eckman 2011; Khan & Königk 2018). By regarding interior fit-out as a unique area posing environmental problems related to lifecycles and recurring waste, interior designers may engage with sustainability in design as a social contribution. By re-shaping taste, the interior designer who engages critically with sustainable interior design practice can inspire users to interact discerningly with sustainable consumption.

It is here that we propose *hacking the taste-cycle* by interrupting the disposal of interiors in favour of environmentally sustainable alternatives. We argue that sustainable interior design requires re-thinking the status quo from the perspective of taste by mediating the tensions between cyclic fashion-responsive interiors and the reduction of waste. We emphasise that sustainable interior design should be process-oriented, placing importance on the lifecycle of the interior (McLennan 2004). Since interior design is a reflection of societal taste and acts to re-inform taste, it is suggested that the notion of how we design shifts, with a re-defined concept for the production of taste in interiors. We investigate the process-oriented view as a model that can inspire a new sustainable direction in interior design.

The process-oriented view

The conventional food cycle implies that when food is placed on a table, the diner's knowledge of these foods is limited to their exposure to the supermarket as the origin of this food. Similarly, interiors are experienced by users with limits to an explanation as to how the interior came-to-be (where it originates from, how waste disposal is managed, and how the obsolete interior is dealt with).

With consumers evaluating consumption choices according to the congruence between their values and those of service and product providers, product-only knowledge is no longer sufficient to motivate consumption (Kaufmann, Panni & Orphanidou 2012). The lifecycle of a product, namely, how it came to be and how it will terminate is integral to the value that consumers associate with products. It is here that the lifecycle of a product becomes critical to consumer decision-making (Niva & Timonen 2008).

Meisner-Jensen (Schhröder 2016) proposes addressing the problems of product-only knowledge in the food cycle through a philosophy called a process-oriented view. This approach aims to address the limitations of product knowledge in the food system through an emphasis on the lifecycle of food (Meisner-Jensen 2011). This is linked to the *cradle-to-cradle* principle, where the consumer's viewpoint is from the production of food (grown from the land), to where it is eaten, to how waste is dealt with (whether the cut-offs are recycled or composted). This approach affords consumers more knowledge, equipping them to consume more responsibly. The process-oriented view is illustrated using a tomato in Figure 2.

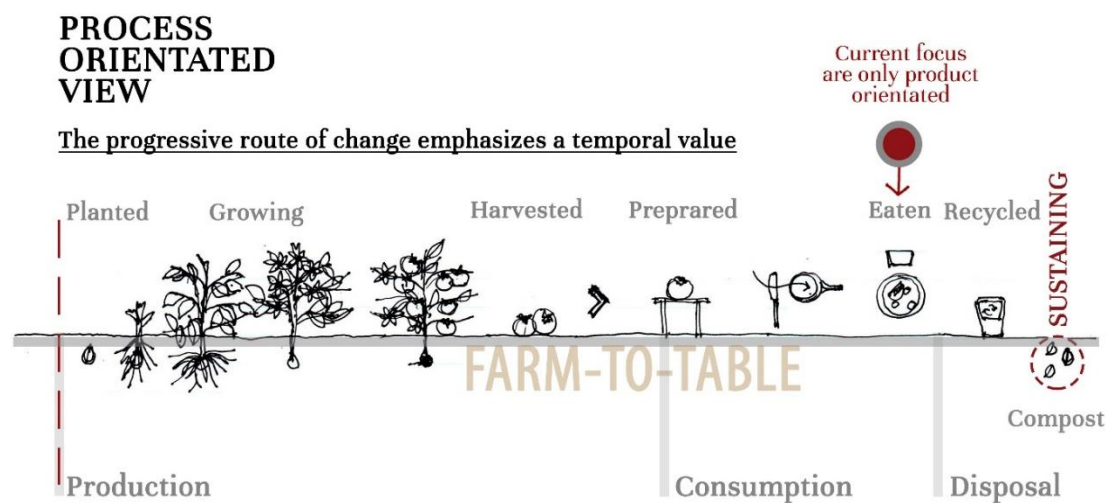


Figure 2: An illustration of a process-oriented view of a tomato

The motivation for consumers to pursue environmentally conscious eating can be applied to interiors. As consumers express their taste for sustainable eating practices through their desire for knowledge into the process (how food is made and where it comes from), the desire for sustainability of users of interior spaces may also be answered through interiors designed using the process-oriented approach.

The process-oriented view is a stance that considers each singular moment and part of a lifecycle as an incremental and important aspect in the making and understanding of a product (Meisner-Jensen 2011). An object, such as an interior space, does not exist without a history of becoming and an after-life once it is used. This process-oriented view of interior design advocates that the 'being' of an interior as a product be closely interlinked to its process of becoming (Meisner-Jensen 2011).

The process-oriented view offers opportunities to enhance the design of interior fit-outs. Since the process-oriented view implies a focus on the process of design, this approach requires the interior designer to consider the lifecycle of the fit-out throughout the design process (from conceptual phases through to spatial inhabitation and spatial disposal). Using the five-to-ten-year lifecycle of a commercial interior, interior designers can holistically consider the generation and dismantling of the interior fit-out using the process-oriented view.

The process-oriented view emphasises the production process as a means to address the disposal process. It shifts interior design from a product-driven approach to a holistic, process-oriented approach. Following holistic thinking (McLennan 2004), the aim is to define broadly the connections between the design process and the physical built environment using interior design. A multi-functional side table and chair (as an example of interior elements) are used to illustrate the process-oriented view in Figure 3.

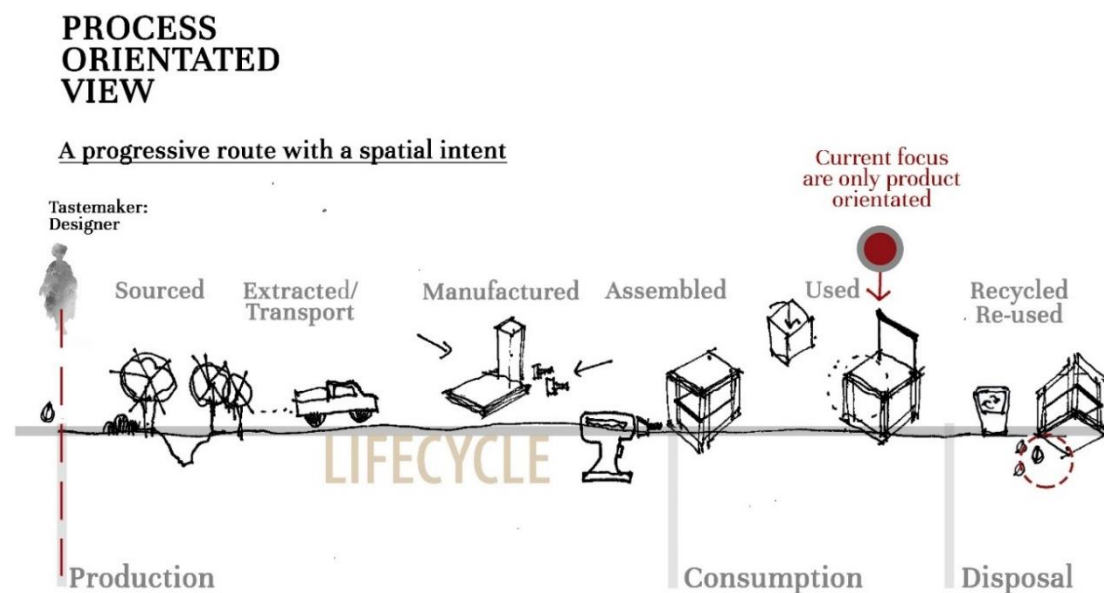


Figure 3: An illustration of a process-oriented view of a side-table

Guidelines for a process-oriented view of interior design

To implement the process-oriented view, interior designers should consider the lifecycle of a space. The lifecycle may be broken down into three phases:

- **Production** considers the design process through to construction of the interior;
- **Consumption** considers the operation of the interior and its inhabitation by users; and
- **Disposal** considers the point at which the interior is no longer relevant due to the end of its cycle.

Through the process-oriented view, the lifecycle of the interior is intentionally affected to prevent or postpone the disposal of an obsolete interior through early measures in the design process (production). The disposal of interiors is also addressed as a fate for obsolete interiors once they have experienced their lifecycle. Through consideration of the lifecycle, the interior designer may implement the process-oriented view through one or more of the following means (Figure 4):

GUIDELINES for a PROCESS-ORIENTATED VIEW of interior design

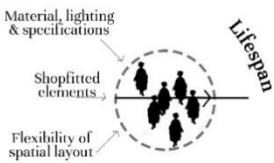
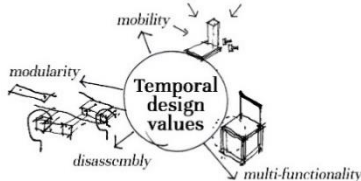

	Production	Consumption	Disposal
1. Prolong the lifecycle 	X	X	
2. Design for adaptability during the lifecycle 	X	X	
3. Design for disposal at the end of the lifecycle 	X		X

Figure 4: Guidelines for a process-oriented view of interior design

The process-oriented view guidelines may have implications for the consumption or disposal phases of the interior’s lifecycle. These are indicated in Figure 4.

The interior designer should evaluate the viability of each guideline according to the commercial client, the spatial typology for the fit-out (corporate office, retail, hospitality, among others), the proprietor and the user. As each design scenario is unique, the process-oriented view may require a selective or combined application of one or more of the guidelines.

Prolong the lifecycle

The prolonged lifespan entails evaluating the lifecycle of the interior fit-out and considering ways in which the fit-out may last longer than the conventional lifespan of five-to-ten years. The following considerations apply to extending the lifespan of the interior:

Durability of specified materials, lighting and product specifications

The specification of longer-lasting, durable and high-quality materials, fixtures, fittings and products can extend the life of an interior. This includes lighting, furniture, sanitaryware, floor and wall finishes.

- Specification processes should entail enquiry into the lifecycle of these products.
- Designers should interrogate the quality, embodied energy, manufacturing methods, material potential (such as recycling, waste management and new innovative construction materials), functionality and aesthetic features of considered products (Ayalp 2013).
- Designers can seek to ease this task by using materials known to be biocompatible, abundant, non-toxic and recyclable (Vezzoli & Manzini 2008; Máté 2007).

The design of flexible shopfitted elements

The approach to the design of shopfitted elements as custom, built-in and fixed components may be reviewed:

- Shopfitted elements could be designed to be mobile to enable changes in layout and various configurations.
- They can be designed as multifunctional, with multiple uses to enhance versatility.
- They can be designed with surfaces that may be re-branded to allow the application of various corporate identities and allow a change in 'look' that can respond to current taste.
- The design of shopfitted elements that display the process of making is also valuable. Since shopfitting has a history in handcrafting (originating in woodwork and cabinetry), it is suggested that the quality of making that is inherent to the handcrafted object, be used as a way to approach shopfitted elements. This should not be at the expense of technology, which can enhance the durability and performance of shopfitted items. Therefore, using the merged qualities of handcrafted and manufactured approaches to the design of the shopfitted item; interior designers could communicate the life story of the component (the process of how it came to be) without compromising on technological advances.

The flexibility of a spatial layout

The design of spaces and elements that may allow multiple scenarios in spatial layout can enable an extended lifecycle. This may be achieved through the design of adaptable and flexible systems and elements described in the next section: Design for adaptability during the lifecycle.

It is worth noting that should interior designers attempt to extend the lifespan of existing fit-outs (designed without the process-oriented view), the embodied energy involved in re-manufacture may mitigate the perceived environmental benefits of re-use. This should be investigated prior to decision making.

In the case of the commercial interior lifecycle, a change in tenancy may occur after a five-year lease period (Máté 2007). This has a unique impact on the lifespan of the previous interior and could be addressed through one of two means, a) The design of the fit-out could allow for adaptability (Ramani et al. 2010) in identity for a new commercial client, or b) the design of the fit-out could allow for the removal of fit-out elements from one space and re-installation in another space for the same commercial client.

Both approaches require consideration of the interior lifespan from the onset of the design process. They also require the consideration of an alternative leasing model in which fit-outs passed between tenants may become economically viable for both the proprietor and commercial tenant. This adaptable model may pose limitations or opportunities for design innovation, depending on the interior designer, the spatial typology (corporate office, retail or hospitality) and the commercial client.

Design for adaptability during the lifecycle

Designing for adaptability during a lifecycle involves considerations in which the interior fit-out may become more resilient to the changing needs of commercial tenants. This may be achieved through temporal design values that enable the adaptability of a layout and/or the adaptability of the interior elements themselves. Design principles that enable adaptability include mobility, design for disassembly, modularity and multi-functionality:

Mobility

This involves the design of elements that can be physically rearranged according to the changing needs of the commercial client. This can enable changes in layout, therefore prolonging the lifespan of an interior (Calamari & Hyllegard 2015; Máté 2007). This should also enable the removal of elements and their re-installation in new sites. Mobility may be achieved through:

- Freestanding elements instead of built-in elements (these may be on castors, designed for handling, and be lightweight);
- Large-scale elements can be designed for disassembly (see below) to enable mobility;
- Modular elements (see modularity below) which enable visual coherency when rearranged;
- Design of layout according to a grid system (this lends itself to modularity);
- Impermanent installation of interior elements (they may be easily removable, replaced, reapplied or reused in new sites); and
- Frame and infill systems for flexibility of a space. This includes track systems for elements such as wall divisions and lighting.

Design for disassembly

Design for disassembly requires the creation of elements that can be disassembled quickly in order for materials to be reused or replaced. This minimises waste and enhances the possibility for prolonging material lifecycles (Calamari & Hyllegard 2015; Máté 2007). Re-use of materials may address changes in taste by allowing new ways of applying the same materials. The following considerations can assist in disassembly:

- Elements should be regarded as independent components that constitute a whole;

- Components within one element could be designed to be compatible for use in other elements. This can become possible through modularity;
- Minimal processing of materials within design elements allow them to be more reusable in other applications; and
- Frame and infill systems enable the disassembly of elements through standardisation in sizes, modules and fixings.

Modularity

This entails the design of elements in which consistent forms, dimensions and design features can enable a collection of elements to be aesthetically coherent and re-configured in multiple ways (Calamari & Hyllegard 2015; Máté 2007). In interior fit-outs, modularity can be approached through elements and the ways in which they are fixed and arranged in space. This may be achieved through:

- Consistent sizes and modules of sizes;
- Consistent or compatible forms;
- Informed by a grid system; and
- Informed by material choice: The design of modular elements is informed by materials. The standard sizes and qualities of a material are considered as an informant to the eventually designed element. This reduces waste from off-cuts and ensures an economical manufacturing process in which a consistent approach is taken each time an element is produced.

Multi-functionality

The design of objects that may have multiple functions can enhance the versatility of the interior element (Calamari & Hyllegard 2015; Máté 2007).

- A single element may have multiple functions for use at the same time (for example, furniture elements that can act as storage and seating at the same time).
- A single element could also have different functions at differing times (for example, a sales counter in the day is a shelf in the night).

Design for disposal at the end of the lifecycle

The disposal of interior fit-outs provides a significant area of consideration from the design process. Even with prolonged lifecycles and adaptations through-out spatial consumption, the obsolescence of the interior fit-out should be addressed whether this is due to change in tenancy, taste or design for disposal considers strategies for designing towards ecologically compassionate means of discarding of the interior and minimising waste. This includes decomposition, recycling and repurposing:

Decomposition

Decomposition involves the discarding of biological material waste. Designers should be discerning in the way the materials have been made, how they are processed through design decisions, and the energy required for facilitating their decomposition. To mitigate the negative impacts of waste on the environment, the following considerations can be made during the design process:

- Prioritising biodegradable material specifications. Biodegradable materials naturally decompose into the environment once disposed. As a material selection criterion, biodegradability can provide opportunities for interiors to be renewed more frequently while allowing responsible waste decomposition (McDonough & Braungart 2002).
- This would require consideration into joinery, and finishes to materials. Should bio-hazardous sealants or adhesives be used on a raw timber, the efforts towards decomposition may be hindered, resulting in environmental harm (Máté 2007).

Recycling

Recycling of the interior fit-out can be achieved through the consideration of recyclability of materials and components during the design process. This can include:

- The specification of materials that are easily incorporated into existing recycling systems;
- The specification of materials that do not require multiple processes before recycling (for example excessive water use for cleaning or hazardous chemical use for stripping); and
- The specification of materials that have already undergone recycling and have experienced an extended lifecycle.

Re-purposing

Re-purposing involves recreating existing elements of a fit-out (or parts of these) in ways that they may be re-used for another function after its primary function was achieved (called reversed logistics) (Máté 2007). This can be realised through:

- The specification of raw materials that can be re-formed for re-use (example steel may be melted and re-shaped);
- The use of components in minimally processed formats (where they are not repetitively cut, finished or fixed), so that substantial portions can be salvaged; and
- The ease of reversibility of processing in which the finishing or fixing methods of fit-out components may be reversed with minimised impacts to the environment (for example, the stripping of adhesives versus the removal of clamps on timber).

Conclusion

Commercial interiors are replaced at a frequency of five-to-ten years due to the termination of a lease cycle, the physical deterioration of existing interior fit-out and changes in societal taste. The repeated disposal of interior fit-out needs to be addressed due to the negative environmental impact of recurring waste created from obsolete interiors.

Interior designers, as tastemakers, have the ability to interrupt this cyclic pattern of disposal. If tastemaking is the act of interpreting societal values and redefining these in the design of interiors, then there is opportunity to leverage the growing taste for green consumption prevalent in society and reflect this through interior design that can re-inform sustainable consciousness. The process-oriented approach is a conceptual theory that may provide such opportunity. When applied to interior design, it brings emphasis to the lifecycle of interior spaces, from production to consumption to disposal. The proposed guidelines of the process-oriented view (namely, prolong the lifecycle, design for adaptability during the lifecycle, and design for disposal at the end of the lifecycle) provide a starting point for interior designers to engage with sustainable design principles during the design process. These guidelines may be

practised independently or in combination with each other depending on the nature of the interior project at hand.

By implementing a process-oriented view, interior designers can cultivate a taste for sustainable consciousness among spatial users.

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