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Towards a Better Specification of the Store Environment Stimulus: An Augmented Stimulus-Organism-Response (SOR) Model That Captures Brand Expressiveness

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Abstract: This paper proposes an augmented SOR model which facilitates design/architect practitioners when they review store concepts. The paper contributes to the knowledge base of designers/architects when making deliberate brand expressions in development of the store environment. The global nature of the SOR model, it is argued, does not allow for discrimination between consumer interpretations of store brands; nor does it propose a realistic means of engaging design-architect practitioners at the concept proofing stage of development. This conceptual paper argues that retail branding studies benefit from inclusion of more flexible frameworks founded on separable and integral design-architecture and brand communicative elements.

Keywords: retail branding, stimulus-organism-response model, experimental aesthetics, design-architecture.

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Research Methods: experimental design & structural equations modelling

Introduction

Contributions to the study of aesthetics in the consumer behaviour literature have been few in number. Fewer studies still explore the development of retail branding when expressed through the physical store environment. Whilst Bloch (1995) and Postrel (2003) are among the recent attempts to acknowledge the increasing aestheticisation of products, few robust, empirically tested methodological approaches currently exist for the verification of design concepts.

This paper proposes a conceptual framework that examines the specification of the visual design-architecture stimulus that characterises the retail brand. It specifically investigates how the visual stimuli derived from the Mehrabian & Russell (1974) information rate measures can be differently employed with other variables (prototypicality, the collative variables of complexity, novelty and aesthetic preference) in an augmented stimulus-organism-response (SOR) model of the store

environment. This paper essentially aims to improve our understanding of the retail brand as distinct from the product brand given its expression and consumer interpretation in the design-architectural statements presented in the store environment.

The empirical research to follow could evidence an improved understanding of the proposed design and brand constructs of prototypicality, novelty, complexity, and aesthetic preference. The results could prove suggestive of increased approach behaviour upon the introduction of modified or new store concepts. This would be an important finding: it essentially would allow for discrimination between concepts and parsimoniously reflects consumers' levels of brand knowledge and consequently reflects retailers' brand strength.

Purpose of the Research: Central Aim & Contribution of this Paper

This paper will propose an augmented SOR model which aspires to facilitate designers and practitioners when they review existing and new store concepts. By investigating consumer holistic interpretations of the store environment in contrast to a singular atmospheric variable approach (where for example aural or alfactory elements alone are manipulated) it is hoped to capture the expressiveness of the design variable and its contribution to brand prototypical projection.

The paper aims to contribute to the knowledge base of designers and architects when making deliberate brand expressions via material, colour and other decisions in development of the store environment. The global nature of the SOR model, it is argued, does not allow for discrimination between consumer interpretations of store brands; nor does it propose a realistic means of engaging design-architect practitioners at the concept proofing stage of development. The Mehrabian & Russell (1974) interpretation of the Berlyne (1970; 1971; 1974) Collative-Motivational interpretation of the aesthetic encounter has proven highly influential in the study of the store environment. However, it is argued in this paper that studies of the retail branding of the store environment would

benefit from the consideration of more flexible frameworks founded on the ability to consider separable and integral design-architecture and brand communicative elements.

It is proposed to employ the prototype construct within the stimulus-organism-response (SOR) model promulgated by Mehrabian & Russell (1974). It is therefore intended to introduce the preference-for-protoypes concept of Martindale (1984; 1988) into the SOR framework for the first time. It is intended to investigate whether a higher-order meaning construct such as "the prototype" will reflect consumers' brand knowledge and the implied awareness and favourability they will likely have towards the brand. The application of the preference-for prototypes model which was derived from Martindale's (1984; 1988) studies of the aesthetic encounter for the first time in a branding context will further emphasise the central aim of this paper of bridging the design-architecture and retail branding literatures.

This paper aims to address the insufficient multi-disciplinary research in this area. The literature contributions originate from the consumer and environmental psychology literature; the retail branding literature; and the design and architecture literature. Few methods currently exist to capture the creative and analytical; to interpret the consumer response toward new designs and the effectiveness of the brand message; the strategic and tactical communication of the brand message; and interpretive effectiveness of the narrative, icon or archetype in design. It is proposed that the prototype construct alone is not capable of reflecting the myriad complexity of brand communications. The prototype construct does however capture general overall consumer impressions of brand and design communications.

It is intended to reflect how the prototype construct which evidences both design and branding elements needs also to reflect novelty and complexity (the traditional collative variables of Berlyne 1970; 1971; 1974) to better understand how design promotes meaning and expression leading to brand strength. A problem with previous studies that employ the SOR framework and the complexity and novelty collative variables is that higher-order meaning was not captured. The

augmented model this is proposed in this study which includes brand and design elements that are integral yet separable, local yet global will address some of these problems.

The Context: Comprehensive Variable Approaches to the Study of Retail Brands and Store Environments

The processes by which consumers filter and screen stimulus information is not well understood. Although continual reference is made in everyday situations on using terms such as image, imagery, brand, concept, metaphor to reflect units of thought, language and memory, academics are still unclear of the boundaries and basis of perception, cognition and emotion and their occurrence. It is generally accepted, however, in most Western countries that the visual sense is accorded a prominence over the other senses (Pallasmaa 2005; 2011).

The profusion of visual images people are exposed to reflect what Pallasmaa (2011) termed momentary and individualistic formal inventions, or series of short lived imageries. Multiple experiences marked by discontinuous displacement and short attention spans are a feature of post-modernism. A contrived depthlessness and lacking of an overall view are features of the way images emerge and are processed. Cognitive and emotional behaviour towards the stimulus stems from how images conceived today reflect an inner-reality which is often more real to the person than the existing world. The expanding realm of entertainment and the super-brands of today supported sometimes by dramatic architectures and designs evidence an image that often dominates reality. The real and the imaginary, Pallasmaa (2011) opines have therefore become almost impossible to distinguish. Reality has become relativised and we need to specify whose reality and in which context we are talking about.

Architecture has tended to fictionalise reality and culture through turning human settings into images and metaphors of idealised order and life, and into fictionalised architectural narratives

(Pallasmaa 2011). One can easily conjure up an image in one's mind of the buildings of ancient Greece or Rome. Architecture has often played a central role in creating and projecting an idealised self-image where retailers today reflect this possibility through the deployment of the thematic. The so-called simulacra of manufactured culture is evident for example in Burberry's contemporary classic designs and architecture.

Given the conceptual looseness that surrounded the understanding of image and other higher-order meaning concepts, it is perhaps not surprising therefore that attempts within the retail marketing literature to elaborate on the image formation process (image research largely overtaken by branding research) have not proven fruitful. Keaveney & Hunt (1992) in one of the more notable papers on retail image highlighted the significant challenges faced by academics when measuring image and capturing the synergistic, gestalt nature of store image. This paper aims through its comprehensive approach to the study of design-architecture contributes to the academic literature and practitioner perspectives on the modalities and dynamics of store environments interpretation. By exploring the contribution of the prototype construct as a higher-order meaning in the minds of consumers together with the traditional collative variables of complexity and novelty, it is argued, that the dynamic of how consumers interpret the environment and how higher-order meaning is identified will be better understood.

The predominant literature in the study of store environments, namely the environmental psychology literature, is restrictive in its conceptual breadth and specifically in its weakness in offering a credible basis to specify store environment stimuli. The information-rate measures used in successive studies of the store environment (Mehrabian & Russell 1974; Donovan & Rossiter 1982; Donovan et al. 1994; Tai & Fung 1997) are largely derived from the appreciation of artworks. Surprisingly, few if any studies have considered brand representations for consumers and the various symbolic, expressive associations and prototypical meanings proffered in store environments. Global in nature, the information rate measures traditionally employed encourage

few grounds for discrimination between the efficacy of brand communications as expressed through the design and architecture of the physical space.

It is argued that the environmental psychology approach needs to be complemented by consideration of the following literatures to proffer better tools to designers in communicating the retail brand. Literatures that explore brand associations & symbolism; archetypes, categorisation, prototypes, typicality; phenomenology and lived experiences may encourage better specification of the store environment stimulus. Consequently, a better specified stimulus also enables the prospect for a more effective interpretation of mediator variables such as motive, personality, emotion and culture in pointing to the approach-avoidance outcomes typically predicted by environmental psychology (stimulus-organism-response) models.

An understanding within a comprehensive context that reflects these mediator variables could have a number of benefits. A better understanding of how the specified stimulus with its constituent elements of novelty and complexity evidence strong prototypicality and ultimately preference would be better informed by the inclusion of these moderator variables in the analyses. Individuals identified as expert or novice with high or low screening propensities may respond in different ways to the presentation of novelty and complexity. A dynamic model of store environment discrimination that reflected how for example one important target market of consumers discerned low complexity and low novelty as preferable to high complexity and high novelty leading to strong prototype preference and approach behaviours would greatly assist in the development of store concepts. Different groups may possess different arousal thresholds and process cues and information in either piecemeal or holistic ways and the emphasis on for instance minimalist or highly ornate designs should reflect this reality. A justifiable concern exists today whereby few concepts, it would appear, are subject to this kind of analyses.

Reconciling both novelty and complexity in new concepts such that architectural statements complement branding statements also highlights one of the most interesting areas of inter-

disciplinary study. Increased introductions of novelty compromises identification of the prototype in design literature (Hekkert, Snelders & van Wieringen 2003). However, Meyers-Levy & Tybout (1989) and Ward & Loken (1988) suggest that there may be some grounds for supposing that novelty and atypicality could be important in brand selection, particularly prestige brand selection (Ward & Loken 1988). Introducing moderate levels of incongruity into designs to renew brands through architectural statements to communicate desired, shared associations and differentiate on specific associations demands a holistic knowledge of how both architecture and brands work.

To evolve clearly global differentiated positions in the minds of consumers when the designers and marketers frequently observe different sets of priorities ultimately effects or compromises the attainment of brand salience. Understanding branded architecture, it is argued, demands holistic investigations into the expressiveness of novelty and complexity in achieving typicality and preference using the prototype construct. It also lends a more credible basis to stand over any conclusions of the emotive basis for preference when the stimulus is adequately described. It is a cause of concern that studies on the retail store environment that do not entertain considerations of the psychology, branding and design-architecture literatures are liable to reach conclusions that confirm the presence of pleasure, arousal and approach or avoidance behaviour when the stimulus has been improperly specified to begin with.

Research Question & Proposed Conceptual Framework

It is proposed that the conceptual framework must be capable of addressing a number of challenges. It must propose the means to discern consumer interpretations of the multiplicity of cues and messages contained in the store environment. Eroglu & Machleit (2008); Turley & Milliman (2000); and McGoldrick (2002) note a concentration on singular atmospheric variable studies, but this approach does not yield satisfactory results in discerning environmental interpretations they argue.

With the exception of the various Baker contributions (Baker 1986; Baker, Berry & Parasuraman 1988; Baker, Levy & Grewal 1992; Baker, Grewal & Parasuraman 1994; Baker 1998; Baker et al. 2002) few have attempted to define and test design-architecture centric constructs that relate the physical objective domain to the effort of environmental perception. Perception and interpretation of the aesthetic could reflect: communication of aesthetic, symbolic, functional, ergonomic information, attention drawing, and categorisation (Creusen & Schoormans, 2005). The need to develop approaches to reflect what Janlert (1997) calls the character of things or what Rafaeli & Vilnai-Yavetz (2004) describes as the instrumentality, aesthetic and symbolism of physical artefacts as triggers of emotion demands approaches that overcome the overly restrictive statements on objective beauty proposed by Berlyne (1970, 1971, 1974). It instead demands an appreciation of how determinations of appearance and behaviour merge different functions, situations and value systems to support anticipation, interpretation and interaction (Rafaeli & Vilnai-Yavetz (2004).

The whole and its attributes in the study of artefacts, Rafaeli & Vilnai-Yavetz (2004) argues, are not advanced by proposals of yet more new classification systems such as the Ward, Bitner & Barnes (1992), Baker, Berry & Parasuraman (1988) and Nasar (1994)[1] proposals. Implicit in these categorisation schemas is the assertion that categories are mutually exclusive where meaning of the artefact resides in one discreet category or another. Few of the artefact analyses reveal multi-dimensionality and a coherent theory of how artefacts operate (Rafaeli & Vilnai-Yavetz, 2004). Few explanations of how emotions arise in response to artefact exposure are therefore proposed. A more flexible approach with consideration of the instrumentality, aesthetic and symbolism will overcome, for example, the simple form-space-function distinction.

[1] Rafaeli & Vilnai-Yavetz (2004) is perhaps unfair to Nasar (1994). Although Nasar (1994) does present three mutually exclusive constructs (formal, symbolic and schema), the author acknowledges aesthetic response and appraisals in his article. Lazarus (1984) is acknowledged and aesthetic response is considered as an ongoing interaction between active humans and their environment. The role of biology, personality, social and cultural experience, goals, expectations, associations, internal constructs, and environmental actors are also acknowledged.

The emergence of new theories on aesthetic preference by Hekkert 2006; Reber, Schwarz & Winkielman, 2004; Winkielman 2006; Jacobsen 2006; Whitfield 2000, 2009; Hekkert & Leder 2008; Leder et al. 2004, Belke et al. 2010; Martindale 1984, Martindale & Moore 1988, Martindale; Moore, & Borkum (1990), the development of branding theory (Keller 1993, 2003; Heding 2009) and prototypes theory (Rosch & Mervis 1975; Joiner 2007) proffer a basis to reflect these contributions in evolutions and improvements to the SOR model. Joiner (20007) in the first attempt of employing a coherence variable as a determinant of typicality judgment evidences how the traditional, restrictive understanding of the prototype is making way for more dynamic interpretations. Whitfield's (1983; 2000; 2009) proposes a categorical-motivational model of aesthetic response which build's on Martindale's preference-for-prototypes model. It also draws heavily on Tversky's (1977) similarity concept and the difference between intensive and diagnostic feature salience.

These contributions proffer the basis for outlining holistic frameworks that utilise different theoretical tracks to consider consumers interpretations of multiple cues and messages from the environment. The breadth of investigation of design-architecture within the theoretical frame of holistic aesthetic brand impressions demands consideration of how these different theoretical approaches prove beneficial to construct and relationship examination. Each of the approaches has its own understanding of what constitutes the cognitive and emotional involvement arising from interaction with the stimulus. It is proposed in this paper to adopt a cognitive interpretation of stimulus screening which is in line with the more recent contributions to the development of both aesthetics and branding, but different to the traditional Berlyne Collative-Motivational interpretation.

This may lend greater clarity to the brand-aesthetic encounter and the basis of intrinsic and extrinsic pleasure and whether it is confined to immediate sensory only processing. It is arguable that efforts to make conceptual distinctions between cognitive, emotional and physiological in Ward, Bitner &

Barnes (1992), for example, although valuable in highlighting the breadth of study in question in store environments, have not assisted in proposing how environments are processed. Inconsistencies of interpretation as to what is cognitive, emotional or physiological generally end up in conceptual cul-de-sac's. Frameworks that evidence conceptual breadth, but that also evidence dynamic construct interaction that reveal pattern ultimately reflect characterisation of brand strength. This promotes the basis for the extraction of inter-disciplinary benefits that enable informed perspectives of aesthetic efficacy, it is proposed.

For example, Whitfield & Slater (1979) argued that stimuli are not aesthetically processed per se, but instead subject to categorical processing. The general absence of holistic frameworks and cross-disciplinary contributions unsurprisingly means that this important findings by Whitfield & Slater (1979), Whitfield (1983) goes frequently unacknowledged in SOR-based studies of retail branding.

Conceptually, abstract and therefore more difficult to interpret stimuli that are higher in salience intensity possess higher arousal potential and this automatically demands the examination of constructs that capture multi-dimensional knowledge of the stimulus. Kaplan (1983) proposes a model of person-environment compatibility where goal-directed, adaptational activity are stressed. Information processes are used as the starting point that explain human efforts to function in the world and therefore demand an understanding of environments to address motivationally significant needs, and goal directed, purposeful activity. Purposeful action on the part of the consumer is a product of their ability to address legibility issues contained in the environment. The emergence of preference-for-prototypes theory, with categorical-motivational theory in aesthetics, brand equity theory and prototype theory when deployed in the one framework could address the need for understanding of the basis of what Kaplan calls "purposeful action".

While Kaplan (1983); Dawson, Bloch & Ridgway (1990); Jacoby & Mazursky (1984); Mazursky & Jacoby 1986); Greenland & McGoldrick (1994); McGoldrick & Pieros (1998); Greenland & McGoldrick (2005); Rafaeli & Vilnai-Yavetz (2004); Sherman, Multhur & Smith (1997); and Kaltcheva & Weitz (2006) among others do not explicitly acknowledge the role of appraisals in their studies they do highlight the importance of holistic or piecemeal-attribute level investigations of the environment. Nasar (1994) does suggest that any investigation involve formal, symbolic and schema examination. These literatures reveal how these domains are intrinsically linked. It is difficult to separate denotative meaning from connotative meaning. The identification of the schema cannot be reviewed separately from global and individual attribute study. Integrally and similarity are the basis of comprehension of the formal composition of the environment. The infinite number of combinations of mass, space and surface are reflected in multiple, different readings of signs in the environment. Even despite the presence of integrally with its inherent redundant properties the number of integral components of the environment are likely to be large enough to continually warrant dynamic processing and interpretation of meaning of the environment, yet few enough to enable categorisation processes.

Figure 1.1. is adapted from Nasar's (1994) probabilistic model of aesthetic response to include brand interpretations and although a simple model, it illustrates some of the dynamic interactions that take place in the experiencing of the environmental stimulus. It also reflects the processing dynamic, the attribute-componential meaning, cognitive-emotional, appraisal-based processes that underpin the aesthetically charged brand encounter. Nasar (1994) defines and examines three kinds of aesthetic variables: formal, symbolic and schemas.

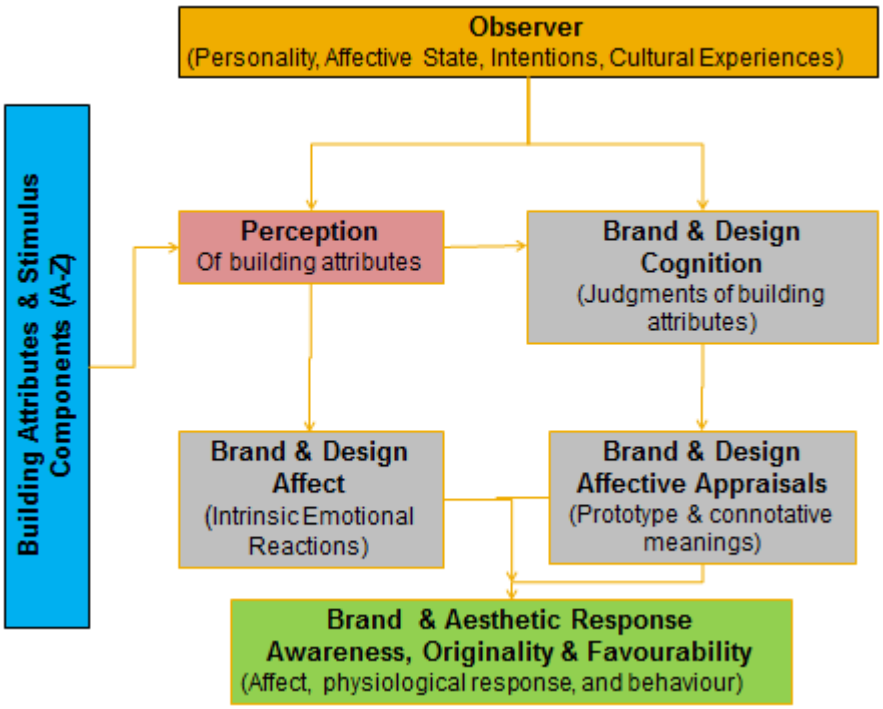

Figure 1.1. Adapted from Nasar (1994)

Design seeking pleasantness should encourage order, moderate complexity and elements of popular style; design seeking excitement should encourage high complexity, atypicality and low order; design seeking calm should encourage high order and naturalness. Pleasantness is considered pure evaluation. Excitement and relaxation are considered mixtures of evaluation and arousal/activity. The model goes further than Berlyne's collative-motivational model in characterising the dynamic nature of the relationship between perceiver and stimulus and the determination of meaning and salience. The prototype reflects both design order-complexity and brand typicality-atypicality it is proposed in this paper and considerations of how the observer subjectively, dynamically interacts with the formal environment at a given moment will determine how well or poorly the retail brand communicates.

This model bridges design-architecture and branding disciplines and implies the processing dynamic the consumer employs. The three phases that follow operationalise this model and effect these theoretical joins between the disciplines.

Therefore, the stated research question to be examined is as follows:

<table>
<tr><td colspan="2">Research Question: To investigate how retail brands are understood within an augmented SOR model that can better specify the store environment stimulus</td></tr>
<tr><td>Objective One
To better understand the specification of retail brands as expressed through design and architectural contributions

a) To investigate the role of design and architecture in making retail brand statements
b) To reconcile the expressiveness of design and architecture to the brand statements that are made
c) To understand the increasing contribution of the aesthetic and design-architecture in emphasising brand strength</td><td rowspan="2">Hypotheses 1-6: Berlyne (1960, 1971, 1974) Collative-Motivational Model
To examine the efficacy of the Berlyne (1970, 1971) & Mehrabian & Russell (1974) collative-motivational interpretation of the store environment using the interdependent contributions of novelty and complexity with pleasure, arousal and approach-avoidance.
H1 Complexity – Pleasure
H2 Complexity – Arousal
H3 Novelty – Pleasure
H4 Novelty – Arousal
H5 Pleasure – Approach/Avoidance
H6 Arousal – Approach/Avoidance

Hypotheses 7-9: Martindale (1984; 1988) Preference-for-Prototypes Model
To determine if the Martindale (1984, 1988, 1990) preference-for-prototypes model is more efficient than the Collative-Motivational model in determining approach behaviour.
The Martindale (1984, 1988, 1990) preference-for-prototype model is suggestive of how repeat exposure and mere exposure structural characteristics contained in the design and brand statements of the store environment give rise to aesthetic preferences and possibly approach</td></tr>
<tr><td>Objective Two
To investigate whether consumers use design and architecture expressiveness in categorical and prototypical identifications in retail settings

a) To investigate if and how novelty and complexity in design and architecture assume a peripheral or a central role in retail brand awareness and projection</td></tr>
</table>

Objective 3 **To specify a comprehensive store environment models with a clear design-architecture constructs applicable in different retail contexts that builds on the existing stimulus-organism-response (SOR) literature** a) To determine if goal-derived categories proffer a more effective basis to interpret consumer approach and avoidance of the store environment b) To determine if emotions or categorical processing better characterise the consumer interaction with the environment c) To demonstrate the contribution of the three phases of evolution in the environmental psychology and prototypes literature in stimulus definition i. Collative-Motivational Variable Approach (Berlyne 1960, 1971, 1974); Preference-for-Prototypes (Martindale 1984, 1988); and Categorical-Motivational (Whitfield 1979, 1983, 2000, 2009)	behaviour. There is also a suggestion in the literature that the relationship between novelty and prototypicality is such to aid explanation of familiarity and expert versus non-expert judgement and the circumstances in which brand extensions could be best introduced. Strong brand typicality reinforced by impressions of design unity, it is proposed, furthermore implies the reconciliation of novelty to brand familiarity through repeated exposures and encounters with the brand. H7 Complexity – Aesthetic Preference H8 Prototype – Aesthetic Preference H9 Novelty – Aesthetic Preference **Hypotheses 1-12: Whitfield (1979, 1983, 2000, 2009) Categorical-Motivational Model** To determine whether a categorical-motivational interpretation of the store environment proves more appropriate in determination of consumer interpretations of the store environment. H1-9 All Hypotheses H10 Novelty – Prototypicality H11 Complexity – Prototypicality H12 Pleasure – Prototypicality

Table 1.1. Overview of Research Question, Objectives and Hypotheses

Phase One – Collative-Motivational Approach (Berlyne 1970, 1971, 1974)

The collative-motivational approach of Berlyne (1970, 1971, 1974) essentially marks the first of three modern phases of evolution in the literature on the aesthetic encounter. Berlyne explains aesthetic pleasure in terms of arousal and arousal potential due to psychophysical and ecological eliciting properties of presented stimuli (Whitfield 2009). In particular, the collative properties of the stimulus which include complexity and novelty outline a formal, objectivised approach to describing a person's response to the environment. The info-theoretic origins of this approach sit well with the largely cognitively defined study of brand encounters. It does, however, emphasise a restrictive assumption that all aesthetic encounters will be understood purely in terms of the presence of stimulus elements (e.g. complexity) or their interpretation (e.g. novelty).

Multiplicity, variety or complexity can be characterised as arousal increasing devices (Berlyne 1971). Complexity has been frequently described as a comparison in which more independent elements with larger differences and less redundancy between these elements is observed. Herzog, Kaplan & Kaplan (1982) defines complexity in terms of the sheer amount of information or the number of elements present in a scene (complexity) and the organization or arrangement of the elements (coherence). Heft & Nasar's (2000) definition of complexity where visual richness, ornamentation, information rate, diversity and variety of information is observed in an environment similarly reflects the basis for arousal potential. An inverted u-shaped relationship is observed where arousal in this info-theoretic approach is higher depending on degree of change, rate of change and range of variability. Kaplan & Kaplan (1989) highlights the tension increasing and decreasing dichotomy between complexity and order where the presence of one compromises the attainment of the other.

The presence of novelty implies comparisons to a referent and as will be proposed in this paper, a prototype. It is inherently relativised, abstracted and contingent on the presence of a familiarity with the stimulus based on some previous encounter where similarity determinations have time to form. Novelty as Berlyne (1971) describes is a relative newness where repeated exposures result in categorisation building. Reduced novelty arising from repeated exposure promotes the prospects for order and results in fewer prospects for pleasure or hedonic value.

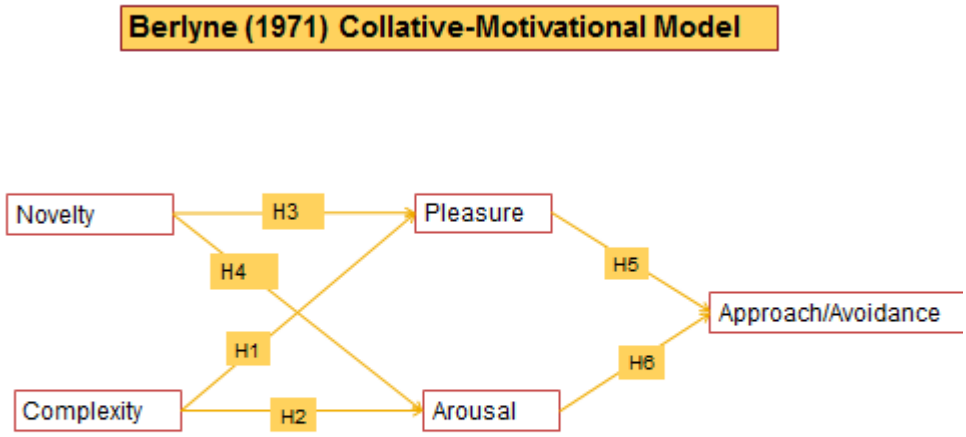

Figure 1.2.: Phase One Examination of the Berlyne (1970, 1971, 1974) Collative-Motivational Model

The Berlyne approach is theoretically valid where collative variables such as complexity and novelty can specify the environmental stimulus. The problem, however, is that with the exception of contributions such as McGoldrick & Pieros (1998), Greenland & McGoldrick (2004) there have been few explorations of the Berlyne framework that evidence appraisals based on interpretations of these collative variables. The collative variables in most examinations of the Berlyne framework such as Tai & Fung (1997), VanKenhove & Desrumaux (1997) etc are narrow in their adoption of the collative variables and no attempts to subjectively relate the ecological meaning of the stimulus are entertained. No attempts, it would appear have furthermore examined how objective collative properties are subjectively interpreted by group-means comparisons. It is contended that the Berlyne framework is inherently stable and durable. Recent evolutions in the literature on the aesthetic encounter and developments in branding literature help to highlight even further the restrictive applications of the Berlyne framework.

Phase Two – Preference-for-Prototypes Model (Martindale 1984, 1988)

The preference-for-prototypes literature largely identified with Martindale (1984, 1988) parallels the prototypes literature developed initially by Rosch & Mervis (1975) and Mervis & Rosch (1981). The category to which the stimulus belongs exerts a strong affective influence over the observer. The typicality of the stimulus to the category defines the level of affect and is central to the preference-for-prototypes literature.

The preferences for categorisation has proven surprisingly robust, Whitfield (2009) argues. Studies in music (North & Hargreaves, 1997), polygons (Martindale, Moore, & Borkum, 1990), color (Martindale & Moore, 1988), faces (Langlois & Roggman, 1990), animals (Halberstadt & Rhodes, 2000), building exteriors and interiors (Nasar, 2002; Pedersen, 1986; Purcell, 1984), and cubist and surrealist paintings (Farkas, 2002; Hekkert & van Wieringen, 1990) confirm the affective response in non-consumer domains. However, prototype preferences are also noted in a range of consumer domains such as telephone design (Snelders & Hekkert, 1999), retail fast-food prototype environments (Ward, Bitner, & Barnes, 1992), various consumer products and services (Hekkert, Snelders, & van Wieringen, 2003; Loken & Ward, 1990; Rhodes & Halberstadt, 2003) and “brands” (Han, 1998; Nedungadi & Hutchinson, 1985).

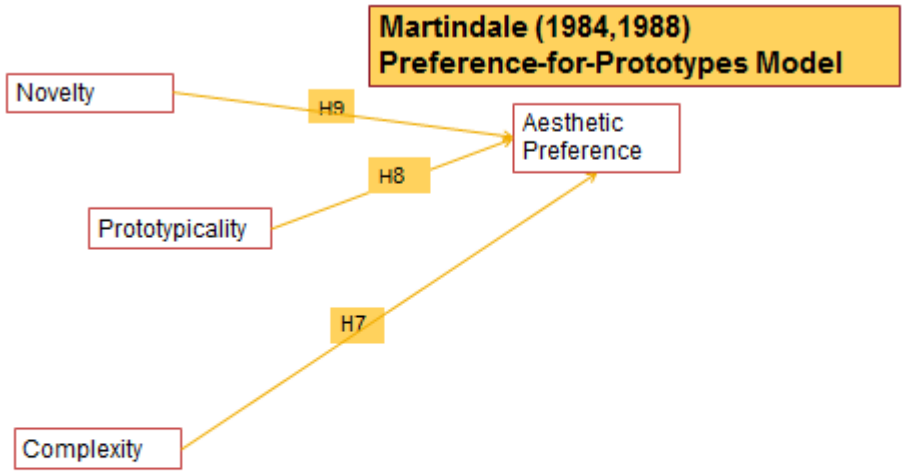

Figure 1.3.: Preference-for-Prototypes Model (Martindale 1984, 1988)

Although Martindale & Moore (1988) appears to identify with aesthetics in terms of "disinterested pleasure" which is at odds with the categorisation-motivational perspective of Whitfield & Slater (1979), Whitfield (1983; 2000; 2009) which is largely cognitive and appraisal-centric, the preference-for-prototypes theory does propose how a stimulus construct has an established relationship with aesthetic preference. It is proposed to employ the preference-for-prototypes model essentially in an evolution of the traditional SOR model and to assume cognitive and appraisal-like aesthetic preferences. The change toward a cognitive and appraisal-like aesthetic preference mirrors the most recent evolutions in the literature, namely perceptual fluency and categorisation-motivational theory which imply the processing dynamic and explanations for the relationship between categorisation and affect. These dynamics or explanations are largely absent from the preference-for-prototypes literature (Whitfield 2009) and imply that while the preference-for-prototypes literature marks possibilities for improvement to the SOR model, it is insufficient in itself to address

inherent shortcomings in the SOR model. Thus, the third evolution in the literature, namely the Whitfield & Slater (1979), Whitfield (1983, 2000, 2009) is required to proffer a more credible theoretical basis to address specification, operationalization and measurement issues in store environments research. Very little acknowledgement of these evolutions in the literature or the empirical testing of this literature are thus far evident in the literature.

Phase Three – Categorical-Motivational Model (Whitfield & Slater 1979; Whitfield 1983, 2000, 2009)

Whitfield (2009) in perhaps the most insightful reflection of category stability and fluidity outlines his model of aesthetic appraisal. It is an effort to bring some unity to the field of experimental aesthetics with proximate and overlapping theories, including the perceptual fluency, collative-motivational and preference-for-prototypes theories. The categorical-motivational approach proposes a means to better understand the role of the processing components (fluency, appraisal, categorisation) and how they interact. Notably the Whitfield approach outlines how closed categories evidence strong affect for the most prototypic exemplars where category members (items) maximally conform to expectations and minimal processing demands are required. Open categories, in contrast, enable novel stimuli to have a positive affective value as they permit undemanding coherence and differentiation within the category. Thus, the Whitfield categorical-motivational model opens doors into many interesting areas of research with relational interests. Interpretations of how novelty and maybe other collative variables exert an influence over the prototype could be examined in future years.

Whitfield (2000) proposes that aesthetic responses are composed of three functions: categorical or prototype processing; arousal-related processing; and social significance. The authors propose that preference could be explained by categorical status (representativeness) and social status

(expensiveness). Arousal unlike in the Berlyne model is not accorded serious attention in the categorical-motivational model, but prototypes in contrast are prominent and central in importance.

Aesthetic objects elicit aesthetic appraisal in an evolutionary context where aesthetics denotes sensory-emotional responses to objects. Aesthetics is envisaged as a knowledge system involving category articulation at the sensory-emotional level (Whitfield, 2005, 2009). Preferences are hard-wired based on automatic responses and intrinsically determined affect followed by acquired and learned preferences. Principles of design with good configuration act as the reference points within category representations and the evaluation reflects the development of new cognitive structures which prove pleasurable in themselves. Thus, pleasure accompanies the processing of novel stimuli that leads to further articulation of the category and ultimately to the formation of prototypes (Whitfield 2009).

Conceptual agreement between the relativistic and appraisal approaches to aesthetic appreciation and prediction is important. It reaffirms the cognitive emphasis on environmental discrimination. It is also arguably less important to always know the specific emotion experienced as long as the affective response or appraisal is positive toward the stimulus. Categorisation-motivational theory also echoes the approach of general appraisal theory where the debate between cognition and emotion distinction largely becomes meaningless when appraisals are used. Appraisals are automatic and defined in terms of quick evaluations of a situation with respect to well-being (Frijda, 1986; Lazarus, 1991). Of central importance is how meaning for the individual is reflected in determinations of well-being and without serial processing of the individual components which have contributed to the meaning. The process of automatisation reflects schema building and how repeated exposures even if processed analytically within mili-seconds combined in holistic gestalt impressions.

In perhaps the only application of appraisal theory in the field of design, Desmet (2008) and Demir, Desmet & Hekkert (2009) look more to the componential rather than thematic involvement. Agreement on motive consistency components where few bases exist of how specific motives relate to situations and how expectation components are confirmed pose problems for design appraisal theory they suggest. Furthermore, an intrinsic pleasantness component needs to be consistently related to motive consistency components for generalisations of findings to obtain. Appraisal theory presents certain benefits when designing for emotions is an objective of the designer-architect. The cognitive nature of appraisal theory demand goals and expectations to first be evoked and then either violated or satisfied (Desmet 2008; Scherer, Schorr and Johnstone, 2001). Where the event (design) is deemed positive/negative to one's well-being a pleasant/unpleasant emotion is experienced (Desmet 2008).

The parallels between categorical-motivation and appraisal theory appear numerous if infrequently acknowledged or studied certainly with reference to store environments. Scherer (1999) advances that appraisal theory has few comparators when elicitation and differentiation of event generated emotions are concerned. Appraisal theorists are generally agreed on these fixed dimensions or components that reveal: the intrinsic characteristics of objects or events (such as novelty or agreeableness); the significance of the event for the individual's needs or goals; the individual's ability to influence are cope with the consequences of the event; and the compatibility of the event with social personal standards, and norms, are values (Roseman, 2001; Scherer, 2001).

Such appraisal concerns reflected in the categorical-motivational theory are person-specific and contingent on the situational or background characteristics of the individual. Although not acknowledged as either categorical-motivational or appraisal-based studies, academics such as McGoldrick (1994, 1998, 2004), Dawson (1990), Sherman (1997), Weitz (2006) have examined how pre-existing motives and emotional states lead to outcomes. McGoldrick (1994) proposes an "in-

direct effects" model to reflect how the meaning contained in modern bank branch designs elicit emotional responses with consumer trait characteristics, attitudes and appraisals reflected in the environmental ratings performed. This purpose driven evaluation of the environment reflects the nature of the approach to the development of the prototype construct.

The dynamic process at work in prototype formation has tended to employ the mediating emotional constructs of pleasure and arousal which is contrary to the Whitfield (1979, 1983, 2000, 2009) hypothesis. Motivational, situational, expectations and similar were examined by Kalcheva & Weitz (2006), Wirtz, Mattila & Tan (2000), Foxall & Greenley (1999), Foxall & Greenley (2000), Yani-de-Soriano & Foxall (2006) with general confirmation of the presence for these emotions given observer characteristics within a traditional Berlyne model. Kaltcheva & Weitz (2006) found with simulated shopping experiences that motivational orientation moderates the effect of arousal on pleasantness. Mattila, Wirtz & Tan (2000) found that situational effects change consumers' affective expectations. Foxall & Greenley (1999) established pleasure, arousal and dominance affective interpretations of the environment. Foxall & Greenley (2000) found that pleasure is higher for higher utilitarian reinforcement behaviours. Arousal is higher for consumer behaviours defined in terms of relatively high informational reinforcement and dominance is higher for consumer behaviours enacted in relatively open settings.

The ability and knowledge of consumers (traditionally described as experts and novices) also suggest different approaches and capacities to organise and retrieve brand information and to deal with information load issues (Loken 2006; Cowley & Mitchell 2003). Loken & Ward (1990) found that subjects with higher knowledge were able to appropriately categorise the context and use their categorisations to make typicality judgments. Highly knowledgeable subjects can use their internal knowledge with appropriate cues where categories are richer and processed more semantically than syntactically. Novice consumers use less developed category structures and employ reductive,

syntactic approaches where surface processing is more likely. Interestingly, Mehrabian (1977; 1995) in stimulus screening and trait arousability contributions demonstrates that it is conceivably possible for individuals to become either cognitively involved or aroused by their environment based on their dispositions. An application of this line of thinking could involve aesthetically charged consumers cognitively processing their environment and this pleasure does not necessarily elicit a biological arousal response. This further emphasises the theoretical inconsistencies of the respective positions where thus far any studies that have employed appraisal-like processes have effectively built on the foundations of the collative-motivational theory without always acknowledging the limitations or possibilities of this theory.

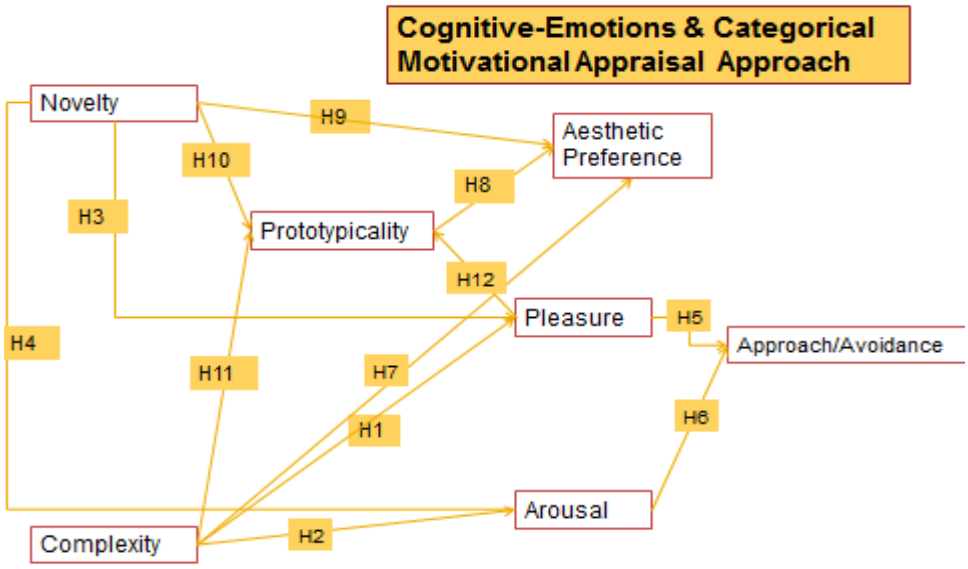

Figure 1.4.: Cognitive-Emotions & Categorical Motivational Appraisal Approach

Conceivably brand strength could be symptomatic of high novelty, high complexity and high prototypicality. Although issues of inter-correlation between novelty and typicality at the aggregate level in design (no evidence in branding studies) may be present, they appear to not exist at the disaggregate level (Hekkert, Snelders & van Wieringen 2003). Significant differences could materialise between experts and novices in their relationship to the design statements contained in the brand communications. High complexity could be tolerable when properly understood and where perceptual fluency prospects are evident both for novices and experts. Few, if any attempts have been made to operationalize this process of perception and the process of how separate and integral attribute combinations when understood promote prospects for high fluency and high aesthetic appreciation. Thus few methods for determining which of the architectural elements or integral componential configurations achieve awareness and typicality outcomes are currently available.

It is unknown as to how broad or narrow in the retail context the definition of category tends to be. The retail image studies of Jacoby & Mazursky (1984) and Mazursky & Jacoby (1986) are generally outside the study of prototypes all there is to explain global construct formation and the role of central, important attributes to its salience. Loken (2006) argues that category representations require flexibility and the ability to adapt to changes in the environment. Goal-derived categories such as proposed by Barsalou (1983; 1985) when applied to a retail context could evidence how experts with different knowledge motivational interests to novices relate the retail brand in very different ways. Once understood, these prototypes could be quite stable in representation (Loken, Barsalou & Joiner 2008).

Only when stimuli are categorisable or meaningful and typicality identified, where prototypes or exemplars are observed to exist does the basis for predictions of aesthetic preference exist to be made (Snelders & Hekkert 1999; Hekkert & Van Wieringen 1990; Whitfield 1983; 2000). Of critical

importance to this examination will be the direct influence of systematic novelty and complexity introductions where the design perspective is at odds in the literature compared to the branding perspective (Hekkert 2003; Ward & Loken 1988).

Typicality effects can sometimes overshadow arousal effects and this was primarily the reason for the Berlyne (1970) use of disembodied stimuli. Real-life stimuli are inherently complex and novel as they assume comparative properties to existing stimuli. It is proposed in this paper that both the aesthetic preference and pleasure constructs could materially reflect the same or similar response to the prototype. Even if some confounding effects or absence of inverted u-shaped relationship exists between the stimulus and its arousal potential this is considered acceptable. It is notable that Berlyne's classic prediction of an inverted U-shaped relation between aesthetic preference and arousal potential was frequently not observed for real-life stimuli (Martindale, Moore, & Borkum, 1990; Whitfield 1983).

Finally Some Questions

Whilst I have not included content on research methods, it is anticipated that I will empirically test the stated research question and objectives with experimental design and structural equations modelling methods.

I would very much appreciate it if anyone has any comments on the approaches to testing the stated conceptual framework with these methods or suggestions on how best to go about this.

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