

**Is consumer decision-making out of control?  
Non-conscious influences on consumer decision-making for  
fast moving consumer goods**

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Non-conscious influences on consumer decision-making  
for fast moving consumer goods*



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*EFI, The Economic Research Institute*



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*”Det händer ibland att man upplever omvärlden som ett kaos. Detta är inte konstigt. Mängden sinnesinformation som kontinuerligt når oss är ofattbart stor. Beräkningar anger att en människa kan ta emot ca 11 miljoner informationsbits per sekund, huvudsakligen från syn, hörsel och känsel.*

*Det är mycket märkligt att människohjärnan ur sinnesintryckens enorma flod kan skapa en enhetlig och välordnad bild av omvärlden. Detta är en av de allra främsta uppgifter som hjärnan har att lösa. Någon fullständig förklaring på hur det går till finns ännu inte. Aktuell forskning visar att stora hjärnans pannlober sannolikt spelar en viktig roll. Det är här som hjärnan sätter ihop och lagrar komplexa byggklossar av sinnesintryck till meningsfulla serier som tillsammans bildar inre föreställningar, beteendeprogram och framtidsplaner.*

*Man menar att nervsystemet innehåller filter som skyddar mot överbelastning av sinnesintryck. Kontrollen av dessa filter är ännu gåtfull. En viktig aspekt är att sinnesintryckens >>värde<< – egentligen överlevnadsvärde – mäts kontinuerligt av centra i djupare delar av hjärnan som styr känslolivet. Pannlobernas mekanismer bidrar till att ordna alla symboler och gestalter som deltar i utvärderingen av omvärlden, till exempel i umgänget med andra individer. På så vis är det förmodligen möjligt för oss att trots allt bygga upp en inre enhetlig bild av den värld vi lever i och av de individer vi möter.”*

(Ingvar, 2001, p 23)



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Even though I am writing these words at a time when the rest of the book is completed, it does not feel like the end of something, but rather as a beginning. So far I have felt that the more research I do, the better I master various theories and methods, and the greater my motivation to undertake even more research. I have many people to thank for having been able to write this thesis. Actually, it sometimes strikes my mind that the kindness I have met during the time I have been working on this thesis has taught me as much about the human mind as the actual research has.

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of journeys, courses and, of course, at football games. And thank you Henrik Sjödin for all our philosophical discussions.

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*Published in: Journal of Current Issues and Research in Advertising (2004), 26, (Spring), 1-8*  
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## 1 Shopping in the grocery store

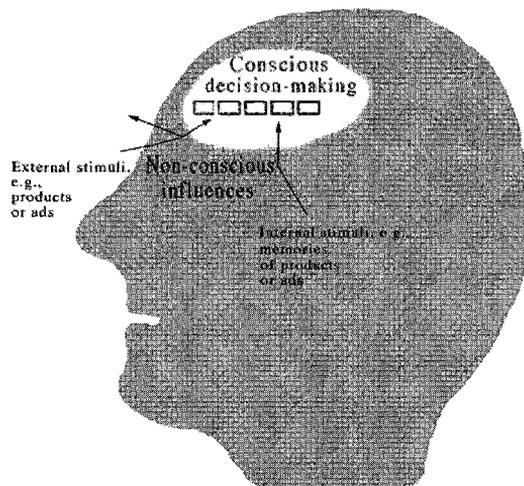
The very existence of a decision process for fast moving consumer goods (FMCGs) has been questioned (Olshavsky and Granbois, 1979). Research has found that, at most, 35 percent of purchases are planned in advance (Rossiter and Percy, 1997), yet most choices are preceded by little or no information search (Olshavsky and Granbois, 1979), and made within seconds and without examination of any packages or shelf information (Hoyer, 1984). This has prompted researchers to wonder about how these decisions are actually made.

This book is about non-conscious influences on consumer decision-making. Non-conscious influences may be regarded as filters between available information and more conscious decision processes. These “filters” can be (1) preconscious (chronically accessible), such as a constant readiness to recognize a highly familiar brand, the filters may also be (2) postconscious (triggered by a certain situation), such as when a certain environment (e.g., the dairy department) activates a readiness for specific cognitions, or finally they may be (3) goal-dependent, such as when an intended activity (e.g., undertaking a fill-in trip to the grocery store) activates a mindset that makes the person susceptible for certain cognitions (Bargh, 1989). All subliminal influences on decision-making are per definition non-conscious, but supraliminal stimuli may also exert non-conscious influences on decision-making. These individual non-conscious influences are assumed to affect a wide array of aspects such as which information to consider and which choice rules to use during the decision-making process, how various marketing activities are interpreted, and which communication effects marketing stimuli succeed in producing. Hence, a consumer may be aware of a marketing stimulus and of the fact that s/he is processing this stimulus, but at the same time non-conscious influences may be affecting the decision-making (Adaval and Monroe, 2002).

It is in the short-term memory (STM), or working memory (WM), that reasoning and problem solving takes place (Baddeley, 1993a; Schacter, 2001). The main culprits of the WM have been argued to be its rapid transience and the remarkably small limit to the number of items that it can hold (Baars, Banks, and Newman, 2003). On the other hand, the amount of information provided by the environment and our memories, by far exceeds this (conscious) problem solving capacity (Niebur and Koch, 2000). Consequently, appropriate filtering to eliminate all sensory input, but a carefully selected small subset, is essential for the efficient

functioning of a fully conscious decision-making process (ibid.). Even if the filtering out of stimuli at a non-conscious level has been known to occur for a long time (cf. Jones, 1998), many questions still remain unanswered regarding how and when selection takes place, and which information enters the WM (Ingvar, 2001). It has been argued that most decision-making models focus on the decision-making processes of the information already in the WM, underestimating the selection system's influence on the decision processes (Bargh, 2002).

During the past fifteen years of consumer research, increased attention has been given to the possible existence of non-conscious influences on consumer decision-making, yet several authors argue that the field is still dominated by purely cognitive approaches that focus on a decision-making process in which all steps are assumed to be deliberate (Bargh, 2002; Fitzsimons, Hutchinson, Williams, Alba, Chartrand, Huber, Kardes, Menon, Raghurir, Russo, Shiv, and Tavassoli, 2002; Krishnan and Trappey, 1999; Loewenstein, 2001). The notion of non-conscious influences on decision-making has been validated by psychological research (e.g., Wegner and Bargh, 1998), and in research in cognitive neuroscience (e.g., Baars et al., 2003). The consumer behavior researchers referred to above have argued that the influence of non-conscious factors on consumer decision-making is much larger than most decision researchers believe, and that it is an understudied area.



**Figure 1.** Non-conscious influences on conscious decision-making. All marketing stimuli such as ads and products in stores, as well as memorized brands, will not be processed consciously. Non-conscious influences will determine whether stimuli will enter conscious decision-making and how they will be processed.

The study of non-conscious influences on consumer decision-making seems especially promising for the purpose of providing knowledge that could help to adapt marketing to the needs and the processing capacity of consumers. This is so due to the prevalence of non-conscious influences on the decision-making process. For instance, as explained above, it has been argued that non-conscious influences on the decision process occur before, during, and after conscious cognitive activities (Bargh, 1989; Fitzsimons et al., 2002); a number of advocates of the study of non-conscious influences on consumer decision-making have argued that *all* consumer decisions include non-conscious elements (Fitzsimons et al., 2002), and that as much as 95 percent of all cognition occurs non-consciously (Zaltman, 2000).

Considering the amount of effort and money invested in advertising and other marketing activities, every single piece of knowledge that can contribute to the more effective use of resources should be welcomed. For instance, advertisers could benefit from better knowledge about how consumers selectively direct their limited attention resources to avoid an even more cluttered advertising environment, or abandon complex advertising that evokes idiosyncratic associations or becomes attributed to their competitors. Furthermore, retailers today are challenged by consumers wanting more choice, such as more ethnic food products and a greater variety of flavors of products that were previously more generic. However, while retailers expand their range of products, consumers appear oblivious to their efforts and complain that stores are uninspiring. By learning more about how consumers perceive external information and retrieve memorized information, retailers and advertisers could adapt their marketing to the needs of consumers. Consumers need marketing information to learn about product content, and prices, to be inspired, for instance, to try new dishes, and also to function as a retrieval cue at the time the decision is made. Therefore, it seems that these three groups – manufacturers, retailers, and consumers – could benefit from increased knowledge about non-conscious influences on decision-making.

However, there is something unpleasant about the thought of organizations using non-conscious cognitive influences on decision processes. Several researchers have acknowledged this issue. For instance, Bettman, Luce, and Payne (1998) note that the critical issue is if non-conscious influences on the decision processes act in a way that reflects consumers' values, or if these influences are ruled by surface features beyond the consumers' control, such as the format of the decision task. If non-conscious influences are shown to affect consumer decision-making, and if these influences are reflections of interests other

than the consumers' underlying values, then increased knowledge about how they work becomes even more important. Only with knowledge about these influences would it be possible to determine whether tools making use of them are appropriate.

It has further been argued that it would be naive to think that organizations using marketing communication would not make use of knowledge about non-conscious influences for their own purposes (Bargh, 2002). However, Bargh claims that research on the topic could make a difference. He draws a comparison with social cognition research in the 1980s, and argues that a massive research effort on prejudice and stereotyping helped to overcome earlier beliefs about these influences as unintended and possibly even uncontrollable. One possible interpretation of Bargh's (2002) point is that with all the marketing that consumers are exposed to today, at least some of it should – either intentionally or by chance – pull non-conscious strings in a way that makes it maximally persuasive. Of course, knowledge about how this could be done would increase the number of marketers using more effective methods. However, those who could truly benefit from learning about non-conscious influences would be policymakers and consumers who, if the non-conscious influences on decision-making do not reflect the values consumers hold, could then decide on if and how to protect the consumers against such efforts.

Although previous research has highlighted the importance of examining whether non-conscious influences operate throughout all the various steps in the decision-making process, the issue has remained neglected. The main purpose of the first part of this book (the introductory chapter) is to carry out this investigation. The second part of the book (the articles) aims to demonstrate that apart from influencing each step of the decision-making process, a wide array of non-conscious influences operate at many different levels and influence many different outcomes that are relevant for decision-making with regard to fast moving consumer goods.

### *1.1 Overview of the book*

This book is divided into two main parts: the first is an introductory chapter, and the second a series of five articles.

The introductory chapter provides a comprehensive picture of the common theme of these articles, namely non-conscious influences on consumer decision-making. It also provides a framework connecting the articles to a decision-making model, abstracts of the articles, and a

discussion on the articles' contributions, limitations, and suggestions for future research. In the introductory chapter the discussion is quite general. Several different topics will be covered to provide a background against which the main contribution of the book, the articles, could be understood.

The introductory chapter is divided into six sections. The first is a general introduction on shopping in the grocery store; the second section contains an overview of relevant consumer decision-making models with the aim of developing a framework to be used throughout the rest of the book. The third section elaborates on the term "non-conscious influences." The fourth section contains an overview of previous consumer behavior research on non-conscious influences on the decision-making process. The purpose of this book is outlined in section five, and section six offers an overview of the articles included in the second part of the book.

The general purpose of the articles and the introductory chapter is to examine non-conscious influences on consumers' decision-making. The more specific purpose of the introductory chapter is to argue that non-conscious influences could operate throughout all the five steps of the decision-making model. Further, the chapter will provide a general discussion on several different topics to give a background against which the main contribution of the book, the articles, could be understood.

## *1.2 The articles*

The second part of the book contains five articles based on empirical studies, each discussing a different aspect of non-conscious influences on consumer decision-making. Each article is a piece of freestanding research with its own purpose; however, in the introductory chapter each article's contributions to the investigation of non-conscious influences on consumer decision-making will be emphasized.

All the studies forming the basis of these five articles include exposures to stimuli that are assumed to cause some kind of effect. However, in each article, the relationship between the cause and its effect is shaped by a non-conscious influence. In the studies, there is some variation with regard to the sequential order between when the respondent is exposed to the stimulus and when the non-conscious influence is activated. First, the non-conscious influence could be activated by the stimulus exposure, such as when an individual pays attention to, or undertakes a certain kind of processing of, an ad or product to which s/he has been incidentally exposed. Second, the non-conscious influence could also be activated

prior to the stimulus exposure, such as when a certain behavioral goal or situation activates a readiness to respond cognitively in a certain way or to a certain stimuli.

Following recommendations from Feldman and Lynch (1988) and Ericsson and Simon (1987), the non-conscious influences are not measured directly with self-reported measures but inferred by the differences in effects observed between groups – differences that would not emerge if the decision situation were under full conscious control (i.e., a reasoning that is sometimes referred to as counterfactual inference, e.g., Shadish, Cook, and Campbell, 2002). There are primarily two reasons behind the decision to use an indirect measure of the non-conscious influences in the studies. First, Feldman and Lynch (1988) and Ericsson and Simon (1987) have provided strong arguments against the use of direct self-report measures to assess the extent to which a cognitive activity is conscious. They claim that direct measures suffer from severe problems regarding, for instance, memory retrieval, and risk creating a self-generated validity. Second, a direct measure was not deemed necessary, as the study design could be adapted to assess non-conscious influences. The methods used in the studies presented in the articles of this book, as well as in a large part of all consumer behavior studies, have been developed to examine the situations or circumstances under which the participants' conscious control, at least to some extent, is disabled. For the decision situation to be under full conscious control, both the inclusion of information in the process, and how it is processed, should be intended, controlled, and effortful cognitions, of which the participant is aware (Wegner and Bargh, 1998). This has lead Wegner and Bargh (1998) to conclude that contemporary research on areas of interest for consumer researchers, in one sense, rather is a science of non-conscious than of controlled cognitive processes.

The purpose of the articles is to demonstrate that in addition to influencing each step of the decision-making process, a wide array of non-conscious influences operate at many different levels and influence many different outcomes that affect decision-making with regard to fast moving consumer goods (FMCGs).

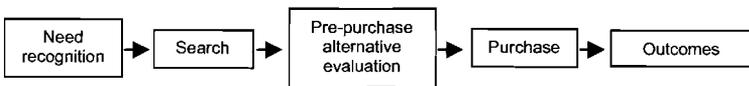
## 2 Consumer decision-making models

This section serves to provide an overview of the relevant literature on consumer decision-making, and to develop a model that will be used as a framework in the rest of the book.

### 2.1 A five-step decision-making process

In theoretical models, more elaborate consumer decision-making is often conceptualized as problem solving (e.g., Assael, 1992; East, 1997; Engel, Blackwell, and Miniard, 1995; Howard, 1977; Howard and Sheth, 1967; Solomon, 1996; Wilkie, 1994). The models are variations of a five-step problem-solving model originating from 1910, when John Dewey itemized what he termed the steps in problem solving that an individual goes through in arriving at a decision (cf. Engel and Blackwell, 1982). Engel et al. (1995) define the five-step problem solving process as a thoughtful and consistent action to achieve need satisfaction.

The five-step problem-solving model is sometimes referred to as a cognitive approach (East, 1997). The five steps are: need recognition, information search, pre-purchase alternative evaluation, purchase, and outcomes. Need recognition is when the consumer realizes a need; s/he then searches for information in memory or in the environment to solve the need; the next step is to evaluate the alternatives, and then make the purchase; finally, the outcomes step is a step of consumption and post-purchase evaluation. Each step is assumed to involve cognitive activity; furthermore, the search, the purchase, and the consumption steps often also involve behavior.



**Figure 2.** The consumer decision-making process according to a five-step problem-solving model. The model is often intended as a sequential model starting with need recognition, ending with outcomes of the purchase. (Source: Engel et al., 1995).

### 2.2 Problem-solving or routine response behavior?

The five-step problem-solving model and other similar models (e.g., the seven-step variant in Blackwell, Miniard, and Engel, 2001) are referred to as extended problem-solving (EPS) models. Although these kinds of models have been questioned for their applicability in daily-life situations – perhaps especially for purchases of fast moving consumer goods (FMCGs) – they are often used as starting points for discussions on consumer-decision making. Questions raised about the applicability of EPS models vary; Ray (1982) questioned whether consumers needed to

go through all the steps and, for instance, search for new information each time they are about to buy milk. Wilkie (1994) questioned whether the steps necessarily had to come in that order, and also whether the model could explain impulse purchases. Could it not be possible to purchase a product without first having evaluated it, and then evaluate it once it has been tried? Laaksonen (1993) remarked that consumers replenishing from a certain product category could switch between several brands, and asked how this could be if the decision process led to a decision on which brand was the best. Olshavsky and Granbois (1979) conclude that often no external information search is performed, not even for the first purchase. Finally, Hoyer (1984) has questioned how familiarity affects the EPS model, and claims that limited information search takes place when purchasing FMCGs.

Due to the criticism of the EPS models regarding their shortcomings in explaining low involvement purchases, it is common to view decision-making as a continuum ranging from EPS to limited problem solving (LPS), or even habitual purchase (Engel et al., 1995). This type of distinction between different decision models was developed in what perhaps was the first comprehensive theory of buyer behavior, namely the model by Howard and Sheth (1967). EPS is assumed to explain decision-making in situations when consumers have the motivation and ability to go through all the steps. A less effortful version of the decision-making process, LPS, is when a simple decision rule helps the consumer decide what brand to buy (e.g., "I buy the brand I recognize."). Habitual purchase, or routine response behavior (RRB), is an even less effortful decision process than LPS. This is simply the execution of a previously made choice performed without any reflection (East, 1997; Engel et al., 1995; Howard and Sheth, 1967).

Other approaches than the cognitive approach, approaches with less of an information-processing focus, emphasize habits or reinforcement of behavior due to the context (East, 1997; Foxall and Goldsmith, 1997). Researchers from these traditions argue that absence of thought is not a sufficient explanation for habitual purchase (East, 1997). Rather they describe purchase as a learned behavior, a learning where classical and operant conditioning play major roles.

### *2.3 Alternative perspectives on decision-making*

#### *2.3.1 Consciousness dethroned*

A growing body of more cognitively oriented research is raising questions about the validity of the EPS-LPS continuum (cf. Bargh, 2002,

Bettman, Luce, and Payne, 1998; Loewenstein, 2001, Zaltman, 2000). The title of this subsection, *Consciousness dethroned*, is borrowed from Bargh (2002), who argues that many of our cognitive processes are automatic and affected by non-conscious influences; for instance, the use of a choice heuristic is not a deliberate strategic choice but rather spontaneous cognition dependent on non-conscious influences. Research on processes beyond volitional control mainly in the areas of psychology and cognitive neuroscience has increased over the last fifteen years (Uleman and Bargh, 1989; Fiske and Taylor, 1991; Parasuraman, 2000; Baars et al., 2003; Lagercrantz, 2001; Bechara, Damasio, Tranel, and Damasio, 1997). The conflict between this newer view and the EPS-LPS continuum view lies in how much of the decision process is performed with automaticity and how much is consciously controlled (Wegner and Bargh, 1998). Early advocates of the view questioning consumers' control over their cognitive processes argued as early as twenty years ago that automatic cognitive processes should be included in consumer-behavior models (Lynch and Srull, 1982).

### *2.3.2 Cognitive decision-making models not explicitly based on a problem-solving approach*

As mentioned above, some researchers do not believe that problem-solving models are the optimal point of departure for habitual behavior such as decision-making regarding FMCGs. Olshavsky and Granbois (1979), and Hoyer (1984; 1986), for instance, argue that the behavior and cognitive processes involved in purchases of FMCGs could be seen as a choice rather than a decision-making process. Hence, they argue that purchases are less the result of thoughtful processes than they are of a quick and repetitive behavior with little prior cognitive processing. To provide an alternative to the problem-solving approach discussed above, two explicit approaches to decision-making regarding FMCGs are presented below.

One such alternative approach is to consider various motivational grounds for a consumer decision. It was briefly noted above that some researchers have discussed decision-making with less emphasis on information processing, and have at least *proposed* a perspective based on behavior and reinforcement (East, 1997; Ehrenberg, Barnard, and Scriven, 1997; Foxall and Goldsmith, 1997). In line with this research, the motivation for the purchase has been discussed as a possible demarcation line between different kinds of decisions. Rossiter and Percy (1997) have argued for a distinction between decisions that have negatively originated motives and decisions that have positively originated motives. In the case of a negatively originated motive, the

purchase is seen as a negative reinforcement, and in the case of a positively originated motive the purchase is seen as a positive reinforcement (Rossiter, Percy, and Donovan, 1991). Findings supporting that consumers approach negatively framed situations and positively framed situations differently have been reported in previous research (Bettman et al., 1998; Lynch and Srull, 1982). In line with this research, Ehrenberg et al. (1997) argue that advertising should be seen as a reinforcement of behavior and not as an activity that builds strong brands.

Another alternative approach is to use two limitations in the human information processing capacity as the starting points. One limitation is the amount of attention that could be devoted to external sources of information (Braun, 2000), and the other is the amount of information that could be retrieved from long-term memory (Lynch and Srull, 1982). Corstjens and Corstjens (1995) use this approach to discuss consumer decision-making regarding FMCGs, but do not elaborate on their ideas with regard to consumer behavior. Instead, they use the approach as a tool to discuss trade management and the power struggle between retailers and manufacturers. Their perspective needs more elaboration from a consumer decision-making perspective.

### *2.3.3 Consumer decision-making as a constructive process*

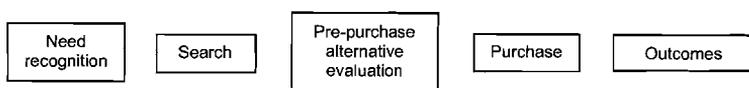
Bettman et al., (1998), among others, argue that consumer decision-making is an inherently constructive process where properties of the human information-processing system and properties of the task environment interactively shape behavior in a given situation. They provide two explanations for why decisions are constructive. The first is the lack of cognitive resources to generate, store, and when necessary, retrieve well-defined preferences for many situations; the second is that consumers often have multiple goals in any given decision situation.

The degree to which a specific decision situation is a context-dependent construction depends on several factors (Bettman, et al., 1998). With less accessible and diagnostic solutions to a specific problem, the degree of context-dependent construction increases. Further, more complex problems and more stressful situations are viewed as factors that increase the degree to which consumers construct choice processes based on contingencies encountered in the task (ibid.).

## *2.4 A framework for the book*

The literature review above was intended to provide a brief description of the relevant literature on consumer decision-making and present a

framework to be used throughout this book. Despite the shortcomings of this framework with regard to how well it fits the daily choices or decisions to buy FMCGs, it will be based on the five-step problem-solving model presented in Figure 1. This model will be used because it covers the main areas included in the consumer decision-making process, rather than for its emphasis on sequential information processing. Hence, the model is seen rather as a pedagogical model that highlights certain steps of academic and practical relevance, than a model that explains a typical purchase of a FMCG. The arrows in the model have been excluded from the framework, this is to emphasize that the discussion in this book will not focus on the sequential order of the steps involved.



**Figure 3.** The adapted five-step decision-making model. The arrows have been removed, since this book will not focus on a possible sequential order of the steps.

Now that we have developed a model depicting the major steps of the consumer decision-making process, we will turn to the second important theoretical area of relevance, namely non-conscious influences on decision-making.

### 3 Non-conscious influences on decision-making

This section provides a discussion of the non-conscious phenomenon, a discussion that aims to explain how non-conscious influences are defined in this book. Thus, the definition of non-conscious influences used in this book is presented first, along with an explanation of why non-conscious influences on the decision-making process are necessary; the explanation is based on the limitations of people’s conscious information processing. Finally, some concepts related to the notion of non-conscious influences on decision-making are presented to provide a richer understanding of the definition used in this book.

#### *3.1 Non-conscious influences as defined in this book*

The decision to use the term “non-conscious influences” in this book was based on a comparison of the concepts mentioned below in this section. Non-conscious influences on decision-making are defined according to

whether they are: (1) unintended, (2) unaware, (3) efficient, or (4) difficult to control or inhibit (see the next paragraph for an explanation). In this sense, non-conscious influences lack one or some of the qualities required to assign them to the category of full or extended consciousness (Wegner and Bargh, 1998).

*“As it happens, these are characteristics of automatic psychological processes, not of conscious control.”*

(Wegner and Bargh, 1998)

It is noteworthy that this definition could incorporate several of the context effects previously studied in marketing (e.g., Belk, 1975), and quite likely also other phenomena, such as biases (e.g., Loewenstein, 2001), and heuristics (e.g., Hoyer, 1984). Several researchers in psychology and cognitive neuroscience have used definitions of non-conscious influences on thought corresponding to the definition presented here (Baars et al., 2003; Fiske and Taylor, 1991; Parasuraman, 2000; Uleman and Bargh, 1989; Wegner and Bargh, 1998). (See Baars, 2003, p 2, for a list comparing conscious and non-conscious phenomena).

Reflecting the multifaceted issue of non-conscious influences on decision-making, a wide spectrum of aspects of intentionality and degrees of control has emerged. Some of these aspects are intention, awareness, cognitive effort, and control (Bargh, 1989). The difference between an *unintended* and an *uncontrollable* influence on decision-making is that an unintended influence that is noticed may be controllable, but not unless an effort is made to do so (Fiske, 1989; Uleman, 1989). For instance, a person driving by a grocery store may unintentionally get an impulse to go into the store to purchase something; however, the decision on whether or not to follow this impulse could, in most cases, be controlled by the use of only little cognitive effort. This suggests that it is crucial that a person is *aware* of the operation of an unintended goal-directed thought (such as in the example above) or an interpretational bias if there is to be any chance of controlling that process (Bargh, 1989; Fiske, 1989). However, some influences may be uncontrollable even when the consumer is aware of them, such as the recognition of a familiar item. Hence, in the example above, the recognition of the store may be uncontrollable if the consumer is familiar with it and frequently shops there. Furthermore, as non-conscious perceptual influences and streams of non-conscious thoughts occur easily, with little if any mental effort, they constitute a rather *efficient* mode of thought. The very notion of going into the store when seeing it is an unintended perceptual influence that comes to mind without much effort (Uleman, 1989). Non-conscious

influences on decision-making can occur both as a response to the perception of a marketing stimulus or following conscious processing during decision-making (Bargh, 1989). That is, they can both function as an antecedent and as a consequence of more conscious decision-making. To summarize, non-conscious influences on decision-making may or may not be beyond awareness; they require little if any effort; they can be controlled only if they become aware, and they can occur as consequences of both perceptual and conscious cognitive processes.

The non-conscious influences discussed in this book are neither the causes nor the effects of decision-making. Rather, in a filter-like fashion, they may influence whether causes will have an effect, which causes will have an effect, and what the effect will be. Therefore, when a consumer, for instance, is exposed to various products in a grocery store, non-conscious influences will determine whether the products on the shelves appear consciously to the consumer as solutions to a need, which products will stand the greatest chances of being selected, and how they will be evaluated. In a shopping situation, this could mean that when a consumer has activated a certain mindset, s/he will make more unplanned purchases, or perhaps unintentionally become more aware of brands, which in turn makes the consumer more price-sensitive. Hence, as explained earlier, these filters can be preconscious (chronically accessible), such as a constant readiness to recognize a highly familiar stimulus, the filters may also be postconscious (triggered by a certain situation), such as when a certain environment activates a readiness for specific cognitions, or finally they may be goal-dependent, such as when an intended activity activates a mindset that makes the person susceptible for certain cognitions (Bargh, 1989).

The study of non-conscious influences on decision-making may evoke associations to something slightly more mysterious than what is normally considered appropriate for research. However, by turning the reasoning around, we may be able to remove some of the mystery surrounding the notion of non-conscious influences. For instance, let us consider a decision process that is under full conscious control. For it to be so, all aspects of it would (according to contemporary psychological research, cf. Wegner and Bargh, 1998) have to be obvious to the consumers, and stem from the consumers' intentions; they would have to be controllable (i.e., stoppable), and at the same time effortful (i.e., not effortlessly spring to mind like a spontaneously occurring brand or evaluation). Hence, if only some influences on the consumer decision-making process are beyond awareness, unintended, uncontrolled, or effortless, then these

influences would, according to Wegner and Bargh (1998), be considered non-conscious.

### *3.1.1 Why is decision-making affected by non-conscious influences?*

The working memory (WM) is the system responsible for the temporary maintenance of information necessary for performing such tasks as reasoning, understanding, and learning (Baddeley, 1993a; 2002). It is in working memory that information about, for instance, the words in the beginning of a sentence are stored. This storage function makes it possible for the reader to understand the meaning of the sentence by the time s/he has reached the sentence's end.

*“Referred to as “working memory,” it holds on to small amounts of information for short periods of time - usually a few seconds – while people engage in such ongoing activities as reading, problem solving, reasoning, or thinking.”*

(Schacter, 2001)

However, the WM is very limited. (Trying to understand the meaning of a long sentence is an example of one of the limits of WM). Miller (1956) showed that the limit of the amount of information that people can keep in their working memory is somewhere around seven chunks of information. Further, Atkinson and Shiffrin (1971) showed that information in WM memory is replaced without any chance of being recalled if other similar information enters WM without the previous information being rehearsed. The temporal limitation of the working memory is not clearly documented in available literature. It is often explained as being somewhere between 30 and 45 seconds (Baars et al., 2003; Smith, 1999), but other researchers argue that information in the working memory has to be rehearsed constantly to be available (Goldman-Rakic, 1992).

*“There is a remarkably small limit to the number of unrelated words, numbers, objects, or rating categories that can be kept in working memory (Miller, 1956). With rehearsal, we can recall about  $7 \pm 2$  items, and without rehearsal, between 3 and 4 items. This is a fantastically small number for a system as large and sophisticated as the human brain; an inexpensive calculator can store many times more”.*

(Baars et al., 2003)

In research, it is common to use the limitations of WM as an explanation for people's limited ability for conscious information processing (Baars et al., 2003; Cowan, 2000). Marketing studies often investigate issues related to this limitation such as consumers' use of simplified choice rules (Simonson, 1989), differences between memory-based and stimulus-based decisions (Lynch and Srull, 1982), habits (East, Lomax, Willson, and Harris, 1994), and peripheral processing of persuasive information (Petty and Cacioppo, 1986).

The rationale connecting the WM limitations to these simplifying behaviors is that whereas people's capacity to intentionally process information in the WM is very limited, the available information that could be used in decision-making is very large. Most consumers probably have considerable knowledge of different dishes, brands and other knowledge stored in their memories that could be used in decision-making if they only had enough time or retrieval aid to recall it (Lynch and Srull, 1982). There are also enormous amounts of information about brands in the external environment, such as in stores, on TV, and on the Internet that could be used to influence decisions (Braun, 2000). However, only a few brands, attributes, or other pieces of information could be consciously analyzed and compared at the same time.

Consequently, it is necessary that filter mechanisms narrow down the amount or quality of external and internal information to be used in conscious decision-making. It is therefore assumed here that the limitations of the WM provide a sufficient explanation as to why consumers have to be selective in the information they process, and why they have to use simplifying interpretations of marketing stimuli (Baars et al., 2003). The limitations also provide a sufficient explanation as to why all influences on consumer decision-making cannot always be conscious in the full meaning of the word (*ibid.*). It is in WM that intentional, controlled, and effortful processing that people are aware of – such as comparing brands on attributes, or trying to remember if there are other factors to consider – takes place. This is not to say that WM is the same as consciousness; however, conscious experiences and WM have been suggested to be closely related (Baars et al., 2003; LeDoux, 1998). (The presentation of WM provided here is simplified, cf. Baars, Banks, and Newman (2003), or Baddeley (1993b; or 2002), for detailed discussions on WM, and cf. Baars et al., (2003) or Chalmers (2002) for a more thorough elaboration on consciousness).

### 3.1.2 Different kinds of consciousness

Consciousness is a truly complex issue. The review of literature on consciousness soon to be provided will be very brief, only serving the aim of presenting the view that between two kinds of consciousness (minimal and full) described below (Damasio, 2000; Wegner and Bargh, 1998), there are various levels at which a person can exert conscious control (Uleman, 1989). Hence, in the illustration below, minimal consciousness and full consciousness are seen as endpoints on a scale. For a cognitive activity to be of full conscious control (the upper end of the scale) it has to be intended, aware, efficient, and controlled. The non-conscious influences discussed in the present book refer to whenever the cognitive activities are of less than full conscious control. In the discussion of the levels of consciousness below, it is probable that the authors referred to only elaborate sensations of the supraliminal kind, that is, sensations that people could be aware of if attention is turned in that direction. Subliminal sensations, on the other hand, are sensations below a perceptual threshold (e.g., if the presentation of the stimulus is very short, perhaps 15 milliseconds) so that it cannot be perceived consciously (Smith, 1999).

Several researchers claim that more than one kind of consciousness exists. Wegner and Bargh (1998), for example, distinguish between *minimal consciousness* and *full consciousness*. Minimal consciousness refers to processes that distinguish mental activity from mental passivity; a person's simple registration of a painful sensation in the mind would be an example of this kind of conscious experience. Full consciousness, however, is when "a stream of higher-order thoughts carries on in parallel with one's (minimally conscious) mental or physical activities" (Wegner and Bargh, 1998 p. 453). Hence, in the example above, full consciousness would include a parallel realization: apart from the person having the painful sensation, a thought should also be triggered, such as "I'm in pain."

A similar distinction to the one described above is made by Damasio (2000). He distinguishes between what he refers to as *core consciousness* and *extended consciousness*. Core consciousness is the simple registration of sensations, whereas extended consciousness is the stream of higher-order thoughts leading to the realization of the sensation. According to Damasio (2000), extended consciousness emerges from two "tricks" making this "distinctively human quality" possible (p. 195). The two tricks are: (1) a gradually built up autobiographical memory, and (2) the working memory. (For an overview of other recent neurobiologically

based theories on what consciousness is, see Baars et al., (2003) pp. 989-1164.)

So is the step from the simpler kind of consciousness to the more complex one a dichotomous step? Uleman (1989) divides the space between the simpler and the more complex kind of consciousness into five different types of cognitive processes, where the chances of the process being of the simpler kind of conscious process are greater at the beginning of the scale, and the chances of it being of the more complex kind are greater at the other end. The five process types discussed by Uleman (1989) are: automaticity, spontaneous thoughts, ruminative thoughts, intentional thoughts, and responsible thoughts. Wegner and Bargh (1998) state that consciousness is something people gain when they develop the capacity not only to have mental states, but also to think and talk about them. While Wegner and Bargh (1998) reason that some parts of an individual's control processes can carry on with only the more simple kind of consciousness, the larger parts of the control processes require the more complex kind of consciousness. Consequently, they argue that conscious control is only possible during full consciousness.

Furthermore, Menon and Raghurir (2003) have suggested a sequential order in which the different processes occur. They make a case for a two-stage process in which input that is unintentional and effortless serves to anchor the process, whereas subsequent more controlled processes could correct initial input.

### *3.2 The development of modern studies of non-conscious influences*

Preceding the more contemporary discussion of non-conscious influences on consumer decision-making (cf. Fitzsimons et al, 2002), psychological research was conducted on non-conscious influences on thought in general. According to Uleman and Bargh (1989), until the mid-1970s information processing approaches essentially assumed that people had rational control over the flow of thought and their decisional outputs. Demonstrations of irrational decision-making were taken as evidence of the use of short cut, heuristic decision *strategies*. Uleman and Bargh (1989) claim that the turning point on this issue came with Posner and Snyder (1975), who managed to turn the debate by explicitly recognizing that – by using examples of automatic spreading activation and non-optimal use of available information – intentional control over cognitive processes might not always exist. Further, according to Uleman and

Bargh (1989), it was Posner and Snyder's explicit recognition that existing evidence indicated that intentional control may not always exist, and that the degree to which people could control their own thoughts and decisions was an empirical question that opened the door to research on the role of non-conscious influences on thought.

Cognitive neuroscientists attribute the recent interest in the study of non-conscious influences more to the development of various brain scanning techniques (Baars, et al., 2003; Lagerkrantz, 2001; Parasuraman, 2000).

According to some researchers, the question is no longer if non-conscious processes exist, but when and how they work (Bargh, 2002; Zaltman, 2000). The share of non-conscious processes in the total number of cognitive processes has been argued to be 95% (Zaltman, 2000) and between 52% and 58% (Singer, 1993). However, Zaltman's figure was estimated, while Singer actually measured the degree to which people's thoughts were controlled and/or daydreamed while trying to focus their attention on a cognitive task. Further, Logan (1989) makes a qualified guess based on self-reports of errors due to automatic processing, and suggests that a little more than once an hour we make an error due to automatic cognition.

Following the psychological research on non-conscious influences on thought, research in consumer behavior has directed more attention to the non-conscious influences on consumers' decisions. For instance, Fitzsimons et al. (2002) presented a model including the areas of consumer decision-making that they argued were affected by non-conscious influences. In fact, they claimed that following their review of relevant research, they were certain that non-conscious processes, to some degree, influenced all consumer decisions. The research areas they explicitly exemplify are: (1) attention and perception; (2) goal activation and pursuit; (3) learning and memory; (4) attitudes and preferences; (5) affect; and (6) choice. Similar to the model proposed by Bargh (1989), they argue that non-conscious processes could stimulate conscious processing, or vice versa; moreover, decision processes could occur entirely outside of consciousness.

### *3.3 Concepts related to non-conscious influences on decision-making*

Apart from non-conscious influences on decision-making, three other terms are commonly used to refer to cognitive processes operating

unintentionally outside of people's conscious awareness. These are: unconscious processes (e.g., Fiske and Taylor, 1991), automaticity (e.g., Bargh, 1989), and mindlessness (Langer, 1989). A brief description of these three concepts will be provided to highlight their similarities and differences in relation to non-conscious influences on decision-making. To a great extent the different concepts overlap each other. Finally, a brief review of some aspects of non-conscious influences on thought coming from cognitive neuroscience studies will constitute yet another basis for comparison. All the descriptions aim to provide a richer illustration of these related concepts with which non-conscious influences on decision-making could be compared.

### *3.3.1 Unconscious processes*

At first sight, non-conscious processes and unconscious processes might be considered the same thing. However, according to Fiske and Taylor (1991), unconsciousness is “unthinking,” whereas non-conscious processes could well involve thinking as long as it is not deliberate, effortful, controlled, or aware (Bargh, 2002). Hence, the automatic processes described as “automaticity” would be defined as non-conscious (Bargh, 2002), but not as unconscious (Fiske and Taylor, 1991). For this reason, the present research concerns non-conscious influences on decision-making as opposed to unconscious influences. Opinions regarding the terminology on this issue may not be unanimous (e.g., Baars et al., 2003, use the term “unconscious” to discuss what is referred to here as “non-conscious”). The terminology used in this book, however, follows the arguing by Fiske and Taylor (1991); non-conscious processes could involve thinking as long as the thinking is not fully conscious.

A second reason for not using the concept of unconsciousness in the present research is the associations it evokes. Unconscious processes are often associated with the work of Freud, and hence involve various motivational aspects not of interest to the studies presented here (e.g., Bentley, 2000).

### *3.3.2 Automaticity*

Automaticity is probably the most frequently used term for non-conscious mental processes in contemporary research (Wegner and Bargh, 1998). However, William James used the term as early as 1890 (James, 1890). The observant reader will find the definition of automaticity very similar to the definition of non-conscious influences used in this book. This is no coincidence, they are in fact identical. Bargh uses both terms to describe the same phenomenon in different texts (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel (2001) use the term non-conscious while

Wegner and Bargh, 1998, use automaticity). I have chosen to use the term non-conscious in the main part of this book; however in this section I give a brief review on the literature where the term automaticity is used to describe the phenomenon.

Bargh and Chartrand (1999) maintain there has been no consensus on the features of a single form of automatic process. The two main processes they have identified are goal-dependent and situation-dependent automatic processes. Skill acquisition is an example of the goal-dependent kind. It starts as an action of will, but once people have learned how to perform it without conscious intervening, they do so. Learning a new PIN number is one example of this. Situation-dependent automatic processing occurs without intention and often without awareness. Becoming more price sensitive as a result of being exposed to red price tags is an example of situation dependent automaticity.

Automatic cognitive processes have been defined by five criteria. If a cognitive process lacks any of these criteria, it has been claimed to be automatic (Bargh, 1989). Hence, a cognitive process is automatic if it is:

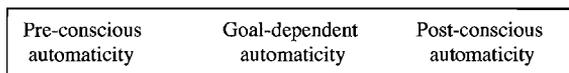
- i) Unaware – occurrence without awareness
- ii) Effortless – operates even with scarce cognitive resources available
- iii) Unintentional – appears without conscious intention
- iv) Autonomous – continues to completion without conscious control
- v) Involuntary – hard to terminate

**Table 1.** Bargh's (1989) five initial criteria for automaticity. The model was later revised and now consists of four criteria.

Unaware thoughts are thoughts going on without a person's awareness. Effortless thoughts operate even with very few cognitive resources. Unintentional thoughts occur without explicit goals or intentions. Autonomous thoughts run to completion without any need for conscious monitoring. Involuntary thoughts are uncontrollable even if people are aware of them. More recently, Wegner and Bargh (1998) have reduced the number of criteria to four, and now argue that processes possessing any of these criteria are defined as automatic. The criteria are: (1) if the process is unintended; (2) unaware; (3) efficient (i.e., a response to the situation occurring before the individual had a chance to reflect on what to do); or (4) difficult to control or inhibit. Hence, in this newer

arrangement, criteria four and five have been merged to form the last criterion, i.e., criterion four.

If the five criteria set the boundaries for automaticity, Bargh (1989) gives further definitions by dividing automaticity into three categories based on when they occur. Automaticity could be: (1) pre-conscious; (2) post-conscious; and (3) goal-dependent. Pre-conscious automaticity is when chronically accessible schemas are activated to aid interpretation or as a help during evaluation. The interpretation aid in pre-conscious automaticity is also known as spreading activation. However, Bargh (1989) also gives pre-conscious automaticity a wider meaning by adding phenomena such as the mere exposure effect (Zajonc, 1968) to this category. The aim of this is to include evaluative and affective automaticity to the pre-conscious concept. Post-conscious automaticity, on the other hand, is when echoes of conscious processes affect later experiences in unrelated domains, or prime experiences in related domains. Hence, priming would be referred to the post-conscious category of automaticity. In priming experiments, a mental construct such as one of two different kinds of shopping trips (e.g., a main trip or a fill-in trip to the grocery store) is consciously activated in one context, and the level to which the respondent is shown to use that construct to interpret or behave in a following situation is then evaluated. The third category, goal-dependent automaticity, occurs as a side effect of intended processes, such as learning more than was intended. Two commonly discussed forms of goal-dependent automaticity are implicit learning (Shapiro and Krishnan, 2001), and scripted behavior (Stoltman, Tapp, and Lapidus, 1989). Implicit learning is learning that occurs without the respondent knowing the source of the information. Scripted behavior consists of a sequence of actions that a person has learned and can therefore act out without conscious intervention.



**Figure 4.** Three kinds of automaticity (Bargh, 1989).

All these three varieties of automaticity have been operationalized in marketing studies. As mentioned earlier, one example of pre-conscious automaticity is mere exposure, which has been found, for instance, to affect responses to advertising (Janiszewski, 1993). Post-conscious automaticity is frequently referred to in marketing studies as priming.

Many studies on context dependence (e.g., Belk, 1975) could be seen as studies of this form of automaticity. Goal-dependent automaticity could be exemplified by implicit learning (Shapiro and Krishnan, 2001). Just like post-conscious automaticity, this kind of automaticity follows conscious thinking. The difference is that in the goal-dependent situation, processing has been performed with a certain goal in mind.

### *3.3.3 Mindlessness*

Mindlessness was one of the early conceptualizations of non-conscious influences on thought processes. Mindlessness occurs when people are not especially thoughtful or alert; however, they may be aware of both their actions and thoughts (Fiske and Taylor, 1991). Mindless processing is not limited in a temporal sense, like many of the short-lived automatic effects, but rather in a qualitative sense. The degree of elaboration is very low; in a mindless state, consumers' cognitive processes run automatically.

There are three kinds of mindlessness (Langer, 1989). First, people may act mindlessly as a consequence of being trapped by categories. That is, people do not process enough to activate memorized information outside of the automatically activated category. For example, a consumer who sees a McDonald's sign and can only think of other fast food restaurants as s/he tries to retrieve alternative lunch restaurants from memory is acting mindlessly. A second kind of mindlessness could occur in people who get stuck in a habit. For instance, consider a consumer who makes shopping trips three times a week and purchases more or less the same items each time. One week s/he realizes that s/he should add washing liquid to his/her mental shopping list. However, once in the store, s/he activates the same old memories and purchases the same items as usual forgetting the washing liquid. A third kind of mindlessness is what Langer calls premature cognitive commitment. This is when people follow their first impression even if it is not optimal. For instance, a consumer on his/her way into the store sees that the shopping carts are not neatly lined up and may reject the store as messy even if the rest of the store is perfectly tidy. If people act on premature cognitive commitment, they are not attentive enough to question their first impressions.

Hence, we can see the similarities between automaticity and mindlessness, even though mindlessness is more of a mental state and automaticity refers to automatic cognitive processes. The aspects that Langer (1989) uses to define mindlessness are very similar to the categories of automaticity defined by Bargh (1989), although Langer

seems to have another focus. What Langer (1989) calls being trapped in a category is when a cognitive schema is automatically activated and acted upon without question. This would approach the definition of Bargh's (1989) pre-conscious automaticity, and Fiske's (1989) discussion about making the easy choice. Similarly, when Langer (1989) discusses practice over time as a source to mindlessness, this resembles goal-dependent automaticity (e.g., scripted behavior) in Bargh's (1989) words. Finally, what Langer (1989) calls premature cognitive commitment is similar to what Bargh calls post-conscious automaticity (e.g., priming).

Hence, someone acting mindlessly would often seem to be relying on automatic processes. If someone asks you where she can park her car when your head is full of thoughts about an article you are writing, you may not be able to think of any other parking lot than the one she just mentioned was full. In this case, you are conscious about the parking lot that you can think of, but the mindless state you are in blocks you from allocating more cognitive resources to retrieve more alternatives.

The mindlessness view has been questioned as it suggests people are lazy, and that it does not recognize that economically minded people may well prefer less effortful to more effortful information processing (Chaiken, Liberman, and Eagly, 1989). A contribution that has sometimes been attributed to the mindlessness literature is the idea that non-conscious behavior may be under the control of scripts, and that scripts may be seen as a model for the cognitive representation of habits (Eagly and Chaiken, 1993).

#### *3.3.4 Cognitive neuroscience on unconsciousness*

The increasing interest in conscious and non-conscious processes has been ascribed to the emergence of the field of cognitive neuroscience (Baars, 2003; Parasuraman, 2000). Cognitive neuroscience represents the merger of the now mature fields of cognitive psychology and neuroscience (Parasuraman, 2000). One reason this research has catalyzed the interest in research on non-conscious influences on decision-making is that cognitive neuroscience research has revealed results supporting learning without conscious involvement. For instance, patients with severe amnesia that results in the permanent absence of consciousness, as a consequence of having a removed (Smith, 1999) or damaged hippocampus (Tranel and Damasio, 1993), are still able to learn new things. These patients may have no difficulty being aware of the here and now, but they are in no way able to encode new memories. Hence, they can meet and talk to someone as if nothing were out of the ordinary, but when their working memory has been emptied, they will not be able

to recollect the meeting. However, these patients can still be conditioned. For instance, Damasio (2000) has found that patients with these disorders can still learn to like and dislike people they cannot recollect ever having met.

Other recent findings in cognitive neuroscience (e.g., Baars et al., 2003; Damasio, 1994; 2000; 2003; Parasuraman, 2000) also challenge an entirely cognitive perspective. For example, LeDoux (1992) has provided anatomical evidence that the brain is arranged so that key aspects of emotional life can operate largely independent of thought. Hence, it is assumed that certain emotional reactions occur before the cerebral cortex has had time to fully interpret what is causing the reaction (Smith, 1999). Several different research studies present similar findings. For instance Bechara, Damasio, Tranel, and Damasio (1997) administered a gambling task where they measured the participants' skin conductance responses and verbal reports of how the participants felt about the game and what they knew about what was going on. They found that people expressed liking or disliking, and generated skin conductance responses before they knew explicitly that it was risky. Hence, the participants started to behave logically before they were conscious about what was going on. Further, Grossberg (1999) reports on several experiments showing that there are processes preceding conscious awareness taking 500 milliseconds or more.

Finally, another finding supporting automatic responses to external stimuli is found in Damasio (2000). Performing a functional imaging scan on a patient in a persistent vegetative state (a lighter form of coma) indicated that when photographs of familiar faces were projected onto the patient's retinas, it activated the same brain regions known to be activated by that kind of stimulus in conscious people.

### *3.3.5 Summary of the discussion*

The discussion above aimed to develop the ideas behind the definition of non-conscious influences on decision-making, and provide a greater understanding of several related topics. In brief, non-conscious influences on decision-making discussed in this book are defined as lacking some degree of full or extended consciousness. Hence, they lack one or more of the qualities of being intended, aware, effortful, or controlled. That is, a proposition from the discussion above is that peoples' decision-making could be influenced without people being fully conscious about it.

Furthermore, the non-conscious influences are neither the causes of the studied processes nor the effects, but have a non-conscious influence on

the effects. Some of these influencers are constantly active sorting and selecting which information should enter full conscious decision-making, such as in selecting likeable marketing stimuli. However, non-conscious influences could also be activated by a certain situation, such as when the outcome of a decision varies between a recognition-based or a recall-based situation, or a consciously activated behavior, such as when the purchase of a product interferes with new learning within that product category.

## 4 Research on non-conscious influences on consumer decision-making

This section will provide an argument for the existence of non-conscious influences in each of the five consumer decision-making steps through a review of relevant research, and initiate a discussion on a number of topics that the articles will address in more detail. With these purposes in mind, the literature overview will not be exhaustive; instead the emphasis will be on providing examples of research that substantiate the existence of non-conscious influences on decision-making. These examples are largely taken from the consumer behavior literature, but in some cases the psychological literature will be used to provide a richer theoretical base.

The outline of the section below follows the five-step decision-making model starting with problem recognition, and followed by information search, pre-purchase evaluation, purchase, and ending with the outcomes.

### *4.1 Research on non-conscious influences on Step 1 in the decision-making process: Problem recognition*

Most research on non-conscious influences on consumer decision-making focuses on information evaluation and choice. Among the few articles that explicitly discuss non-conscious problem recognition, Fitzsimons et al. (2002) argue that problem recognition is often less of a deliberate behavior and more of an automatic response to environments frequently associated with a certain action in the past. Bargh (2002) also addresses non-conscious problem recognition, and shows the effects of a non-conscious readiness to respond to external stimuli. He reports on studies in which subliminally primed thirst caused respondents to drink more of a drink-quenching beverage. However, the prime only had an effect on respondents who were thirsty prior to being primed. Hence, thirstiness

made the respondents susceptible to the subliminal stimuli despite their lack of conscious awareness.

Several psychological experiments have shown that it is possible to activate the pursuit of goal-directed behavior non-consciously (Bargh and Chartrand, 1999; Bargh et al., 2001). These experiments have found that solutions to various word puzzles could be activated non-consciously.

Research that explicitly discusses non-conscious influences on problem recognition is scarce, but a review of the research on problem recognition operationalized as unplanned purchases reveals more examples of the type of unaware readiness discussed in the example from Bargh (2002) mentioned above.

#### *4.1.1 Mental susceptibility to unplanned purchases*

Consumer purchase processes are often assumed to start with a consumer's recognition of some kind of gap between an actual and a preferred state (Blackwell et al., 2001). This is often called the problem recognition stage in consumer decision-making models (ibid.). The gap can occur as a consequence of one of two possible shifts. One shift is when the actual state is diminished, such as when a consumer runs out of something (e.g. milk) and hence recognizes a need (e.g., to buy some so he/she will not be without it at breakfast the next day). The gap can also occur as a consequence of an increase in the preferred state, such as when a consumer realizes there is a better alternative (e.g., a new and more nutritious breakfast cereal) and hence recognizes an opportunity.

However, the existence of a gap is not enough for the problem to be recognized. If a consumer thinks about it long enough, s/he could probably come up with an uncountable number of gaps between what s/he has and what s/he could consider buying, even when it comes to products from a grocery store (Bettman et al., 1998). The question is what decides which gaps will occur to the consumer and which will not. To answer that, we need to know the circumstances in which a consumer will consider a certain gap to be a problem.

#### *4.1.2 Top-down, bottom-up, and mixed processes*

One possibility is, of course, that a consumer's inner systems signal that s/he needs something, such as a drink if s/he is thirsty. The signal would be received in consciousness, where a decision on how to act would be made. This would be a top-down process where the consumer is in more or less total control of the decision-making (Nedungadi, 1990). Another possibility is that an environmental cue automatically activates a goal

frequently associated with it in the past (Fitzsimons et al., 2002). For instance, seeing someone drinking coffee may awaken the person's own desire for coffee. This second approach describes a bottom-up process, where the occurrence of the decision process is stimulated by the context (Lynch and Srull, 1982). A third possibility would be a combination of the two. First, the top-down process makes the consumer mentally susceptible (but yet not aware), and then the environmental cues will exert their influence on the consumer's decision-making. For instance, the sight of someone else drinking coffee may only trigger a desire for coffee if the consumer were mentally susceptible to it (cf. Bargh, 2002). This mental susceptibility could have come about, for instance, if the consumer had just seen a coffee ad or just had lunch and normally likes a cup of coffee after lunch.

This third possibility suggests that thoughts or desires that suddenly pop up in a consumer's mind may not occur at random, but as a consequence of a susceptibility to certain thoughts or desires. Research supporting these ideas has found that consumers are more susceptible to making unplanned purchases under certain circumstances. For instance, special displays and more shelf space have been shown to increase the number of unplanned purchases (Inman and Winer, 1999). At first sight, these findings may seem to argue for a bottom-up process where retailers decide what consumers will buy through the display choices they make. However, a closer look reveals that increased shelf space only appears to influence sales of brands that are well known and liked, or brands belonging to a category of products known as impulse products (Cox, 1970). Hence, at least in some cases, a certain kind of mental preparation seems necessary for an increase in sales to occur. Increasing the shelf space may not be enough if the consumer is not used to seeing that brand. The chances of a consumer seeing a brand are increased if the brand is a well-known solution to a need for that consumer.

The same holds for findings regarding special displays. Chevalier (1975) found that products advertised prior to a special display, and products from mature categories with several brands of equal market share, were the products that experienced increased sales as a consequence of special displays. It would appear, therefore, that a certain level of mental preparation takes place even prior to many unplanned purchases.

#### *4.1.3 Spontaneous thoughts and effortful evaluations*

Biehal and Chakravarti (1986) partly provide a possible explanation for this. They claim that it is quite an effortful task for consumers to evaluate information from memory along with external information, and that

information in memory has a higher priority than external memory. They also show that if a brand cannot be retrieved from memory, its chances of being chosen are small even if it is presented to the consumer. Hence, it is possible that displayed products often simply work as memory cues rather than as instigators of an evaluation process. Displayed products will only be used for a more effortful evaluation when consumers have cognitive resources available to do so, or when they feel that the information in their memory is insufficient to enable them to make an accurate choice, and hence forces them to allocate more processing resources (Bettman et al., 1998; Chaiken et al., 1989; Maheswaran and Chaiken, 1991). Hence, even many unplanned purchases may, to some extent, be prepared in that the brands have already been processed, and are thus more accessible; this accessibility, in turn, serves to spontaneously include the brand in a consideration set.

#### *4.1.4 Experience and construction*

Given that some brands are candidates for being purchased in an unplanned manner as described above, is an unplanned purchase as likely to occur on any shopping trip? It has been argued that the purpose of a decision frames the situation, influencing which information will be used and how it will be processed (Bettman et al., 1998). Could different types of shopping trips create variations in how susceptible consumers are to making unplanned purchases? According to some researchers, habitual behaviors (e.g., grocery shopping trips) that are undertaken often, and with a certain degree of behavioral consistency, cause consumers to develop cognitive scripts (Park, Iyer, and Smith, 1989; Stoltman et al., 1989). Scripts provide behavioral guidance allowing consumers to think about other things while undertaking frequently occurring tasks (Abelson, 1981). The guidance that scripts provide will be useful to different extents depending on the characteristics of the shopping trip. For instance, findings show that consumers follow their usual behavior more in stores they are familiar with and when under time pressure (Iyer, 1989; Park et al., 1989).

On occasions when consumers do not have strong cognitive structures to guide their behavior, or when the structures are less accessible, they have to be more open to environmental cues when trying to find solutions to their problems (Bettman et al., 1998). This openness to external information could lead to exposed products evoking a realization of gaps between actual and preferred states.

#### *4.1.5 Concluding remarks on non-conscious influences on the need recognition stage*

It could be inferred from the above that non-conscious influences affect the problem recognition step in the consumer decision-making process. Experiments have shown that needs could be stimulated without conscious awareness; however, needs seem to require some kind of prior mental preparation (Bargh, 2002). Yet, lacking are studies examining when consumers are more sensitive to recognizing products they are exposed to as solutions to their needs in daily situations. Knowing under what circumstances consumers are more inclined to recognize an exposed product as a solution to a need, and how to promote this inclination should be of interest to marketers. Whether different kinds of shopping trips prime different levels of sensitivity to making unplanned purchases will be investigated in the first article in this book.

#### *4.2 Research on non-conscious influences on Step 2 in the decision-making process: Information search*

Once a problem has been recognized, the consumer is assumed to search for information with which to solve it. The information search stage is often divided into two categories: internal and external information search (Engel et. al, 1995). Internal information search is the memory scan for decision-relevant knowledge; external information search is when consumers collect additional information from the environment.

This categorization, however, may appear to be more clear-cut than it is. This is because what people see in their external environment is very much dependent on the information they have stored in their memories (Alba and Hutchinson, 1987), and the information people retrieve from their memories is very much dependent on what they see in the external environment (Lynch and Srull, 1982). Put like this, people see what they have stored in their memories and they bring to memory what they see. Based on this reasoning, consciousness is the result of a long chain of prior, non-conscious cognitive activity (Greenwald and Leavitt, 1984; Grunert, 1996; Lynch and Srull, 1982). Decisions therefore are based on information that is a mixture of external and internal information; non-conscious filters select which external information will be seen, and non-conscious retrieval filters select which memorized information will be remembered.

#### *4.2.1 Using internal and external information in decision-making*

Lynch and Srull (1982) argue that purely stimulus-based decisions could be questioned for their ecological validity. Moreover, since consumer decisions based on memory or mixes of external information and memory are prevalent, it becomes very important, but at the same time complex, to study the interplay between informational sources and their use in decision-making (Lynch and Srull, 1982).

It has been shown that consumers use a mix of external and internal information for most decisions. Biehal and Chakravarti (1986) compared the use of external and internal information in decision-making, and showed that when making decisions all their respondents used more than one type of processing operation using both internal and external information. However, decisions were often based on more spontaneously evoked information rather than on effortful comparisons questioning the memorized or new information. They concluded, among other things, that memory structure and the accessibility of different brands and attributes moderated the use of external information.

In addition to memory structure, consumers' perception of product category characteristics has been shown to influence the use of external and internal information in the decision process. In a special issue on non-conscious influences on consumer behavior in *Psychology and Marketing* (Sep. 1999), Ming-Hui and Shihti (1999) argued that a systematic discarding of external information to simplify decision-making was a kind of non-conscious influence on the decision-making process. Further, they showed that consumers whose consideration sets were moderately intercorrelated (i.e., included brands considered to be similar) were *consciously* loyal to one brand, but were also most susceptible to marketing stimuli (derived variety seeking). However, consumers with the most intercorrelated consideration sets switched between brands to get variation (inherent variety seeking), whereas consumers with the least intercorrelated consideration sets adjusted their decisions to the situational needs.

#### *4.2.2 Retrieval of information from long-term memory*

Information that is stored in memory must be retrieved before it can be used for decision-making. In this regard, there is a fundamental distinction between "availability" and "accessibility" (Lynch and Srull, 1982). Information is always assumed to be available once it has been encoded into long-term memory. That is, unless the brain is seriously damaged, people are believed to permanently retain such information (*ibid.*). However, at any given time, only a small part of the vast

quantities people learn is “accessible;” people are only capable of retrieving a fraction of the total information they have available. The two most important determinants of whether information is accessible at any given time have been claimed to be: (1) the amount of information that has also been learned in the same category, and (2) the self-generated and externally generated retrieval cues present at the time (ibid.). The second determinant implies that accessibility is context-dependent.

Non-conscious influences on decision-making would be said to occur if memory retrieval acts in a way the consumer is unaware of, or if the retrieved information is unintended, uncontrolled, or effortless. Hence, the retrieval process is conscious if it is an act of will that retrieves all the information that is intended (Baars, 2003).

#### *4.2.2.1 Recall- and recognition-based consideration sets*

The study of memory-based decisions has often built on consideration set theory (e.g., Desai and Hoyer, 2000). The consideration set model is, in a way, a merger of the information search and pre-purchase evaluation steps of the five-step consumer decision-making process. It is a two-stage theory, where the first stage often includes a screening out of some brands leaving a consideration set; hence, the first step consists of an information search. The second step involves evaluation of the selected alternatives. A consideration set is the smaller set of brands a consumer would consider purchasing; the set will be evaluated, and one or more brands from it will eventually be chosen (Hauser and Wernerfelt, 1990).

Previous literature has provided more than one explanation for why consideration sets exist (Roberts and Lattin, 1991), referring, for instance, to the cost-benefit approach (Hauser and Wernerfelt, 1990), the information-processing approach (e.g., Stigler, 1961), and the perceptual approach (Nedungadi, 1990). While the information-processing approach acknowledges the cost of effortful processing, the perceptual approach is the only one taking retrieval problems during memory-based decisions into account. This is important, since consumers often seem to choose from the brands that come to mind with minimal effort rather than questioning if it is worth searching the memory any further (Nedungadi, 1990); this is also the connection between consideration set research and research on memory retrieval.

#### *4.2.2.2 Memory retrieval and inclusion in the consideration set*

Several studies have probed into the effects of retrieval biases in memory-based situations. Two frequent authors on this topic are Amitava Chattopadhyay and Prakash Nedungadi (e.g., Nedungadi, Chattopadhyay,

and Muthukrishnan, 2001). Several of their studies build on the idea that consumers' decisions become less optimal due to retrieval problems (Alba and Chattopadhyay, 1985a; 1985b; 1986; Nedungadi, 1990). Their main focus is on consumers' use of categories to store brand information, and the effects on information retrieval of the way knowledge is structured in long-term memory. Less frequently considered categories or sub-categories have sometimes been shown to need some kind of memory cue to be included in a memory-based decision process (Alba and Chattopadhyay, 1985a; 1985b; 1986; Nedungadi, 1990; Nedungadi et al., 2001).

Nedungadi (1990) showed that in a memory-based situation, cueing effects influenced both the product category the consumers would choose from and the brand they would eventually choose. By priming certain categories and brands, Nedungadi managed to increase the probability of a brand's inclusion in the consideration set, and the probability of the brand being chosen. Hence, without altering the evaluation of a certain brand, whether or not it was chosen depended on whether environmental cues were given as retrieval cues. In a later study (Nedungadi et al., 2001), it was shown that the provision of category structures could improve the quality of consumer decisions, since it reduced the retrieval problem.

#### *4.2.2.3 Memory cues that inhibit retrieval*

Furthermore, Alba and Chattopadhyay (1985a) showed effects of part-category cueing. Although memory cues generally facilitate recall, part-category cueing effects refer to the presentation of some brands as cues when brands are being recalled from a category often resulting in poorer recall of the brands not presented than when no cues are presented (e.g., the recall of coffee brands may be inhibited if some brands are provided as memory cues). Retrieval of product attributes suffers from the same limitation. However, knowledge could set off the effect of this retrieval problem. Alba and Chattopadhyay (1985b) found no traces of part-category cueing in a subgroup with higher knowledge. Instructions to be mindful about the retrieved alternatives, however, were only found to be marginally effective.

In a way, part-category cueing could be seen as an interference effect. By making some brands extremely accessible, they will continuously enter consciousness usurping the limited processing capacity.

Further, the strength with which a brand is associated with a certain product category can also lead to increased retrieval effects if that

category is activated in the mind of the consumer (Posavac, Sanbonmatsu, Cronley, and Kardes, 2001; Nedungadi and Hutchinson, 1985). Posavac et al. (2001) found that involving people in a simple categorization task where they marked brands depending on product-category membership and then rehearsed the category membership increased the category-brand associations for the included brands and led to increased probability of consideration set inclusion and choice (Posavac et al., 2001).

One group of brands that has an advantage as regards retrieval is the group known as the pioneers (Kardes, Kalyanaram, Chandrashekar, and Dornoff, 1993), that is, the first brands in their respective categories. This advantage has been attributed to several factors, including a temporal monopoly until the second brand enters the category (Nedungadi, 1993). Another set of advantages is related to how the pioneering brand shapes the category; the pioneering brand determines, for example, what features will be important, and will consequently be prototypical of the category. This means that the way knowledge about the pioneer is retrieved from memory in the choice situations serves as an anchor against which the new brand or information is compared (Biehal and Chakravarti, 1986). These factors all contribute to the pioneering brand having an advantageous position when a brand from the category is to be retrieved.

The knowledge structure has yet another important implication for memory retrieval. Since memories seem to be encoded in clusters or chunks, memories are often retrieved in a “one-or-all” fashion (Hutchinson, Raman, and Mantrala, 1994). This means that once the category is recalled, the rest of the members – or at least six or seven of them – (Lynch and Srull, 1982) will all be recalled at once (Newell and Simon, 1972).

#### *4.2.2.4 Previous choices and accessibility*

Previously chosen alternatives are more accessible than alternatives that have only been evaluated without having been chosen (Hutchinson et al., 1994). Direct experience of a brand increases brand accessibility and influences consumers’ perceptions of the brand more than advertising (Alba and Chattopadhyay, 1986; Washburn, Prill, and Tilluck, 2000). Alternatives that have previously been screened out are less accessible than alternatives that have been evaluated without having been screened out (Biehal and Chakravarti, 1986).

#### *4.2.2.5 Situational dependence*

The usage situation has a significant influence on consideration set formation (Desai and Hoyer, 2000; Hutchinson et al., 1994). One reason may be that the usage situation could be seen as a retrieval cue (Hutchinson et al., 1994). The more diagnostic the retrieval cue, the greater its influence will be on the accessibility of the included brands (Bettman et al., 1998; Desai and Hoyer, 2000). It has been argued that consumers may use strategies building on this idea to help them retrieve more alternatives from memory. By editing their retrieval plans (e.g., while in a grocery store trying to come up with what to have for dinner, a consumer may think: “What do I usually feel like having at the Indian restaurant?”) they alter the search by spreading the activation to other associations in memory, making other associations more accessible (Lynch and Srull, 1982).

Many of the studies on consideration sets involve the final choice as well (e.g., Nedungadi, 1990). These studies then overlap with studies on variety seeking, which is sometimes defined as a large consideration set (e.g., Desai and Hoyer, 2000). Since variety seeking is more of a choice issue than an information search issue, it will be discussed in the section covering research on non-conscious effects of choice in present research.

A very general finding regarding accessibility is that frequency and recency both contribute to accessibility. Originally, this was known as the “availability heuristic” (Tversky and Kahneman, 1973; 1974); however, with the Lynch and Srull (1982) definition of availability presented earlier in the present research, the word “availability” in the availability heuristic may seem contradictory.

#### *4.2.2.6 Conclusions regarding information search and memory retrieval*

Despite the fact that consumers have preferred brands available in memory, these brands are not always chosen or even considered during memory-based choice. This has been argued to depend on retrieval processes, which are not under conscious control. For this reason, it is of utmost importance to learn about the retrieval processes.

According to Watkins and Gardiner (1979), a simple theory of free recall is that it is a two-stage process where the first stage requires the retrieval of alternatives, and the second stage is a recognition check. Recognition, however, bypasses the retrieval step, whereas the second step remains the same. One implication of this theory is that any study of independent variables that are found to affect recall but not recognition is in fact a

study of the retrieval process itself (Lynch and Srull, 1982). The study of retrieval processes and recognition both serves the purposes of this book well because both retrieval and recognition have been categorized as examples of non-conscious processes in previous research (Baars et al., 2003).

#### *4.2.3 Making use of external information in the decision process*

Another source of information consumers can use in their decision-making, apart from remembered information, is the information present in the environment. Although non-conscious processes such as priming and spreading activation probably influence during volitional search processes (Bargh, 1989), the focus of the literature review presented later in this subsection will be on explicitly non-conscious processes such as incidental ad exposure (e.g., Shapiro and Krishnan, 2001). However, it should be noted that all influences on the external search process that are unaware, unintended, uncontrolled, or effortless are to be considered non-conscious.

The literature on non-conscious influences on the use of external information in the decision process could be classified into four categories: literature on perception as a multistage process, literature on subliminal influences, literature on advertising effects of ads that have never been consciously processed, and the selection processes determining which information will be consciously processed. These four categories of non-conscious influences on the use of external information will be discussed briefly below.

##### *4.2.3.1 Perception as a multistage process*

In the 1940s, Bruner and his colleagues –for the first time within the experimental tradition – discussed theories of attention as a multistage process (cf. Gilbert, Fiske, and Lindsay, 1998). At first, ideas about perceptual vigilance and defense met with resistance. Many researchers were skeptical about the idea that a person has to see something before deciding not to see it (ibid.). Today, there is no dispute about perceptual selection; however, how early or late in the attention process selection occurs, and the consequences of selection are still up for debate (Ingvar, 2001; Parasuraman, 2000).

One of the dominant early ideas was that a stimulus that was not attended to could not influence information processing at a later stage. This was assumed to be so, because the stimulus was believed never to have entered the cognitive system. This idea of early selection was initially proposed in Broadbent's (1958) filter theory. Still today, some studies

present findings supporting this theory. There seems to be a limit to people's attentive resources, such as when a person's attentive processing is busy attending to other things (Nakayama and Joseph, 2000; Rees et al., 1999). Rees, Russel, Frith, and Driver (1999) made people look at words superimposed on pictures. While busy detecting repetitions among the pictures, they underwent brain imaging. This task was immediately followed by a surprise recognition test. Neither the recognition test nor the brain imaging showed any signs of unattended processing (i.e., the words that were superimposed on the pictures had not been seen). Hence, in certain circumstances it would appear that attentive resources are spent on focusing on a particular stimulus to the extent that people cannot process other aspects of their surroundings even if they appear right in front of their eyes.

On those occasions, therefore, other (unattended) stimuli would not be processed at all, which means that there would be no effects of unattended processing that could be used in a later selection process (Shapiro, 1999). However, some studies do discover certain effects of unattended stimuli. A seminal study by MacKay (1973) showed that unattended information could help to interpret attended information. The unattended word "river" made subjects interpret the attended word "bank" as "river bank;" when the unattended word was changed to "money," bank was interpreted as "financial bank." The MacKay study presented challenge to the filter concept, and considerable evidence has now also been found of unconscious processing at a high level of analysis (Baars et al., 2003). It is this branch of attention research – where unattended stimuli are assumed not to be filtered out but processed in some way – that has catalyzed most of the last fifteen years of advertising studies on unconscious processes (e.g., Janiszewski, 1988).

Greenwald and Leavitt (1984) divide the multi-stage attention process into four levels: preattention, focal attention, comprehension, and elaboration. During preattention, the features of the stimuli are analyzed while still in the sensory storages. That is, during this stage, people may see something such as the shape of a square on a newspaper page. The next stage involves channel selection and perceptual and semantic processing; during this stage people may understand that the square resembles what they call an ad. This second step of processing is required for the person to be able to recognize the object later on. The third step involves syntactic analysis, such as "I wonder if it is an ad for brand X?" The fourth step is a conceptual analysis involving their beliefs and attitudes. In this step, they may think: "Could it really be true that brand X now contains fiber?" The fourth step would be required to be able to

recall the ad without any memory cues. Greenwald and Leavitt argue that loud, moving, colorful, affect-evoking, novel, and unexpected stimuli increase the chances of focal attention (i.e., the second step).

Grunert (1996), on the other hand, divides attention into two levels: an automatic process, and a strategic process. The automatic process is similar to the pre-attentive processing discussed by Greenwald and Leavitt (1984), and the strategic processing is similar to their other three levels of processing. It is assumed that the chances of a stimulus being automatically processed are enhanced if the stimulus is personally relevant and familiar, while the chances are assumed to decrease with stimulus novelty and complexity. Hence Grunert's argument contradicts Greenwald and Leavitt's argument regarding how stimulus novelty affects the attention process. Lynch and Srull (1982) argue that unexpected information increases the chances of capturing attention. My belief is that Grunert's idea is built on perceptual fluency, where perceptually similar stimuli will stand a greater chance of capturing attention (Shapiro, 1999), and that Greenwald and Leavitt build their reasoning on more general findings about how novelty retains attention. Hence, it is possible that with few attentive resources devoted to scanning the environment, familiar stimuli have a greater chance of capturing initial attention, but once initial attention has been captured a novel stimulus would be better at retaining attention. This reasoning is developed in Article 3 below. Further, Grunert sees the automatic process acting as a gatekeeper before conscious learning can take place. In that sense, Grunert's analysis resembles Broadbent's filter theory: the automatic system governs the selection of the stimuli to attend to.

#### *4.2.3.2 Advertising studies on non-conscious influences*

Krugman (1977; 1986; 1988) has long argued that people are good at making use of the external environment without being involved enough to consciously process the stimuli. He has claimed that by monitoring the surroundings or the TV, paying minimal attention, people still make sense of the external stimuli before them, and therefore learning occurs without conscious intervention. Consequently, Krugman promoted recognition, rather than recall, as a measure of advertising impact. He argued that to be able to recall a commercial, close attention was a necessary prerequisite, while to recognize it minimal processing could suffice (Krugman, 1986).

Further, Krugman studied how commercials captured attention. He argued that the very first seconds of a commercial are crucial for capturing attention. One of Krugman's (1986) findings was that the pupil

opening peaked between four and ten seconds after the start of a new commercial. Further, he claimed that to be able to choose not to pay attention to a commercial, viewers first have to pay enough attention to it to be able to make up their minds.

#### *4.2.3.3 Subliminal influences*

Krugman did not believe in subliminal advertising. Instead, he believed that visible (supraliminal) advertising affected its viewers despite the lack of conscious processing (Krugman, 1986). Subliminal advertising was perhaps first heard of in 1957, when an experiment was performed in a New Jersey movie theatre. Messages were inserted in the movie well below the subliminal thresholds, and it was claimed that sales of the products that had been subliminally advertised increased. However, the study has been criticized and later attempts to replicate the study did not reach the same results (Solomon, 1996). More recently, however, Bargh (2002) reports on studies where subliminal priming has been successful. Respondents who had been subliminally presented with happy, angry, or neutral faces were shown to let the prime influence both their evaluation and intake of a flavored drink.

#### *4.2.3.4 Incidental ad exposure and decision-making*

Shapiro, MacInnis, and Heckler (1997) found that when consumers were not consciously aware of ads, these ads still influenced their formation of consideration sets; this was true both for memory-based and stimulus-based consideration sets. They reasoned that the influence on the memory-based consideration set was due to semantic analysis, while the influence on the stimulus-based consideration set was due to feature analysis.

Semantic analysis would require processing of semantic memory. It is in semantic memory that connections between products, their use, and different usage situations are made. In an experiment, the products in the experimental ads were associated with a certain usage situation, and for this effect to occur, processing of semantic memories would be required. The memory effect was found even though the ad exposure was incidental (i.e., taking place beyond awareness). A shallower form of analysis, feature analysis, is when an individual attends to an object just enough to identify the object as separate from the background. The way Shapiro et al. (1997) reason, feature analysis is a necessary step for priming of the product in the ad to occur. The product in the ad has to be seen, even though it is out of conscious awareness. In the study, the time between the priming and the consideration set formation was approximately 10 minutes. This eliminates the probability of the prime

still being in short-term memory. Yet an ad exposure of which the respondent had not been aware was found to increase the probability of a product depicted in the ad being included in the consideration set.

#### *4.2.3.5 Incidental ad exposure, attention and cognitive processing*

Shapiro and colleagues have studied effects of incidental ad exposure on both attention and cognitive processing (e.g., Shapiro 1999). After making sure that none of the respondents could neither recall nor recognize the ads, he measured perceptual and conceptual fluency effects. Perceptual fluency facilitates the processing of an object, and occurs as a consequence of a feature analysis of the object. Similarly, conceptual fluency facilitates the processing of concepts associated with an object as a consequence of a conceptual analysis of the object. Shapiro (1999) finds support for both these effects, and concludes that both conscious and unconscious influences affect our processing. Perceptual fluency is thought to accrue from the activated representations of stimuli that are independent of any elaboration or contextual reference (Janiszewski, 1988).

#### *4.2.3.6 Selection and representation effects*

In three experiments, Pham (1996) found consumers with impaired capacity for processing marketing stimuli to be more selective in their processing than consumers with usual processing capacity. Since marketing communication has often been maintained to stimulate low levels of processing among consumers (Krugman, 1977), and the marketing environment is often cluttered when several marketing communication efforts compete for attention (Meyers-Levy and Maraviya, 1999), the selection and representation effects examined by Pham (1996) could be assumed to be a specification of two kinds of selection filters often occurring at a non-conscious level. The selection effect makes consumers select cues on the basis of their information value, i.e., their diagnosticity. This effect has also been described by studies of social judgment where diagnosticity is further scrutinized and found to be especially effective if the payoff is supposed to be extreme (Lynch and Srull (1982) and evaluatively negative (Fiske, 1980). While the selection effect is an effect increasing the processing probability for cues perceived as diagnostic, the representation effect is an effect decreasing the processing probability for cues perceived as capacity demanding. The representation effect states that in a selection process with scarce processing resources, consumers attribute less importance to capacity-demanding claims than to less demanding claims.

Ratneshwar, Warlop, Mick, and Seeger (1997) found what they called *habitual benefit salience* to be an individually variable perceptual filter, increasing the probability of positively evaluated information becoming processed consciously. In line with this reasoning, Haley and Baldinger (1991) proposed that ad liking could be a threshold determining whether an ad would be given any attention at all.

#### *4.2.3.7 Scan paths: the patterns of eye movements when scanning ads*

The selection and representation effects provide insight into the selective processing of marketing stimuli. Related research measures the time people look at various ads or parts of ads, often by using infrared eye tracking methodology (cf, Pieters and Wedel, 2004). Woltman Elpers, Wedel, and Pieters (2002; 2003) have found perceived pleasantness of TV commercials to increase the amount of attention devoted to the ad, while ads with high levels of information were found to yield lower levels of attention. These results are accordant with the representation effect, namely that information overload makes people decrease their attention.

Other interesting findings to emerge from this line of research show that when consumers read the same ad repeatedly, they seem to use the scan paths they used the first time they scanned the ad (e.g., they start by looking at the same place, follow the same pattern from exposure to exposure, and stop at the same place every time). However, with increasing exposures, the time devoted to each part of the ad decreases, as does the number of fixations on the various parts of the ads (Pieters, Rosbergen, and Wedel, 1999). These patterns may be an observation of consumers screening out ads without being aware of it. The eyes maintain their scanning patterns, but if the ad has been seen before, the processing is discarded before the ad has reached consciousness.

Very few studies, however, have focused on attention as measured by fixation and downstream effects (Pieters and Wedel, 2004), and hence little is known about which actions are conscious or non-conscious and their relation to various kinds of processing. The time for each fixation, however, is less than 200 milliseconds (Pieters, Rosbergen, and Wedel, 1999), and cognitive operations involving consciousness normally require at least 500 milliseconds (Baars et al., 2003). Consequently, it has been argued that scan paths are partially automatic (Pieters and Warlop, 1999) and dependent on bottom-up factors rather than on top-down factors (Pieters and Wedel, 2004).

A study by Rossiter, Silberstein, Harris, and Nield (2001) examines downstream effects, and finds a relationship between the exposure time at the time of the recognition test and the ability to recognize an ad. The longer consumers look at an ad, the more likely they are to recognize it.

#### *4.2.3.8 Concluding remarks on research on external information search*

The literature review above provides ample examples of non-conscious influences on the information search step of the consumer decision-making process. Although some research has found that studying processes on a pre-conscious level is possible, very little research has been undertaken to study the selection processes determining which information is to be processed consciously (Ratneshwar et al., 1997). The exceptions are the conceptual papers by Greenwald and Leavitt (1984), and Grunert (1996), and experiments by Pham (1996) and Ratneshwar et al. (1997). The study of the selection processes should be vital for advertisers, since approximately 50 percent of their ads' audiences do not process their ads enough for the ads to be recognized later (Rossiter and Percy, 1997). Retailers and other communicators should also be able to benefit from increased knowledge about how people select stimuli at a preconscious stage. The preconscious selection mechanisms used to help consumers direct their attention to certain information are further investigated in Article 3. In Article 2 recall-based consideration sets are compared with recognition-based ones, and consequently various retrieval aspects are examined.

#### *4.3 Research on non-conscious influences on Step 3 in the decision-making process: Pre-purchase evaluation*

When consumers have gathered all the relevant information, it is time for pre-purchase evaluation, i.e., the third step in the five-stage consumer decision-making model. The literature review provided here will cover some research that explicitly examines non-conscious processes, and some that does not explicitly address the existence of non-conscious influences, but where the different processes are initiated by the stimulus or task environment and could therefore be seen as being an unintentional part of the consumer's decision process (e.g., see the discussion by Bettman et al., 1998, on asymmetric dominance). Letting unintended factors influence decision-making is one of the defining criteria for non-conscious processes (Bargh, 1989; Bargh and Wegner, 1998).

#### *4.3.1 Research explicitly addressing non-conscious influences on evaluation*

At least three different research topics have addressed non-conscious influences on consumer decision-making more explicitly, namely mere accessibility, mere exposure, and classical conditioning.

##### *4.3.1.1 Retrieval and evaluation – mere accessibility*

The ease with which a brand is retrieved increases with the frequency and recency of the purchase (Nedungadi, 1993). The frequency of purchase is believed to affect brand choice in two ways. Firstly, increased frequency can lead to automatic detection of the brand (Alba and Hutchinson, 1987; Baker, Hutchinson, Moore, and Nedungadi, 1986). During a memory-based decision, retrieval may be enough to result in a purchase if the brand is considered sufficiently attractive, especially in situations where sufficiency thresholds to make an accurate judgment are high (cf. Chaiken, Liberman, and Eagly, 1989). A second effect is that more frequent exposure to a brand is believed to increase the evaluation of the brand (Zajonc, 1968; Baker et al., 1986). According to the ease of retrieval hypothesis, consumers use the ease with which information comes to mind as a heuristic in evaluating how diagnostic the information is (Menon and Raghurir, 2003,) and how well liked the brand is (Schwartz, Bless, Strack, Klumpp, Rittenauer-Schatka, and Simons, 1991).

The mere accessibility hypothesis states that accessibility by itself will enhance the evaluation of an alternative. The hypothesis was tested by Menon and Raghurir (2003), and found to operate at a non-conscious level. The authors tested whether ease of retrieval was used as input in judgments, and found it to influence decisions along with consciously applied inputs. The ease of retrieval input was found to be outside of awareness, unintentional, and effortless when it influenced the decisions.

##### *4.3.1.2 Attitude formation without conscious thought – preattentive mere exposure*

Janiszewski (1988) showed that brand preferences could be generated with the help of ads, without any conscious thought. The study built on theories of different processing styles for the different brain hemispheres. The right hemisphere was seen as having a holistic processing style favoring pictorial ads, while the left hemisphere was seen as having a unit-integrative processing style favoring verbal ads. The results supported the theory since text ads exposed to the left hemisphere were evaluated more positively and vice versa. To verify that the processing was preconscious, the ads were included in a mock newspaper and were

not included in the tasks that the subjects were told to perform. There was also a measure of ad recognition to be able to see the effects of possible recollection. No differences were found between subjects who recognized the ad and those who did not.

Janiszewski (1990) showed that the processing of unattended material relies on similar mechanisms as attended material. Therefore, unattended material can both interfere with the processing of attended material, and influence the understanding of it. If an attended pictorial task is performed, a brand name placed on the right is preferred to one on the left, whereas if an attended verbal task is performed, the reverse is true. In this study, as well as in the 1988 study, lack of opportunity to correctly recognize the ad was used to operationalize lack of conscious processing.

Further, Janiszewski (1990; 1993) found that verbal and pictorial processing rely on different processing mechanisms. With an attended task in the center, and with a brand name on one side and a pictorial stimulus on the other, the brand name was more favorably evaluated if the picture was on the right. The opposite was true for a verbal stimulus. Hence, a pictorial stimulus being processed by the right hemisphere increased the quantity of preconscious resources available for processing the brand name. This was named the matching activation hypothesis. Increasing the workload in one hemisphere resulted in increased available resources in the opposite hemisphere, so that activation in both hemispheres was matched. The finding was elaborated on in experiment 2 (1993), where it was found that an increased verbal processing load also activated the resource pool in the right hemisphere. Thus, it resulted in increased available capacity in the right hemisphere leading to increased preconscious processing of a brand logo placed to the left of the text.

Two overall conclusions can be drawn from Janiszewski's research: (1) exposure even without awareness could increase the evaluation of an alternative (preattentive mere exposure), and (2) different non-conscious operations occur simultaneously, and interfere to various extents depending on the degree to which they rely on the same processing resources.

#### *4.3.1.3 Classical conditioning*

Whether attitudes can be formed without any information processing at all has been discussed extensively. The classical conditioning paradigm states that simply pairing different stimuli can form attitudes. Classical conditioning is when an unconditioned stimulus (US), such as a piece of meat, is paired with a conditioned stimulus (CS), such as a tone, to

produce an unconditioned response (UR), such as salivation. Once conditioning has occurred, the CS (the tone) will be enough to produce the response (salivation, which then is called the conditioned response, CR). For example, a neutral stimulus such as a brand name (e.g., Coca Cola) appearing on a screen, paired with a word spoken by the experimenter one second later (e.g., happy), affects how the brand is subsequently rated (Staats and Staats, 1958). In advertising studies, this is often operationalized as affect referral where a positively assessed image is paired with a brand to measure how much of the positive assessment is conveyed to the brand. Once an attitude to a brand has been established, such as if Coca Cola is associated with happy, this brand can be used in second-order conditioning.

Critics of classical conditioning have identified three problems with the paradigm (Eagly and Chaiken, 1993). The first problem concerns contingency awareness (Fishbein and Ajzen, 1975), the second demand awareness (Page, 1969), and the third that beliefs mediate the affect of the US on the attitude (Fishbein and Ajzen, 1975). Contingency awareness is when respondents are aware of the relation between the US and the CS. Hence; critics using this argument imply that conditioning is based on information processing. Several studies have shown that conditioning is correlated with awareness (Insko and Oakes, 1966; Page, 1969). Demand awareness takes the reasoning behind contingency awareness even further by claiming that participants not only have to be aware but also willing to comply with the experimenter for conditioning to occur (Page, 1969). The idea that beliefs are mediators between the CS and conditioning is also based on the contingency awareness theory. Fishbein and Ajzen (1975) argue that the main consequence of contingency awareness is that participants use the US as information that can help them form an attitude toward the CS.

Several studies have been performed in response to this criticism. Since all three critical ideas build on contingency awareness, they would all be ruled out if contingency awareness could be shown not to be a requirement for conditioning to occur. Therefore, Krosnick, Betz, Jussim, and Lynn (1992) tried to show that attitudes could be formed by classical conditioning even without the participants' awareness of the relation between the US and the CS. Experiments were conducted where negative and positive US were paired with the same CS for a very short time, below the threshold level of conscious awareness (in this case for 13 milliseconds in the first experiment, and 9 milliseconds in the second). A post-experimental task was included in the second experiment, which indicated that awareness of the positive or negative US was not above the

level of chance. Nevertheless, both experiments showed significant conditioning effects.

Moreover, other studies have been performed to address the criticism that the conditioning results are due to participants wanting to comply with the researchers' expectations. For instance, Zanna, Kiesler, and Pilkonis (1970) first conducted the conditioning experiment; the attitude measures were administered later in another experimental context, and by a second experimenter.

In response to the criticism that the US could be used as information deliberately processed along with the CS, and hence help to form an attitude, experiments have been conducted using nonsense words. It has then been questioned whether it is realistic to assume that participants' attitudes toward geometric figures (Sachs and Byrne, 1970) and nonsense words (Cacioppo, Marshall-Goodell, Tassinari, and Petty, 1992) would be based on beliefs.

Rossiter and Percy (1980) compared ad effectiveness following classical conditioning and information processing. They argued that peripheral cues (e.g., pictures) in ads influence consumers through conditioning, while verbal information is used in information processing. Their results indicated that a combination of the two learning forms was most effective, while no significant differences existed between them. Allen and Kardes (1996) also find both affect transfer and inferential beliefs to mediate ad effectiveness. Their findings indicate that inferential beliefs are much stronger than affect transfer, but this may be because they exposed the participants to each stimulus, both the US and the CS, for 7.5 seconds. However, the general agreement among advertising researchers seems to be that both affect transfer and inferential beliefs underlie attitude formation.

Other advertising studies have found that the effects of classical conditioning persist for several weeks (Grossman and Till, 1998), and are more effective for unknown brands than for famous brands (Smith, Feinberg, and Burns, 1998).

#### *4.3.2 Context-dependent evaluations and biases*

Researchers who question people's ability to solve problems optimally do not always explicitly discuss non-conscious influences. However, working memory limitations are commonly used as an explanation for both biases (Loewenstein, 2000) and context dependence (Bettman et al., 1998), and less than optimal effects could probably be categorized as

resulting from non-conscious influences according to Bargh and Wegner's (1998) criteria. Since the purpose here is not to provide an exhaustive report on all research that could be related to non-conscious influences on decision-making, but only to provide a sufficient number of examples as evidence that non-conscious influences on consumer decision-making affect each step of the decision process, the following discussion will be very brief. However, the following references are recommended for more thorough reviews: on context dependence, see Bettman, et al. (1998); on biases, see Loewenstein (2001), or a psychology textbook (e.g., Smith, 1999); and on a combination of various influences, see Cialdini (1993).

#### *4.3.3 Attitude models and consciousness*

According to Bargh (2002), the elaboration likelihood model, ELM, (Petty and Cacioppo, 1984), and the heuristic systematic model, HSM, (Chaiken, et al., 1989), are the most influential social cognition models. He further argues that in this research, even when the respondents are not processing in an effortful manner, but instead are relying on simplifying heuristics, they are still believed to focus their intention on the message, intentionally processing it, and then reporting a consciously formed opinion or attitude. However, he continues that it is not necessary to view these models from a perspective where the consumers' motivation or ability to process a message is manipulated and thereby seeing the consumers' motivation as the deliberate cause of the processing. It is possible to assume a perspective where the message stimulates the processing beyond the deliberate conscious control of the consumer. In this section, three of the more influential processing models are reviewed and compared to see how they apply to this second perspective: the two dual-process theories mentioned above (ELM and HSM), and the resource-matching theory (Meyers-Levy and Peracchio, 1995).

##### *4.3.3.1 Dual-process theories*

The elaboration likelihood model – ELM – (Petty and Cacioppo, 1981, 1986) presents two alternative ways to produce new attitudes or change existing ones. First, there is the systematic processing route, which builds on systematic processing of argument-based information and elaboration of new information with existing memories about topic-relevant issues. The other route, the peripheral processing route, does not build on the actual processing of the arguments, but rather on peripheral factors such as a potential endorser or the number of arguments.

According to the ELM, the likelihood of elaboration determines which of the routes will be followed. When elaboration likelihood is low, the

peripheral route will be taken. In contrast, when elaboration likelihood is high, the central route to persuasion will be taken. The level of elaboration likelihood is determined by motivation and ability.

It has been contended, however, that the ELM's peripheral route lacks theoretical depth. The heterogeneous group of theories that helps to explain peripheral processing, such as heuristic processing, attribution reasoning, social role mechanisms, and classical and operant conditioning have little in common (Eagly and Chaiken, 1993).

The heuristic systematic model (HSM), like the ELM, postulates two paths to persuasion. However, while the central route to persuasion (called systematic in the HSM) is similar in the two models, the low elaboration path differs, hence a distinction is made between peripheral and heuristic processing. First, in the HSM, no explanatory claims are made regarding mechanisms that could explain heuristic processing, such as operant or classical conditioning (Eagly and Chaiken, 1993). Heuristic processing is simply a process that uses a single rule of thumb to interpret a message such as "experts are often correct."

Second, an important difference between the ELM and HSM models is that when a person does not care to reason about whether the message is credible (i.e., when the sufficiency threshold is easily met), then according to the ELM this person will rely on heuristic cues; however, the HSM assumes that the person could equally well use systematic processing if the message is easy enough to interpret or if there is nothing to interpret heuristically (Eagly and Chaiken, 1993). Hence, the HSM model assumes that in a given situation both the consumers' sufficiency threshold and the complexity of the message will influence how the message will be processed.

This means that while both these dual-process theories focus on factors affecting the supply of cognitive resources that are adequate for thoughtful message analysis, the HSM, to some extent, considers the demand for processing resources imposed by the message while the ELM does not. The resource-matching theory, however, focuses on the interplay between the supply and demand of processing resources.

#### *4.3.3.2 The resource-matching principle*

According to the resource-matching theory, the only time the intended persuasion goal will be reached is when the consumer's devoted processing resources match the efforts imposed by the message content or ad execution (Peracchio and Meyers-Levy, 1997). During attentive

processing, persuasion works as follows: If the message displays more information than the consumer can process with the cognitive resources allocated, only a shallow analysis of the ad will take place, and hence only surface aspects of the ad will be considered. If, on the other hand the message displays less information than the consumer is able to process, this too will lead to less than optimal persuasion (ibid.). This time, however, reduced persuasion will result from the spare processing resources being used to question the ad message or process idiosyncratic associations evoked by the ad. Hence, the attention devoted by the consumer is like a window, in that if a window is only slightly open, only a little information can get in, and trying to force more information to enter will only create chaos. On the other hand, if the window is wide open, a great deal of information can get in, and providing only a little information in that situation means that irrelevant information will fill the empty space.

#### *4.3.3.3 Comparing the models*

The models are at variance as to how they explain persuasion under low involvement. The ELM focuses only on the supply of processing resources, while the other two models agree that the demand imposed by the ad must also be taken into account. However, during low involvement, Peracchio and Meyers-Levy (1997) did not find any effects on the level of persuasion linked to their manipulation of ad executions requiring different effort levels. Under low involvement, only feature aspects had a significant effect. This could imply that during low involvement, only feature analysis is performed. That is, the ad is only processed on the surface; it is never integrated with existing knowledge. This is also the conclusion drawn by Meyers-Levy and Malaviya (1999).

This leaves us with two models that suggest that under low involvement, only peripheral processing will take place (ELM and the resource-matching theory), and one model claiming that an easily interpreted message and/or a message without peripheral cues could lead to systematic processing also under low involvement (HSM).

#### *4.3.4 Factors inhibiting the communication effects of an ad*

Yet another effect of the limitations of human information processing capacity is interference. Interference is when the limited processing capacity is interfered with by another cognitive task, such as when people listen in on a discussion between other people and therefore take no notice of what their own discussion partner is saying (Parasuraman, 2000). This kind of interference is partially limited to its own modality (Smith and Jonides, 1999). Hence, seeing interferes more with seeing

other things than with, for example, hearing. However, the entire WM capacity can be occupied with one task and therefore interfere with all other processing (Rees, Russel, Frith, and Driver, 1999).

#### *4.3.5 Concluding remarks on research on non-conscious influences on pre-purchase evaluation*

For this step in the decision-making process, too, findings from several studies support the notion of non-conscious influences: from hard evidence of classical conditioning, mere exposure and accessibility, and interference, to evidence that suggests it is highly unlikely that evaluations have been made under full conscious control, such as the various context effects, and the low effort processing models. This is elaborated further in Article 2, where pre-purchase evaluations are compared for different decision contexts. Furthermore, Article 4 builds on the dual-process literature referred to above. In this article, different evaluations are inferred to occur as a consequence of different types of processing that, in their turn, are activated by the message rather than the respondents' deliberate decision.

#### *4.4 Research on non-conscious influences on Step 4 in the decision-making process: The purchase*

The fourth step in the consumer decision-making process is the purchase. In consumer decision-making models, this step often includes the purchase environment (cf. Engel, et al., 1995). Theoretically, the purchase is to be made from the alternatives generated and evaluated during the previous steps; in other words, the choice is assumed to be made from the brands in the consideration set. Since previous sections have covered various influences on the probability of certain brands being included in the consideration set, some of these earlier reviews also cover this step. This section will therefore be shorter, and cover literature that has focused on investigating the choice. In the experiments typically conducted in the literature presented here, no actual purchases are made. Accordingly, researchers often operationalize this stage of the consumer decision-making process as a choice rather than a purchase (cf. Nedungadi, 1990).

Further, as the issue of unplanned purchases was covered in the first stage of the decision-making model in the present literature review, unplanned purchases will not be discussed again. This section will therefore cover two areas where non-conscious influences have been found to affect the choice: subliminal influences on choice, and context-dependent choices.

The influence of the context will be divided into two subgroups: how the choice itself is influenced by the context, and how the context stimulates various choice rules. The focus here, in other words, is on non-conscious influences on how people choose what to choose.

The connection between context dependence and non-conscious processes may need an explanation. The logic underlying the connection is that context-dependent choice rules are unintended (e.g., perceptual rather than logical) and therefore non-conscious. They are unintended since they build on perceptual shifts rather than strategic shifts. Using asymmetric dominance as an example, it should be obvious that having two options to choose between (e.g., Coke and Pepsi), the inclusion of yet another option (e.g., Fanta) should not alter the relative positions between the first two options. If Coke was preferred in the first choice set, the inclusion of Fanta should not be able to alter the choice in favor of Pepsi. This holds as long as the inclusion of the third option does not shift the perception. However, this kind of shift is exactly what has been found in studies on asymmetric dominance (e.g., Huber, Payne, and Puto, 1982). As a consequence, the influences defined as context dependent (e.g., Bettman et al., 1998) cannot be referred to as intentional strategic shifts, but should be regarded as non-conscious shifts.

The context-dependent choice rules discussed below resemble the biases referred to in the earlier section on non-conscious influences on evaluations, and are often the same since a positive evaluation of an alternative resulting from a judgment bias often leads to a choice.

#### *4.4.1 Subliminal influences on choice*

Some studies have examined the effects of subliminal priming on choice and consumption. These studies, reported in Bargh (2002), and Fitzsimons et al (2002), have found that subliminal primes can make people drink more (Berridge and Winkielman, 2003), and choose a certain drink from a number of alternatives (cf. Bargh, 2002). Berridge and Winkielman (2003) argue that conscious and non-conscious processes take place in separate brain systems, and that under some circumstances, non-conscious processes are decoupled from conscious awareness.

#### *4.4.2 Context-dependent choice and choice rules*

Context dependence on choices is a well-known phenomenon within consumer behavior, at least since Belk (1975). Context dependence occurs when aspects of the decision situation influence the decision the consumer makes. Bettman et al. (1998) summarize studies on context

dependence, and organize them into four different context categories: (1) complexity of the choice process (in its turn, analyzed as: size, time pressure, attribute correlation, completeness of information, information format, comparability of alternatives); (2) problem framing; (3) consumer knowledge; (4) and the degree to which the choice is emotion-laden. Loewenstein (2001) and Fitzsimons et al. (2002) provide examples of context effects declared to be non-conscious. Further, several studies reviewed earlier in this book could be seen as examples of context influences on the decision-making process (e.g., Nedungadi, 1990). Nedungadi (1990) showed that it was possible to influence consumers' choices without altering their preferences simply by priming certain product categories.

Several context effects have been found to involve the level of behavioral loyalty. One of them is the diversification bias, which occurs when people are to make the same number of choices either simultaneously or sequentially. When people simultaneously choose several alternatives from a set, they opt for more variety than when they choose them one by one in sequential order (Simonson, 1989). Another context effect involving loyalty is variety seeking, which is described below.

Not only the choice, but also the evaluation process behind the choice may be context dependent (Bettman et al., 1998; Biehal and Chakravarti, 1986; Loewenstein, 2001). That is, the situation may trigger a certain way of comparing or evaluating alternatives. For instance, comparisons of the processing people use when choosing among alternatives and when evaluating the same alternatives for possible future choice reveal several differences. Nowlis and Simonson (1997) found that people are more likely to compare attributes (than perform a holistic analysis of the alternatives), and rely more on comparable attributes (than on enriched attributes) in the choice task (than in the evaluation task). Similarly, people base choices more on brand-to-brand comparison during memory-based choices, and more on attribute comparisons during stimulus-based decisions (Biehal and Chakravarti, 1986).

#### *4.4.2.1 Variety seeking*

Variety seeking is a robust phenomenon that has received considerable research attention (Inman, 2001; van Trijp, Hoyer, and Inman, 1996). Variety seeking is often seen as a personal phenomenon but could also be seen as context dependent (van Trijp et al., 1996). It has been separated into true variety-seeking behavior (resulting from intrinsic motivations), and derived variety-seeking behavior (which is extrinsically motivated) (van Trijp et al., 1996). Extrinsic motivation often derives from price cuts

or displays, whereas intrinsic motivation is often a consequence of striving to reach an optimal stimulation level (OSL) (ibid.).

The general idea behind variety seeking is that when consumers are very familiar with a product, situation, or location they are assumed to increase the stimulation level by altering their behavior. In the study by van Trijp et al. (1996), increased levels of true variety seeking were found with less consumer involvement in the category, smaller perceived differences between brands in a category, and weaker preferences for the brands in the category. Less variety seeking, however, was found for higher purchase frequency. Since the variety seeking literature contradicts the literature proposing simplified choice rules (variety seeking increases the complexity of a choice), a comparison of the kind of low involvement situations in which these two theories are applicable becomes important. The study by van Trijp et al. (1996) implies that with increased heterogeneity and hedonic features associated with the category, variety seeking becomes more important, whereas with increased frequency of purchase simplification becomes more important.

#### *4.4.3 Concluding remarks on non-conscious influences on the purchase*

The literature review above provides several examples of non-conscious influences on the fourth step of the decision-making process. Since the purchase involves marketers getting paid for their efforts, knowledge about this step should have a high priority. It is likely that a marketer prefers to be the number one brand of choice rather than on preference (e.g., Nedungadi, 1990). Consequently, it is worth noting that several problems regarding non-conscious influences on choice remain unsolved.

Further research is needed, for example, to establish under which circumstances repetitive behavior leads to more or less variety seeking; and how various contexts influence decision-making by eliciting different thoughts. A better understanding of what makes consumers become more price-sensitive or loyal would be of both practical and academic interest. These questions are elaborated on in Articles 1 and 2.

#### *4.5 Research on non-conscious influences on Step 5 in the decision-making process: Outcomes*

The outcome of the purchase typically discussed in the five-step decision-making model is post-purchase evaluation (Engel et al., 1995). However, a possible outcome of low involvement decision-making and limited processing capacity would be purchases without any conscious posterior

evaluation, meaning consumers would repeatedly purchase a product that did not specifically satisfy them. This would happen if a second purchase context matched the first one evoking the same cognitions as during the first purchase leading to a repetition of the purchase behavior. Although the author of the present research believes such behavior is possible, a literature search testing such an idea gave no result. It would appear that the researchers opposing the idea of elaborated deliberate decision processes have focused their criticisms on the steps preceding the purchase (e.g., Olshavsky and Granbois, 1979).

Research, however, does exist, on the effects that choices have on memory, and several positive aspects would be expected for a brand that has been chosen even without any conscious posterior evaluation. It has been shown, for instance, that the experience of choosing a brand leaves relatively strong memory traces, increasing the accessibility of the brand, compared to simply evaluating brands or being exposed to advertising (Alba and Chattopadhyay, 1986; Washburn et al., 2000). Consequently, increased accessibility would improve the evaluation of the brand (Menon and Raghurir, 2003). Further, a previous choice will function as a prototype for the category so that it is used as a benchmark for future choices giving it the advantage of being judged on the attributes that were emphasized during the first choice (Kardes et al., 1993; Lynch and Srull, 1982). Hence, it would be interesting to investigate further how these effects of purchase experience influence other post-purchase activities, such as ad processing shortly after a purchase. This is investigated in Article 5.

#### *4.6 Conclusions from the literature review*

Fitzsimons et al. (2001) concluded that non-conscious influences affected all consumer decisions. Based on the literature review provided above, it could be added that non-conscious influences seem to occur not only in every consumer decision, but they may also influence each step of the decision-making process, though not necessarily every step of every decision.

## 5 Purpose of the present research

The general purpose of the articles and the introductory chapter is to examine non-conscious influences on consumers' decision-making. The more specific purpose of the introductory chapter is to argue that non-conscious influences could operate throughout all the five steps of the

decision-making model. Further, the chapter will provide a general discussion on several different topics to give a picture of a background against which the main contribution of the book, the articles, could be understood.

The articles demonstrate that in addition to influencing each step of the decision-making process, a wide array of non-conscious influences operate at many different levels and influence many different outcomes that affect decision-making with regard to fast moving consumer goods (FMCGs).

## 6 Overview of the articles

The sixth and last section of this chapter serves to provide an overview and discussion of the empirical part of this book. In the first subsection, the articles will be included in a framework of the five-step decision-making model. They will then be presented in one subsection each. These subsections consist of three parts: abstracts of the articles, a discussion of the conceptual fit between the variables studied in the article and non-conscious influences, and the limitations and directions for future research of each article. (For the sake of clarity it should be noted that each article is a piece of freestanding research, meaning that in each article there is a section covering limitations with the article as such. The limitations presented in the introductory chapter cover limitations regarding how each particular article contributes to the understanding of the general purpose of the book, namely the understanding of non-conscious influences on decision-making.) This is followed by a general discussion of the limitations of the research as a whole. The general discussion continues by including the articles in a framework to highlight when and how the influences exert themselves. The articles will also be discussed from two different perspectives: the retailer's and the manufacturer's perspective. Finally, some general contributions of these articles are presented.

The five articles are built on four data collections (Articles 4 and 5 are based on the same study). The study designs vary in the following way: Article 1 is a field study, Articles 2 and 4 are randomized experiments, and Articles 3 and 5 are quasi-experiments (Shadish, Cook, and Campbell, 2002). The variations in design were deemed necessary to minimize the interference effects of the studies on the processing of the participants. Consequently, in the studies in Articles 1 and 3, the respondents were not aware of any study taking place during stimulus

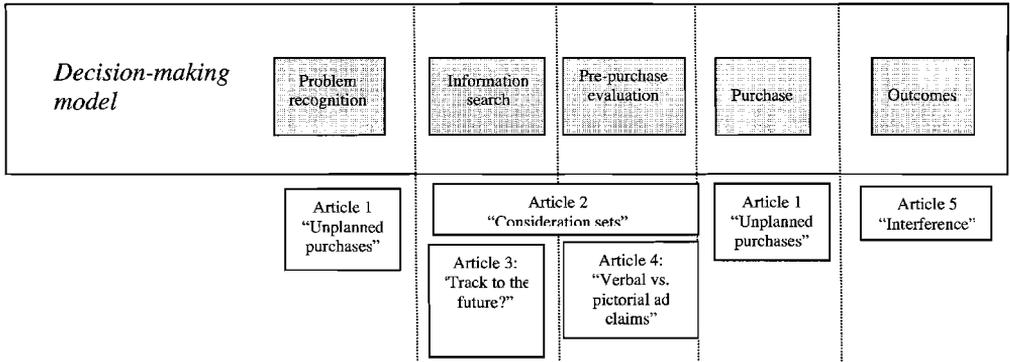
exposure; in the other three studies, however, forced exposure was necessary.

Empirically, all the studies in this book are based on FMCGs for two main reasons. First, since the purpose of this research is to examine non-conscious influences on decision-making, it seemed sensible to focus on decisions to which consumers allocate small amounts of cognitive resources (cf. Hoyer, 1984). Second, the study of non-conscious influences on cognition in general has often been connected with laboratory experiments presenting short-lived effects limited in their application (cf. Kihlstrom, 1987). By using a common empirical basis for all the studies, it was considered that the results would have a greater impact on the discussion of the relevance of non-conscious influences on decision-making.

### *6.1 Fitting the articles into the five-step decision-making framework*

The five-step consumer decision-making model described in section 2.1 will be used as a framework for the five articles making up the empirical part of this research. The articles are intended to highlight non-conscious influences throughout the decision-making process, and to point to the great variety of non-conscious influences that affect the decision-making process.

Article 1 focuses on unplanned purchases, and therefore covers both the first and the fourth step in the decision-making model. Article 2 covers memory-based and recognition-based consideration sets. As explained earlier, the consideration set theory is a two-stage theory, which could be described as the first stage of information search and the second stage of evaluation of the information found during the search. The third article discusses the pre-conscious selection of which information to process more thoroughly. The fourth article covers information processing, and the fifth provides an example of how post-purchase evaluation could be affected by a purchase.



**Figure 5.** The five articles outlined along the five-step decision-making model.

All the studies underlying the five articles in this book include exposures to stimuli that are assumed to cause some kind of effect. However, in each article, the relationship between the cause and its effect is affected by non-conscious influences. These non-conscious influences are not measured directly but are inferred from the observation of how the effects differ between groups, differences that would not have been likely if the decision situation were under full conscious control. The non-conscious influences affect which information is processed and how it is processed. For the decision situation to be under full conscious control, both the inclusion of information in the process and how it is processed should be intended, controlled, effortful, and the person should be aware of the processes.

### *6.2 Article 1: "Unplanned grocery purchases: The influence of shopping- trip type revisited"*

Some researchers view grocery shopping as highly habitual (East et al., 1994) and scripted (Stoltman et al., 1989). Others see it as a construction dependent upon the contingencies that are encountered (Bettman et al., 1998). Stoltman et al., (1989) claim that certain circumstances, such as perceived time pressure, increase the likelihood of the behavior following a mental script. On the other hand, Bettman et al., (1998) argue that with decreased accessibility to a memorized solution to a situation, the probability of the shopping situation being constructed by contingencies increases. Hence, any given shopping trip could be positioned along a

continuum ranging from scripted habitual behavior to contingency-dependent constructions, with various factors influencing the probability of a specific trip's position on the continuum.

The gap between these two views, or the endpoints of the continuum, was the point of departure for the first article, "Unplanned grocery purchases: The influence of shopping-trip type revisited." Mall intercept interviews were conducted with 108 customers in a grocery store, who reported the degree to which they believed their shopping trip to be a major trip or a fill-in trip. This measure has been used to categorize shopping trips in several previous studies, and was hypothesized to be a good demarcation for whether a trip was scripted or constructed. The idea was that since major trip would have been undertaken many times before, shoppers would have an accessible script for that kind of trip. On the other hand, each fill-in trip was believed to be more of a separate phenomenon that would lead consumers to rely more on external information.

The dependent variable in Article 1 was the share of unplanned purchases. It was hypothesized that the share of unplanned purchases should be greater on fill-in trips than on major trips. Earlier research had found the opposite, i.e., that the share of unplanned purchases was greater on major trips than on fill-in trips. However, this earlier research was conducted more than 30 years ago, when grocery shopping was done differently, and often, for instance, by a housewife. In the present research, it was assumed that since major trips previously involved larger shares of unplanned purchases, housewives perhaps regarded these trips as an opportunity to learn about new products, and hence tried to keep themselves informed about products on offer in grocery stores. In the earlier research, it was argued that with more time spent in the store, consumers were exposed to more products and made more unplanned purchases (e.g., Kahn and McAlister, 1997). Hence, in the earlier research, no consideration was given to priming effects induced by different shopping trips, where a trip could be more of a habitual process or more of a contingency-dependent construction. Furthermore, given that all the adult members of a household today often have a paid job, and with increasing numbers of adults living on their own, it was hypothesized that more time in the store would make people with a lack of time feel stressed, rather than allow a pleasurable exposure to more products.

For these reasons, it was hypothesized that consumers would be more experienced with major trips, that major trips would be better planned, and result in a smaller share of unplanned purchases. Furthermore, it was

hypothesized that there would be a negative correlation between the number of products purchased and the number of unplanned purchases.

In general, the findings support the hypotheses and indicate that the share of unplanned purchases is smaller on major trips than on fill-in trips. Further, major trips were found to be better planned than fill-in trips. The fact that people had more experience with major trips than fill-in trips, however, was not found to influence the share of unplanned purchases.

#### *6.2.1 Fit of Article 1 to the discussion on non-conscious influences*

Article 1 contributes to the discussion on non-conscious influences by investigating whether a mindset initiated by a more familiar behavior would lead to consumers following a mental script and taking less notice of the external environment, i.e., whether a goal-directed action, such as making a certain type of shopping trip, would activate (e.g., prime) a certain kind of filter altering susceptibility to non-conscious influences on the decision process. Hence, Article 1 deals with two levels of non-conscious influences. The conscious decision to go grocery shopping is followed by a shopping trip that non-consciously functions either to prime a script or an increased susceptibility to making unplanned purchases. Unplanned purchases are, in turn, regarded as non-conscious influences. To determine whether the influences on the share of unplanned purchases could be argued to be non-conscious, a conceptual discussion about the dependent variable (unplanned purchases) and possible alternative explanations is provided.

In Article 1 it is assumed that there is no reason to believe that a consumer with full conscious control over the decision process should make a greater share of unplanned purchases on a fill-in trip than on a major trip. However, this could perhaps be questioned by suggesting that consumers on a fill-in trip intentionally have decided on being less planned. Therefore, it could be useful here to consider how unplanned purchases were operationalized in the study: If a consumer had planned to purchase milk and cereal, and did so, this was defined as a planned purchase. Similarly, if the consumer who had planned to purchase breakfast purchased milk and cereals, this was also considered a planned purchase if this was what the consumer typically identified as breakfast. However, if the consumer, after having picked up the breakfast items, walked past the deli counter and bought a package of hot dogs, which was not planned, this was defined as an unplanned purchase. Hence, the degree of specification of the plan (milk and cereals versus breakfast) does not confound the results. Put in other words, even if consumers on one of the two trip types to a greater extent would have less specified

shopping lists; this would not directly affect the share of unplanned purchases.

Hence, unplanned purchases were defined as products purchased without any prior degree of conscious planning. Hence, purchases of products whose exposure served as a reminder of a previously made but forgotten conscious decision were not defined as unplanned. Moreover, unplanned purchases had to be from product categories that were unplanned; hence no partially planned purchases where only the brand choice was unplanned were included. A second step in the logical chain assumed in Article 1 was that the recognized need for a purchase of a product that was not planned prior to the trip is considered unintended. Hence, if the need occurs as a consequence of in-store marketing or simply exposure, the need recognition is seen as being due to the context and therefore unintended. If a need is recognized unintentionally, it is the consequence of a non-conscious influence. Hence, more specifically the assumption in Article 1 could be stated as; it is not likely that a consumer on a fill-in trip *intentionally* lets him- or herself be influenced by the in-store environment to recognize needs previously not thought of to a greater extent than a consumer on a major trip.

In Article 1 consumers were found to make a greater share of unplanned purchases on their fill-in trips than on their major trips, but in the study no confound tests are reported. However, it should be noted that although not mentioned in the article, some precautions were taken, which showed that no differences were observed between the groups undertaking different shopping-trip types with regard to the day or the time of the day for the trip. Neither were there any differences between the groups with regard to the number of people in the shopping party.

### 6.2.2 *Limitations of Article 1*

The dependent measure in the first article is the share of unplanned purchases. This measure has been defined in many different ways. Kollat and Willett (1967) provide an overview of nine possible ways to operationalize it. The definition used in the present study is the one used in the Kollat and Willett (1967) study, namely that the need had not been recognized prior to entering the store. This enables product packages in the store environment to influence the choice in two different ways. First, they could either function as memory cues or reminders without initiating any evaluative processing whatsoever. If the reminder was of the kind “Oh yes, I planned to get a package of that,” it was categorized as a planned purchase, but if it was of the “Aha, there’s that new X that I’ve heard of, perhaps I should try some”-kind, it was categorized as an

unplanned purchase. The second way product packages could influence the decision is if they were used to actually evaluate the brands. Such as in the case of a consumer thinking “I wonder if this product that I do not know much about would make my sauce taste better?” The distinction between these two functions of product packages has been used in other studies (e.g., Biehal and Chakravarti, 1986), but was not of interest in the present study, which simply aimed to see if consumers were open to allowing external information to influence their decision-making. Future research could investigate if different mindsets also differ as to which of these two processes they stimulate. Perhaps the use of packages as memory cues requires the lowest effort, relying on plans in memory the second-lowest effort, and using new external information the highest effort. If this is the case, marketers need to be aware of it, since the mere use of external information in the store would therefore not necessarily indicate that consumers are willing to change their learned behavior.

The unplanned purchases measure needs to be developed. The share of unplanned purchases is an important measure for retailers, since it could be used as an indicator of how well the store is doing with regard to its in-store communication with customers. However, the methods used today to assess the share of unplanned purchases are too demanding/ not ideal for researchers; in addition, they are not reliable enough, because they risk interfering with the purchase process, and the unplanned purchase phenomenon is not easily transformed into a question. Further research on this measure is needed. For instance, it could be very useful to know if a single self-report measure on the share of unplanned purchases is reliable (e.g., “How large a share of your total purchases today was unplanned?”).

Earlier research has suggested that non-conscious influences could have an effect on unintended need recognition (Fitzsimons et al., 2002), and in the present book the degree of unintended need recognition is operationalized as the share of unplanned purchases. Previous research has found that factors other than those reported here influence the share of unplanned purchases. Park et al., (1989) found that with greater time pressure and more knowledge of the store environment, the share of unplanned purchases decreased. Cox (1970) found that the size and content of the shopping party influenced the share of unplanned purchases. Other studies have found relations between the time spent in the store and the number of unplanned purchases (Granbois, 1968), and Rossiter et al., (2001) even found that stimulus recognition is positively correlated with the time spent looking at it. Measures on all these variables could be obtained in the same study to compare their relative

strength as explanations for unplanned purchases and to improve the ecological validity.

### *6.3 Article 2: "Measuring consideration sets through recall or recognition: a comparative study"*

Starting with Lynch and Srull (1982), who explicitly called for research comparing recall and recognition, several articles on memory-based consideration sets have been written (Alba and Chattopadhyay, 1985; 1986, and Nedungadi, 1990, to mention a few). However, none of the previous consideration-set studies has compared the two measures. This was the aim of "Measuring consideration sets through recall or recognition: a comparative study," the second article in the present research.

This article studies 670 households that were frequent purchasers of coffee, bread spreads, and toilette tissue. For each category, half the households who were administered a questionnaire reported their consideration sets based on a recall measure with only the category name as a retrieval cue. The other half reported their consideration sets for the same category based on a recognition measure with pictures of all the available brands within the categories. Because all households reported their consideration sets for all three categories, at least one recall-based and one recognition-based measure was reported by each household. For instance, a household that was administered a recall-based measure on coffee was asked about its recognition-based toilette tissue consideration set.

The measures influenced the results in several ways. First, the recognition-based measure functioned as a retrieval cue for less accessible brands. For this reason, the recognition-based consideration sets were both larger and of a somewhat different composition than the recall-based consideration sets. Second, some of the biggest brands had a higher inclusion probability in the recall-based consideration set than in the recognition-based set. Hence, it appeared that brand accessibility could be used as a heuristic for inclusion in the consideration set.

Third, a self-reported measure on how cognitively effortful the task was revealed that the recognition-based task required much less effort. This is probably part of the explanation for three of the other findings: (1) those who were least involved with the categories benefited most from the retrieval aid; (2) the brand evaluations were more positive when reported

during the recognition-based task as compared to the recall-based task; and (3) the respondents reported greater price sensitivity during the recognition-based task than during the recall-based task. A second possible explanation for this third finding, apart from the recognition-based task using less of the available resources and leaving more resources for other operations, is that exposure to all the brands activated other choice rules. This has previously been reported in research by Biehal and Chakravarti (1982; 1983), who found recognition-based decisions to be influenced more by comparisons of attributes, and that respondents who based their decisions on information in their memories relied more on the way the information was structured in memory, hence on brand-to-brand comparisons.

### *6.3.1 Fit of Article 2 to the discussion on non-conscious influences*

Article 2 is based on a comparison between recall and recognition of brands to include in a consideration set. This article, like the first article, involves at least two steps of non-conscious influences. First, this type of design, comparing recall and recognition, has been argued to yield a measure of memory retrieval (Lynch and Srull, 1982). Intentional memory retrieval, such as the retrieval that occurs as a consequence of trying to retrieve preferred coffee brands, is a conscious process (Gardiner, Ramponi, and Richardson-Klavehn, 1998). However, the processes underlying the brands that are not retrieved and the recognition of brands have been argued to be non-conscious (Baars, 2003). According to Bargh (1989), the second step of non-conscious influences involving the processes triggered by retrieval, such as when the recall and the recognition measure trigger different brand evaluations or levels of price sensitivity, should be seen as non-conscious (i.e., situation-dependent, non-conscious processes). It is possible that the greater degree of brand comparison that occurred as a consequence of the recognition-based measure was due to the respondents not having to use their cognitive resources for retrieval and having more spare capacity to perform the comparison. It is also possible that using a mix of memorized and external information is more effortful than only relying on one type of source (Biehal and Chakravarti, 1986). This, too, could explain why the memory-based situation seemed to trigger more memory-based heuristics, such as ease-of-retrieval and loyalty, whereas the recognition-based situation seemed to trigger externally based heuristics such as price sensitivity.

To summarize, the effects reported above are likely to be the result of consumers exerting less than full conscious control over the processes. The retrieval processes, and the way in which the various brands are

evaluated, seem to be due to effortless, spontaneous cognitions beyond the respondents' intentional control. Hence, while the respondents are probably well aware of the thoughts that do enter their conscious processing, it is questionable whether they are in control of the influences that bring the cognitions to mind. It is difficult to present a strong argument for why consumers facing a memory-based situation would evaluate their favorite brand lower than they would if making a recognition-based evaluation if they were in full conscious control of the process.

### *6.3.2 Limitations of Article 2*

A question that arises regarding Article 2 is what the measures actually capture. This may not be a problem in this specific article, Article 2 is relevant because both measures are commonly used, but in the wider perspective the question is legitimate. Which of the two measures provide a more accurate view of the consumer's decision-making process? The article does not offer an answer; this would require a comparison with the brands the very same consumers actually chose. However, even if such a study were undertaken – which probably could be done – it would still not reveal how accurately the choices reflected consumers' underlying preferences and values (Bettman et al., 1998). However, future research should increase the set of measures that are compared to include a comparison with a choice set.

### *6.4 Article 3: "Track to the future? A study of individual selection mechanisms preceding ad recognition and their consequences"*

This article was inspired by research by Janiszewski and Shapiro on preconscious advertising effects as a consequence of incidental ad exposure. Despite the fact that approximately fifty percent of all print ads fail to be processed enough by consumers for the ads to be recognized at a later stage, and despite the research in psychology viewing attention as a multistage process with selection mechanisms believed to be occurring prior to object recognition, very little consumer research has been done on this topic. Greenwald and Leavitt (1984), Grunert (1996), and Ratneshwar et al., (1997) are exceptions, with the Ratneshwar et al. (1997) study being the only empirical one.

The design of the study behind Article 3 was very important for the study to be able to achieve its aim. It was vital that all respondents, except for those in the control group, were exposed to the stimulus ad. In addition, they had to be unaware of participating in the study during the exposure

to prevent unwanted influences effecting their processing of the ad. It was also important that the amount of attention devoted to processing the ad was allowed to vary naturally. To meet these requirements a poster ad was placed near a doorway that all respondents had to pass through. The exposure took place as students and business people entered a lecture room, and they had no idea about the study at that time (n=147). To clear their short-term memories, a brief lecture was given before the data were collected.

The results indicated that processing of the stimulus ad had occurred prior to the processing stage required to leave enough memory traces for the ad to be recognized when the measures were taken. Hence, the results indicated that the existence of some kind of perceptual vigilance (instant ad liking) and perceptual threshold (an instant perception that the ad was a persuasive attempt) had influenced the ad recognition measure. These selection mechanisms were not influenced by factors such as involvement in the product category, familiarity with the category, need for cognition, expertise with the category, and brand attitude. The ad claim had a learning effect only on the respondents who could recognize the ad.

One measure included in the study, but excluded from the article because it would have required an entirely new theory chapter, was the measure “I tried hard not to be influenced by the ad.” This measure was naturally taken only for those who could recognize the ad. The analysis of the measure showed that respondents who tried hard not to be influenced were actually more influenced. This is in line with the research that inspired the inclusion of the measure in the study in the first place: “the stop-signal paradigm” (Logan, 1989), which states that stopping a spontaneous thought is difficult unless it is actively replaced with another thought. This is mentioned here since it is consistent with the overall purpose of this book.

In summary, the results supported the notion that the respondents’ unintended processes were able to shut out stimuli they categorized as persuasive attempts.

#### *6.4.1 Fit of Article 3 to the discussion on non-conscious influences*

Article 3 is the only one of the five articles that contains a measure intended to assess the level of consciousness (with the possible exception of the measure of cognitive effort in Article 2). This measure is ad recognition, and it is used as a grouping variable distinguishing between respondents who did recognize an ad and those who did not. Recognition of an object has been used as a definition of whether conscious

processing has occurred in previous consumer-behavior research (e.g., Shapiro and Krishnan, 2001). Therefore, given that all the respondents had been exposed to the ad, any differences found when comparing how the members of the two different groups perceived the ad would be tapping a process, which should be possible to define as non-conscious (cf. Janiszewski, 1990; Shapiro, MacInnis, Heckler, and Perez, 1999).

#### *6.4.2 Limitations of Article 3*

One of the problems with the study behind Article 3 was that of controlling the respondents' exposure to the ad. The design was similar to that in previous studies on incidental ad exposure except that other studies have often included efforts to prevent respondents from looking directly at the ad. In the present study, this was taken care of in the way presented in the previous paragraph. However, even better control over the exposure would be possible by filming the respondents while they are exposed to the ad. Based on that kind of data, it would be possible to increase our knowledge of the connection between eye fixations and the qualitative aspects of ad processing. This has been called for in previous research (Pieters and Wedel, 2004).

#### *6.5 Article 4: "Verbal versus pictorial ad claims and the learning of new brand attributes"*

Articles 4 and 5 are products of the same data collection, and both discuss reduced learning of an ad message due to information overload in short-term memory. Article 4 explored whether a text-based ad that was executed simply enough so it could hardly be misinterpreted could produce the learning effects normally found to result from central or systematic processing. A second question was whether a picture-based ad that could be interpreted in different ways risks evoking idiosyncratic thoughts instead of the intended ones.

To examine these issues, two ads conveying the same ad claim – one verbally and one pictorially – were produced. Pretests were performed to ensure that both ads conveyed the same message and to the same extent. The respondents were required to look through a booklet of five ads in a casual manner; the experimental ad was placed in the middle. The respondents were randomly assigned to either of two groups: one that was exposed to the pictorial ad and the other to the text-based ad (n=236).

The results indicated that the text-based ad was judged on credibility. If it was judged as credible, this would stimulate processing of the new

attribute along with the brand schema so that the new attribute would become one of the associations explaining the brand attitude. The picture-based ad, on the other hand, evoked a more positive ad attitude. However, it did not stimulate processing of the new attribute along with the brand schema. Therefore, the associations contributing to the brand attitude remained unchanged after exposure to the pictorial ad.

Hence, the respondents appeared either to evaluate the ad for its credibility before encoding the ad claim into the brand schema, or if they were overloaded with information they simply let the ad evoke idiosyncratic thoughts.

#### *6.5.1 Fit of Article 4 to the discussion on non-conscious influences*

In Article 4 no direct measure was obtained showing whether the process used to interpret the ad was initiated consciously or non-consciously. However, Bargh (2002) has pointed out that the initiation of at least peripheral processing should be seen as effortless and hence non-conscious. If evoking the interpretation is effortless and spontaneous as Bargh (2002) argues, a number of other researchers also define it as a non-conscious influence on the process (e.g., Baars, 2003).

Further, the pretest showed that with more conscious control over the evaluation of the ad content, the ad formats did not matter. However, when attention was divided and the respondents did not know why they looked through the booklet, the different ad formats yielded different results. Hence, even if the respondents were well aware that they were studying the ads, it appears that the way in which they processed the ads was not decided on in an effortful and controlled manner.

#### *6.5.2 Limitations of Article 4*

One problem with the study used in Article 4 concerns ecological validity. Given the aim of the article, it is clearly vital that the processing is stimulated by the ad and not by the study design. However, being involved in an experiment probably affects the respondents' cognition, which may lead to demand biases and increased involvement. Because the purpose of Article 4 was to measure ad-processing effects in low involvement settings, field studies supporting the same hypotheses as those in the study would further increase the credibility of the results.

### *6.6 Article 5: "Interference effects of a purchase on subsequent advertising within the category"*

As discussed in Article 4, when an advertised message requires more processing resources than the consumer is willing to allocate to the task, consumers become selective in what and how they process (Pham, 1996). Another possible consequence of information overload is competitive interference. Interference has occurred when, for some reason, parts of an ad's message have not been encoded to the advertised brand's schema. Interference, therefore, reduces an ad's effectiveness, and the message may even be attributed to a more accessible competing brand.

As several prior studies have found that choices create stronger traces in memory than merely attending to product information (cf. Biehal and Chakravarti, 1986), the aim of Article 5 was to examine the interference effects of a purchase.

As mentioned above, Article 5 builds on the same data collection as Article 4. However, the category of study was chocolate, and the respondents who were not regular purchasers of the chocolate were screened out, leaving 195 respondents. This was done so as not to confound the results, since chocolate purchase was the grouping variable in the study behind Article 5.

The results of the article indicate that the purchase does, in fact, interfere with the processing of the advertised message. The respondents who had purchased chocolate during the 24 hours prior to being exposed to the ad did not like the ad or find it as credible as those who had not purchased chocolate. Further, those who had purchased chocolate were less influenced by the ad claim, and found it more difficult to remember the advertised brand.

#### *6.6.1 Fit of Article 5 to the discussion on non-conscious influences*

Since Article 5 is based on the same study as Article 4, it has no measure on the level of consciousness. However, the very notion of interference is that it is an unconscious process. Furthermore, Baars (2003) notes that only intentional learning should be regarded as a conscious process, whereas spontaneously occurring, incidental effects on learning are non-conscious.

Could the effects discussed in the article still be due to only fully consciously controlled processes? Confound tests revealed no relevant differences between the groups regarding their activity as chocolate

consumers or their loyalty toward the brand. The only difference found was that respondents who had recently purchased chocolate stated that they would purchase another chocolate bar sooner in the future than the other group. Hence, their motivation to learn new information should be even greater, further supporting the explanation of a non-conscious influence. Hence, there is no reason to believe that the interference effect was due to a fully conscious decision not to learn the new message.

#### *6.6.2 Limitations of Article 5*

Article 5 studied the last of the five steps in the model of the consumer decision-making process. This step often covers a wide array of issues such as consumption, post-purchase evaluation, and divestment. Of these three issues only the second (post-purchase evaluation) was addressed in the article. The other two (consumption and divestment) remain to be explored. Further, the article studied interference effects on a specific brand independently of what brand had been purchased; hence post-evaluation of the purchased brand was not studied either. Future research should study when post-purchase evaluations occur, and the effects they have.

### *6.7 General discussion of the articles*

This subsection provides a general discussion of the articles. First, some general limitations of the research as a whole will be discussed. Second, an attempt to clarify the relationship between the causes, effects, and non-conscious influences will be made by fitting the articles into a model. Third, the articles will be discussed from a retailer's perspective and a manufacturer's perspective to lay the ground for the discussion of the contributions.

#### *6.7.1 General limitations*

The limitations of the articles one by one are covered in other parts of this book. This section will cover the general limitations of the research as a whole.

The articles in the present research extend in many directions, and thus several concepts are discussed only briefly. Perhaps the research would have benefited from following a narrower research focus, probing deeper into one of the issues examined by the articles. Nevertheless, the articles do have a common denominator, namely non-conscious influences on consumer decision-making.

Articles 3, 4 and 5 used print ads. It was found that in a low involvement setting, and under incidental ad exposure, the consumers' preferences, assessments of the message's reliability, and own experience provided at least a partial defense against being persuaded. However, print ads are not very obtrusive. Intuitively, consumers would more likely disrupt the processing of print ads without being aware of doing so than change channels during a commercial break without being aware of it. Therefore, before drawing conclusions regarding how well non-conscious influences serve the intentions of a consumer, non-conscious influences of more intrusive media should be investigated.

Each of the five articles concerns decision-making regarding fast-moving consumer goods. The choice to study FMCGs was deemed appropriate since the probability of finding unintended cognitive effects on consumers' decision-making was assumed to increase with the respondents' increased experience of the decision (Fitzsimons et al., 2002). However, at the same time, generalizing the results to decision-making for other types of products becomes more difficult. Regarding the effects of ad processing during incidental exposure, it is reasonable to believe that the effects would be the same independent of the product category, because they were found to occur without higher-order cognitive processing. However, it would also be reasonable to assume that ad claim processing differs with the degree of experience of the product category and the importance of the decision. The same could be true for memory recollection. With less experience, there is less internal information to rely on. Therefore, whether or not the results presented here are applicable to decision-making for other types of categories remains unanswered.

Reliability estimates are undertaken to assess the inconsistency produced by random errors. In the research presented here, such estimates have been restricted to calculations of coefficient alpha when multiple-items have been used, and the use of previously tested variables when available. Test-retest reliability was not estimated, since in some of the studies the respondents were unaware that they were taking part in a study. When the respondents were aware of the study, the risk that an initial measurement would alter the characteristic being measured was considered to be too great.

One issue regarding validity is how to measure the kind of variable of interest here, a non-conscious one, with minimal impact on the outcome. Ericsson and Simon (1987) have created a theoretical framework of three different types of verbal reports to study cognitive processes. Two of

these are process observations, that is, the subjects are recorded during the processing. The first of these is called 'talk aloud,' and requires respondents to explain what they are thinking to an experimenter or tape recorder. This method interferes with other cognitive processes and makes the participant aware of the process. For this reason, it is unsuitable for measuring the level of consciousness.

The second of the two process measures is called 'think aloud.' Here, subjects are instructed to speak their thoughts out loud without explaining them. This "inner speech" is not believed to interfere with other cognitive processes. However, it still suffers from the second problem described above, i.e., the problem of making the consumers aware of the process. When respondents speak their thoughts they probably become aware of them in a rather unnatural way. Langer (1989) has managed to prove that people can listen and write automatically, but 'thinking aloud' would not suit the purposes of the present research.

The third type of process is a post-process observation. After a person has processed an object or participated in an experiment, s/he is asked about how conscious the processes were. This method, however, has two drawbacks. First, there is the issue of retrieval; more specifically, the thoughts that the subject experienced during the process may not all be retrieved. Second, there is a problem with memory constructions, as the information retrieved would be a mix of the subject's thoughts during the process and other associated memories (cf. Ericsson and Simon, 1987). Hence, thought protocols obtained after the processing has occurred do not seem to offer a good solution either. Further, if the subject were unaware of the process, what would there be to report in a post-process observation?

Feldman and Lynch (1988) have highlighted two other issues with post-process observations. First, they show that the actual responses measured (e.g., the share of unplanned purchases) will guide later responses pertaining to the same object (e.g., "how deliberate was your openness towards making unplanned purchases?") risking the correlation between the two measures to be inflated. Hence, if the second measure was used to infer how conscious a cognitive process had been the results risk being inflated by this created correlation. Second, they show that output interference from the first measure taken could suppress the retrieval of alternatives that would have influenced the second measure if it were not for the first one. That is, cognitions activated while responding to the earlier measure (e.g., a certain way of processing an ad) could interfere with later efforts to estimate what would have happened under full

conscious control (e.g., “would you say that you deliberately chose to process the ad that way?”).

This was the reasoning that was used to select the variety of designs, experiments (Articles 2 and 4), quasi-experiments (Articles 3 and 5), and the field study (Article 1). Questionnaires to measure differences in effects between groups, where manipulations or natural variation restrict the way groups process information, have been considered a better alternative than various verbal reports of the processing itself.

The studies presented in Articles 1, 2, and 3 lack the control often provided by laboratory-experimental designs, as they were conducted in a natural environment. Laboratory experiments are commonly used for studies of non-conscious effects (e.g., Janiszewski, 1988); however these studies are often criticized for their lack of ecological validity (MacKenzie, Lutz, and Belch, 1986). The study on unplanned purchases (Article 1) and the study on ad recognition (Article 3) would probably have been impossible to conduct if the respondents had been aware that they were taking part in a study. Hence, for the sake of ecological validity, only post-tests were performed. The consideration set article (Article 2) was administered by mail. This carried the risk of not controlling for confounding factors such as who actually filled in the questionnaires. In some cases, the respondent may not have been the household member who makes the decisions regarding the categories in the study (although this was an explicit requirement), or perhaps some respondents took a quick look in the fridge to see what brand they preferred. These risks were taken for two reasons. First, the names and addresses of more than 1,300 real consumers in the categories of interest were available from a retailer. It would have been very expensive and much more difficult to gather these consumers at the same time and place to make a more controlled experiment possible. Second, the design that was used meant that consumers filled in the questionnaires in their natural environment with the same retrieval cues they normally have when deciding which brands to purchase.

The contributions of the articles to the overall purpose – to examine non-conscious influences on the consumer decision-making process, should be viewed with these limitations in mind.

#### *6.7.2 Situational and chronically accessible non-conscious influences*

All the articles are based on the measurement of the effects of some kind of stimulus exposure. In Articles 1 and 2, the stimuli in question are products; in Articles 3, 4, and 5 the stimuli are ads.

However, another possible categorization of the articles provides an opportunity to understand an important difference between the various kinds of causes, effects, and non-conscious influences found in the studies. This categorization builds on a model presented by Bargh (1989) and depicted earlier in this book (cf. Figure 4). Based on this model, the articles could be categorized in the following way: In Articles 3 and 4 only one step of non-conscious influences affects the decision process. After the respondents are exposed to different ads, measures can be obtained and the non-conscious influences assessed. Bargh (1989) referred to this kind of influence as pre-conscious, as the influence occurs prior to any conscious processing. In Articles 3 and 4, ad exposure causes the various communication effects, which have been affected by the chronically accessible non-conscious influences (cf. Figure 2c).

However, in Articles 1, 2, and 5, an initial step precedes stimulus exposure. This step is probably conscious, and the conscious processes occurring during this step have an effect on which non-conscious influences or filters will occur during the second step, i.e., the stimulus encounter. That is, in Articles 1, 2, and 5, conscious processes prime the non-conscious influences so that they can exert their influence later during the stimulus encounter. In Article 1, the conscious step activating the non-conscious filter is the decision to undertake a certain kind of shopping trip; in Article 2 it is the situation framing the generation of a consideration set, and in Article 5 it is the existence of a prior purchase. Because all these initial steps are most likely conscious, Bargh (1989) referred to the group of non-conscious influences that followed some prior conscious processing as post-conscious.

<i>2a.</i> <i>/Art.</i>	<i>Goal-directed action</i>	<i>Stimulus encounter</i>	<i>Goal-dependent non-conscious influence</i>	<i>Observed effects</i>
<i>1</i>	Fill-in shopping trip	Processing of in-store stimuli	Problem recognition	More unplanned purchases
	Major shopping trip-> Scripted behavioral guide activated		Follow script	Lesser share of unplanned purchases
<i>5</i>	Purchase -> Strong memory traces created	Ad exposure	Strong memory traces interfering with ad message	Inhibited learning

<i>2b.</i>	<i>Situation-dependent action</i>	<i>Stimulus encounter</i>	<i>Situation-dependent non-conscious influence</i>	<i>Observed effects</i>
<i>2</i>	Recall-generated consideration set -> Effortful retrieval		Spontaneous judgment	Use of less effortful, memory-based heuristics, e.g., loyalty, accessibility
	Recognition-generated consideration set	Sheet with all available brands	Spontaneous judgment	More available processing capacity for brand comparison

<i>2c.</i>	<i>Stimulus encounter</i>	<i>Chronically accessible non-conscious influence</i>	<i>Observed effects</i>
<i>3</i>	Incidental ad exposure	Pre-conscious selection	Ad processing
	Incidental ad exposure	Discontinued processing	No ad recognition
<i>4</i>	Exposure to text-based ad	Spontaneous processing (systematic)	New brand association learned
	Exposure to pictorial ad	Spontaneous processing (idiosyncratic)	Inhibited learning

**Table 2.** The non-conscious influences examined in the articles divided into goal-dependent (Table 2a), situation-dependent (Table 2b), and chronically accessible (Table 2c) non-conscious influences.

However, post-conscious influences can also be considered to be of two kinds: a goal-dependent kind, and a situation-dependent kind. The influences studied in Articles 1 and 5 are goal-dependent (Figure 2a), whereas the influences studied in Article 2 are situation-dependent (Figure 2b). The difference is that goal-dependent non-conscious influences are triggered by a cause that is an intentional goal-directed

action, while situation-dependent non-conscious influences are spontaneous reactions to a situation.

Hence, it could be concluded that some of the non-conscious influences presented here are chronically accessible, while others need some prior goal-directed or situational activation.

### *6.7.3 A consumer decision-making model with five steps adapted to two perspectives*

The generic five-step consumer decision-making model emanates from a view of a controlled cognitive decision process. As explained earlier in this book, this view has been questioned for its applicability to decision-making regarding FMCGs (e.g., Olshavsky and Granbois, 1979). Corstjens and Corstjens (1995) suggest an alternative approach by using different perspectives in their discussion of consumer decision-making. For this reason, the five articles presented in this book will be incorporated into the model proposed by Corstjens and Corstjens (1995). This is done to provide an alternative approach to discussing the articles, which may appeal to practitioners and consumers who may find the five-step decision-making model too theoretical. It should be noted that each step in the five-step model could be relevant at some point and to some extent. However, the model soon to be presented could perhaps provide a better fit with the kind of behavior often reported from studies of FMCG purchases (e.g., Hoyer, 1984).

The perspectives by Corstjens and Corstjens (1995) seem to build on a more perceptual approach with limitations to consumers' processing capacity in mind, hence fitting the notion of non-conscious influences on consumer decision-making under study in this book. The two perspectives are the retailer (shelf space) perspective and the manufacturer (mind space) perspective. For retailers, despite their use of various marketing communication tools such as advertising and fliers, the main marketing focus is on their stores and on in-store marketing. Their scarce resource in their struggle to influence consumers is shelf space. Manufacturers, on the other hand, spend large amounts of their marketing budgets on in-store promotion activities, but their main focus is on creating strong brands. Strong brands are built over time as consumers become familiar with different qualities of the brand and make new brand associations. Since the consumers' cognitive resources are finite, more for one manufacturer means less for the competitor; this has been referred to as a struggle between manufacturers to maximize their own brand's mind space.

These two perspectives are of interest for two reasons. First, they represent the two most common ways in which the marketers communicate with the consumers (in the stores and with ads). Second, from the consumers' perspectives shelf space and mind space are the two large sources of information that consumers have to rely on. As has been noted above, the feature they have in common is that the information they contain by far exceeds the information that can be processed by consumers.

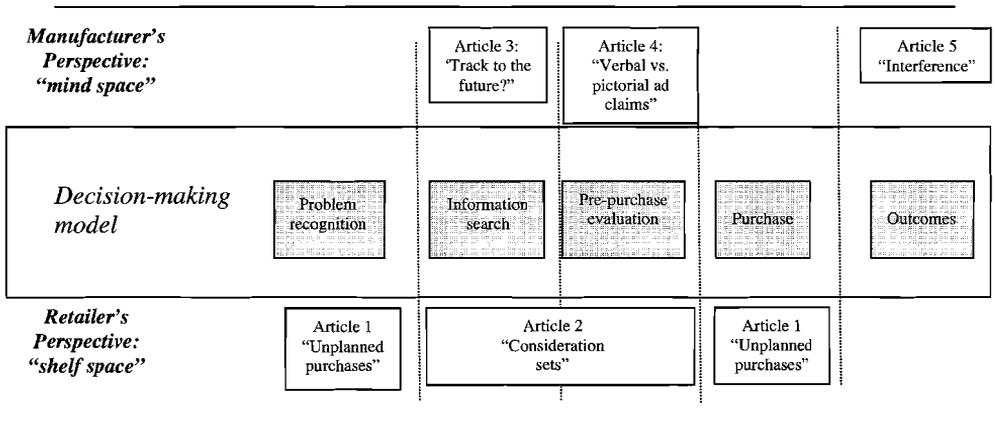
Consequently, both sources suffer from consumers developing ways of instantly and effectively narrowing the amount of information they use. Simplified decision-making models could hence be developed from both the retailer and the manufacturer perspective, both in which non-conscious influences play a major role.

From the retailing perspective, the process of trying to influence the consumer in the store takes place at the time of the purchase (Rossiter and Percy, 1997). There are at least two variations of this kind of process. First, consumers may have identified a need but have to see the different brands to be able to recognize the brand they want. For instance, if a consumer is out of toilette tissue, s/he may not know the name or the look of the brand s/he likes until s/he sees it. A second possible variation on this kind of process is when exposure to a brand is what makes the customer identify the need, such as when s/he walks by a display of ready made pancakes and realizes that s/he really wants pancakes. Hence, as regards in-store decision-making, the decision process could be reduced to two steps prior to purchase. Either it starts with need recognition followed by brand recognition, or it starts with brand recognition followed by need recognition. The second version, when consumers first recognize the brand and only then realize they want it, is a bottom-up-kind of process that is sometimes referred to as stimulus- or recognition-based (Olshavsky, 1994, Rossiter and Percy, 1997).

The process of building strong brands, or fighting for mind space, occurs prior to the purchase (Rossiter and Percy, 1997). The aim of this kind of process is to link the brand to certain needs to ensure that the brand in question is considered as a possible purchase. For example, if a consumer realizes s/he wants a soft drink while watching TV, the Coca Cola Company wants him/her to automatically consider one of its brands and go to the store with only its brand in mind. Or if the category need is activated while in the store, the manufacturer's aim is that the associations between the category and the brand will be strong enough so that the consumer only detects the manufacturer's brand on the store shelf

(Alba and Hutchinson, 1987). Research finding this kind of behavior plausible has shown that very little time is spent standing in front of a shelf in a grocery store, and comparisons between brands are rare (Hoyer, 1984). Hence, the consumer decision process could include only two steps prior to purchase; need recognition and recall of *one* brand. This is often what the manufacturer is striving for in the fight for mind space. This top-down kind of process is sometimes referred to as memory- or recall-based decision-making (Desai and Hoyer, 2000; Nedungadi, 1990; Rossiter and Percy, 1997).

The articles in the present book following the five-step consumer decision-making model could also be adapted to these two perspectives. This alternative outline is depicted in Figure 6. As shown, all the five steps in the decision-making model are intended to be covered by some aspects of the empirical work. Further, Article 1 and 2 mainly belong to the retailer perspective, while the last three articles mainly belong to the manufacturer perspective. This delineation is based on Articles 2, 4, and 5 empirically studying advertising, whereas Articles 1 and 2 empirically study purchases and consideration sets.



**Figure 6.** The articles outlined along the five-step decision-making model and adapted to the two perspectives. Articles 1 and 2 are connected to the retailer's perspective, since they discuss recognition-based decision-making. Articles 3, 4, and 5 are connected to the manufacturer's perspective, since they discuss the processing of ad messages. Article 2 partially belongs to the manufacturer's perspective, since it covers retrieval of brands from long-term memory (LTM).

In Article 1 the focus is on how the consumers' mindsets could alter the propensity of the consumers to make use of either shelf space or mind space during a given shopping trip. Article 2 examines differences between decision-making during a recall based (mind space) versus a recognition based (shelf space) situation. Articles 3 and 4 examine how consumers defend their limited mind space against unwanted stimuli. In article 3 persuasive messages were shut out of conscious processing. In Article 4 messages too complex to be judged for their credibility only elicited idiosyncratic thoughts. In a way Article 5 examines a defense as well, a defense that makes information from prior decisions interfere with the learning of new incoming information.

The terminology used by Corstjens and Corstjens (1995) describing the battle for mind space and shelf space seems therefore very fitting to the findings presented in this book. To a great extent, the battles seem to be battles for control over the non-conscious influences on consumers' decision-making. Together, the two perspectives discussed above, the retailer's perspective and the manufacturer's perspective, and a third perspective, i.e., the consumer's perspective, will serve as an outline for the discussion on the contributions in the next subsection.

### *6.8 General contributions from the research*

As with the limitations, each article contains a section covering the contributions of that specific work. This sub-section will highlight additional and more general contributions with a specific emphasis on contributions related to non-conscious influences on consumer decision-making.

Figure 7 is an attempt to visually present the outline of the present research and the contributions of the articles in one diagram. It presents the five-step consumer decision-making process, the retailer and manufacturer perspective, the articles in the way they relate to the model and the perspectives, and finally the contributions. The contributions (the ellipsis in Figure 7) are not contributions in the sense that the phenomena are entirely new; they are contributions in that, in one way or another, they shed some new light on the phenomenon. Hence, even if the phenomenon itself has been known since before, the present research adds to its understanding.

The contributions are divided into three categories. The first category includes contributions intended for retailers, the second category is intended for manufacturers, and the third is aimed at those of us

interested in consumer issues, and perhaps the more philosophical question of free will.

### *6.8.1 Contribution for retailers*

The major contribution of the present research for retailers could be expressed as “Consumers need memory aid.” Regular grocery stores have between 6,000 and 10,000 items in stock, whereas regular customers probably purchase around 50 different items on a regular basis.

According to Kahn and McAllister (1997), approximately one fourth of the stock-keeping units (SKUs) in a regular store move less than one unit a week. Still many customers complain about the lack of interesting products, lack of inspiration to create new dishes, or even their lack of ability to remember the dishes they are familiar with. Consumers may even start to patronize restaurants as a way to stimulate the need for variety (or memory) that the grocery store fails to satisfy.

In this regard, grocery store owners need to realize that in-store marketing should serve to evoke the mindsets and associations that consumers want in their search for inspiration and variety. It is fortunate that grocery stores today understand that they have to rise to the challenge from restaurants and fast food places in “the battle for the stomach” (Kahn and McAlister, 1997). However, it takes more than keeping ready-to-eat food on the shelves to truly fight back. Storeowners have to take into consideration the non-conscious aspects of consumers’ decision-making processes. They need to learn to evoke the right mindsets, so that consumers take in the products that are displayed. They also have to realize that people’s memories rely on memory cues to be efficient, and stores should be designed to provide these memory cues. Further, they need to realize that consumers use simplified decision-making in the stores and they need to put this knowledge into action.

The store is an important part of the stimulus environment contributing to the consumers’ construction of the shopping situation (Bettman et al., 1998). The article on unplanned purchases presented in the research at hand showed that willful planning did decrease the share of unplanned purchases, but experience with the shopping situation did not. This suggests that to a large extent, even those customers who go to the store almost every day construct their shopping experience with the aid of the contingencies they encounter. Consequently, if the store looks the same every day, it evokes the same memories and choice rules every day, perhaps leaving customers with a feeling of not coming up with any ideas of what to buy apart from what they normally do.

Since non-conscious influences are a viable part of the decision process (e.g., Fitzsimons et al., 2001), stores need to rely more on these insights and use displays, themes, happenings in the stores, integrated marketing communications, decision help (such as McDonald's menus), exposures that show how a product is used (such as at IKEA), and perhaps display the same items in several different places in the stores, to evoke the right mindsets and associations in their costumers. This would not mean manipulating consumers by relying on non-conscious influences on their decision-making processes, but rather giving them what they want, namely inspiration, reminders, and useful product and cooking information.

### *6.8.2 Contributions for marketers using advertising*

For organizations using advertising, perhaps the most valuable insight offered by the articles is the need for advertisers to realize that consumers' processing efforts are small. This means that advertisers who do not take this into account in their ads risk using ads that have no effect on consumers.

First, for the ad to be noticed at all, it has to be liked and not seen as a persuasive attempt. If this stage is not passed, the consumer will not even know that s/he has been exposed to the ad. Second, if the ad succeeds in this first perceptual stage, it must non-consciously (automatically) evoke the right associations and processing strategies (e.g., Meyers-Levy and Peracchio, 1995). If not, the ad will evoke idiosyncratic thoughts. The idiosyncratic thoughts may evoke a competitive brand and thus lead to competitive interference, or even evoke thoughts that are entirely unassociated with the product category. Imagine, for instance, an ad for low-fat yoghurt endorsed by an athlete. Such an ad could trigger thoughts about another low fat diary product or perhaps elicit thoughts about the athlete in question or even about the Olympic Games. Any of these elicitations of idiosyncratic thoughts risk doing no good at all or even more harm than good to the advertised brand.

The results support that; at least for the low involvement product categories examined in the research at hand, advertising should be very simple. The ad should create associations between the brand and the product category, while at the same time trying to minimize the risk of eliciting idiosyncratic thoughts and competing brands.

### *6.8.3 Contributions for consumers who want to maintain/regain control over their grocery shopping*

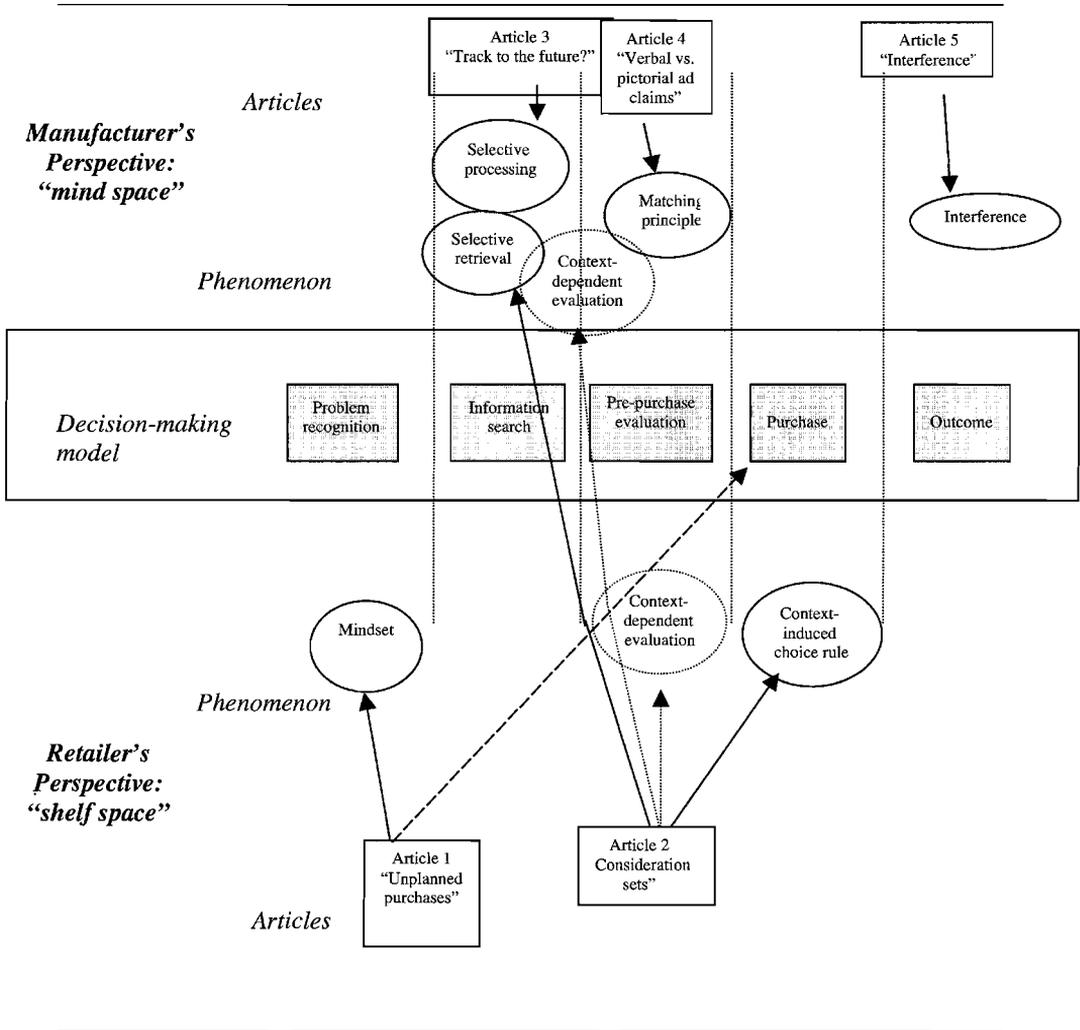
The literature review and the present research clearly demonstrate that the consumer decision-making process is affected by influences that are not fully conscious. Consumers are not always aware of the influences, neither are the influences always intended, effortful, or controlled. Hence, the present research supports previous findings (cf. Fitzsimons et al., 2001) that consumers do not have full conscious control over their decision-making.

However, the empirical research at hand implies that non-conscious influences on the decision-making process – at least to the extent tested here – serve the purposes of consumers (cf. Bettman et al., 1998). When grocery shopping, consumers set their minds to be more or less susceptible to the contingencies they encounter. Pre-planning a grocery trip is perhaps a sign of full conscious control, and the decision to activate this mindset or an alternative mindset appears to be a deliberate action. In addition, the empirical results indicate that the respondents had a filtering process that made them pay attention to stimuli that they liked and did not perceive as persuasive. Only if these two criteria were met did the experimental ad have a chance of being consciously processed. Moreover, when another experimental ad was processed more consciously, the respondents automatically seemed to judge whether or not they had the processing resources available to make a credibility judgment of the ad claims. If they did not have resources available, the ad in the empirical study presented here was found not to influence the brand associations. Thus, only when the respondents had enough processing power available to evaluate the ad's credibility was the ad claim found to have an effect. Finally, the findings indicate that the memory traces of a prior purchase were not easily overrun by the memory traces of an exposure to an advertisement. A recent choice seems to create memory traces that are strong enough to interfere with marketers' attempts to create new brand associations.

Hence, consumers seem to have non-conscious defenses that select the information that may enter their conscious decision-making processes, and seem to have an ability to reject influence attempts that are too demanding to be judged for credibility, or that do not match their recent inferences.

However, some questions still remain unanswered with regard to consumers' control over their decision processes. These include the degree to which mere exposure effects play a role in the actual purchase

process (Janiszewski, 1993), how easily learning effects can be created even at a non-conscious level (Shapiro and Krishnan, 2001), and how strong the memory traces of marketing activities can be compared to the memory traces of consumers' own choices (Biehal and Chakravarti, 1986; Posavac et al., 2001). Yet, the findings presented here indicate that although non-conscious influences on consumer decision-making are beyond consumers' full conscious control as defined by Wegner and Bargh (1998), consumers are not entirely in the hands of marketers.



**Figure 7.** Contributions of the articles and their relation to consumer decision-making theory. The outline of the thesis, based on a five-step consumer decision-making process model adapted to both a retailer and manufacturer perspective. The squares delineate the articles; the ellipses represent the areas within which the contributions of the articles are to be found. They are contributions in that they shed some new light on the phenomenon even if the phenomenon itself is not new. The upper half of the model depicts the manufacturer's perspective and thus relates to advertising, while the lower half depicts the retailer's perspective, and thus relates to marketing.

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