Nostalgia and Its Value to Design Strategy: Some Fundamental Considerations

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Abstract. This paper, as one part of an ongoing research project aimed at bridging the knowledge gap between design research and memory studies, addresses three questions: (1) What is nostalgia or nostalgic experience? (2) Why are nostalgic experience and nostalgia-evoking artifacts appealing? (3) What is the potential of utilizing target users' memories in the user-centered design process and design strategy to design for the better product experience? By answering these questions, this paper intends to offer the basis of the topic "*Design, Memory and Nostalgia*".

Keywords: Emotion, Memory, Nostalgia, Design Strategy, Product Experience

1   Introduction

With a rapidly growing interest in human memory in recent years, memory studies have expanded into many different research fields. Neuroscientists, psychologists, sociologists, historians and cultural researchers have all formed the links between their own knowledge bodies and the concept of memory. It is generally believed that memory is one of the most important factors that make us who we are, and some promising links between design and memory studies can be easily imagined. For example, from a point of view of design culture, the personal and collective memories of designed artifacts form an integral part of material culture and decide what relationships would be established between people and the artifacts. In addition, in terms of user-centered design, consumers or users bring their memories to bear upon the task at hand, such as to interpret advertising, evaluate products or brands, make purchase decisions or figure out how to use certain products. Accordingly, it is very likely that to probe target users' memories would offer designers with new inspirations and help them anticipate how users might react towards the design outcomes. On the other hand, designers' memories have direct influence on the ways they design and their design decisions. The knowledge gap between design research and memory studies, however, is wide and the topic of *Design and Memory* is almost untapped. In order to fill this gap, specifically, the current study chooses nostalgia, a

concept closely related to design, culture, memory and emotion, to focus on and explore.

Nostalgia is intangible but extremely powerful. It might be seen as a complex memory-based emotion or subjective experience from a psychological perspective or a common socio-cultural phenomenon in the modern societies by sociologists. It may touch the deepest place of one person's heart, or occur across a society among large numbers of people at a particular time. From a design strategy and user experience perspective, nostalgia plays a significant role in product experience, consumption preference and human-product/brand relationship. Accordingly, designers often look backwards to find inspirations. Despite frequent mention and use in the design practice, explicit knowledge is rare, following the intuitions and simply imitating the old visual styles are the way most designers do nostalgia-evoking design so far. Therefore, a systematic study on nostalgia from a perspective of design will provide designers with a better understanding of the concept and guide a better targeted use of its power as a means to design desirable product/brand experience. In the current research, we consider nostalgia both a design-related socio-cultural phenomenon and a design-related subjective experience, and relevant sociological and psychological knowledge are serving as the knowledge base for the nostalgic design methodology and strategy development.

This paper answers three fundamental questions concerning the topic of *"Design, Memory and Nostalgia"*: (1) What is nostalgia or nostalgic experience? (2) Why are nostalgic experience and nostalgia-evoking artifacts appealing? (3) What is the potential of utilizing target users' memories in the user-centered design process and design strategy to design for the better product experience?
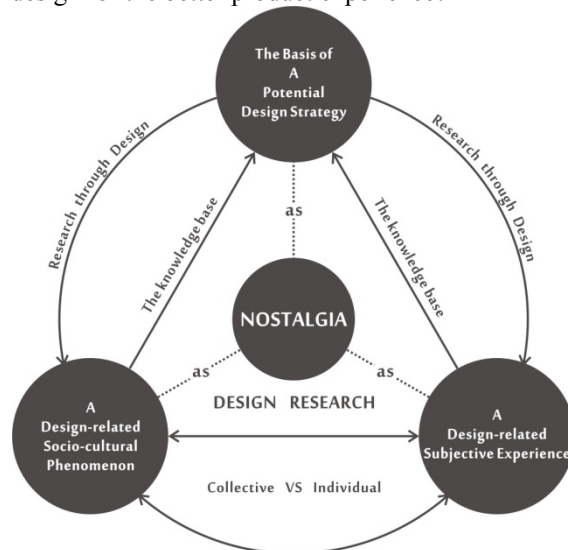

Fig. 1. The overall framework of current research

2 What is Nostalgia?

Nostalgia is a phenomenon that has been studied for over 300 years. One interesting fact is that our current understanding of nostalgia has significantly changed from its status as a strange disease in 17th Century to the prevalent and fundamental human experience today.

2.1 Nostalgia: From a psychological disease to a fundamental human experience

Initially, Swiss physician Johannes Hofer [14] conceptualized nostalgia as a disease when studying the abnormal behaviors of Swiss mercenaries who were fighting in fields remote from their homeland. From the etymological perspective, the word "nostalgia" is composed of two Greek words "*nostos* (return, homecoming)" and "*algos* (grief, pain)". This combination also indicates that the original meaning of nostalgia was a psychological suffering caused by the yearning to return to one's home or the place of origin and it shared the same meaning with homesickness.

For a long time since researchers first started studying nostalgia, nostalgia was considered as a disease restricted to the Swiss, and the disease-related definitions of nostalgia were dominant until the 20th century. Most contemporary studies of nostalgia assume that nostalgia is not a psychological disorder but cross-culturally found among normal adults and teenagers [23]. For example, in an empirical study in UK, 79% of participants reported that they experienced nostalgia once a week or more; 17% of participants indicated experiencing nostalgia at least "once or twice a month," and only 4% thought that they do not have nostalgic experience frequently [28]. Hence, nostalgia is believed to be a fundamental human experience, and we consent because of our personal experiences and the observations to the public. For example, every time a group of old friends get together, to get nostalgic by reviewing their old collective memories or funny stories is as common as to talk about the news of each individual. By observing the visitors to some particular museums (e.g. Museum of Childhood and Museum of Brands, Packaging and Advertising in London) and markets full of obsolete products (e.g. Portobello Market in London and Tianzifang in Shanghai), we found nostalgia is spread very easily in that circumstances too. They fondle those old artifacts with smiles on their faces and talk about anecdotes from the past.

2.2 Distinguishing Nostalgia from Homesickness

Although the concepts of nostalgia and homesickness were born as "identical twins", researchers had acquired adequate and compelling evidence to differentiate nostalgia from homesickness by the late 20th Century [5, 28]. We may illustrate the differences between nostalgia and homesickness through one of the authors' own experiences: A friend of one of the authors' was born and raised in Shanghai and they were flatmates in London. The friend went back to Shanghai after studying in London for over a year. Obviously, Shanghai is his hometown where he is currently in, and

therefore he has no reason to be homesick. However, when they talking through telephone, the friend often expressed his longing for many things associated with his life in London, and the author and his friend shared a kind of emotion that somehow feels like homesickness, but it was quite pleasant, that is nostalgia rather than homesickness.

There are some key differences between the two concepts of nostalgia and homesickness. Firstly, homesickness and nostalgia can both be explained as the yearning for something, but the "thing" is different in these two affective states. Homesickness refers to one's home or the place of origin, which is unreachable because of the physical distance. Nostalgia, however, is the yearning for one's past which is inaccessible due to the time. Secondly, the objects of nostalgia are much more varied than the objects of homesickness. They may include but are not limited to one's place of origin. For instance, close friends, meaningful possessions, events or places are all found to be important subjects of nostalgia [28]. Thirdly, homesickness is typically associated with some particular groups (e.g. soldiers and immigrants), whereas nostalgia is a pervasive experience without this limitation. Fourthly, the emotional qualities of homesickness and nostalgia are different: homesickness is considered as an intensively negative experience with possible psychological difficulties [7, 10; 28]. By contrast, people tend to associate such positive-toned words as warm, love, joy, old times and childhood etc. with nostalgia [9]. Finally, the experience of homesickness usually lasts for a longer time, yet nostalgia exerts much shorter.

3 Why are Nostalgia and Nostalgia-evoking artifacts appealing?

Most emotional psychologists consider nostalgia an emotion or affect that serves many important psychological functions. This part of knowledge is also important to design research, because it may help designers understand why nostalgia is a desired experience and nostalgia-evoking artifacts are appealing generally. In addition, by examining the emotional attribute and functions of nostalgia, designers could be aware of whether they utilize nostalgia properly and the nostalgic design strategy would not be only for the better commercial profits but also for positive social effects and the improvement of human wellbeing.

3.1 The Emotional Attribute of Nostalgia: A Mixed but Predominantly Positive Emotion

Unlike the basic emotions (e.g. joy, love, fear and disgust etc.), nostalgia is a complex emotion composed of many different basic ones. Consequently, the emotional attribute of nostalgia has always been one of the key discussions in the relevant studies. On the one hand, the "negative school" argues that nostalgia is immersed in sadness, because it reminds people that they have lost some cherished aspects of the past irredeemably [6,13]. On the other hand, the overwhelming majority of researchers argue that nostalgia is positive or at least has both positive and negative aspects. Davis, as a member of the "positive school", exclaims that "nostalgic feeling

is almost never infused with those sentiments we commonly think of as negative" [9]. It is "a positively toned evocation of a lived past" and "infused with imputations of past beauty, pleasure, joy, satisfaction, goodness, happiness, love..." [9:18]. Similar thoughts highlighting the positive nature of nostalgia are also shared by Kaplan [18], Gabriel [12], and Chaplin [8]. The "bittersweet school" also emphasizes the positive nature of nostalgia, yet they admit its negative part as well and considering nostalgia a mixed or complex emotion, "a wistful pleasure, a joy tinged with sadness" [27: 393]. It is worth noting that Sedikides, Wildschut, Arndt and Routledge [22] propose that the positive and negative aspects of nostalgia are not commensurate and this argument has been supported by recent empirical studies by themselves and others [18]. Under the context of design research, we subscribe in particular to the view that nostalgia is a mixed emotion with both negative and positive components but the positive part is predominant. It accords with the result of one of the pilot studies of the current research, which shows that an intensive positive emotion (i.e. nostalgia) which combines with some minor negative aspects could be evoked among Chinese urban people who were born between 1975 and 1985 by talking about and interacting with "Transformers" toys and film [30].

The positive nature of nostalgia might partially explain why people are willing to experience it and be attracted by the nostalgia-evoking artifacts. Firstly, nostalgia is a mixed but predominantly positive emotion. Cognitive theorists believe that emotions have strong influence on human behavior, that is, people will be attracted by the objects that evoke positive emotions and forced away from those things that evoke negative emotions [1]. Nostalgia, like other positive emotions, when it is evoked by certain stimulus (e.g. products, brands), will incite people to approach (e.g. to purchase or to interact with) it. Second, nostalgia involves both positive and negative aspects, which makes nostalgia complicated. Interestingly, the complex emotions could be even more attractive than the purely positive ones sometimes [11]. For example, it is obvious that horror, tragic or disaster films evoke negative emotions of audience, but they are always as popular as comedies. Similarly, the negative side of nostalgia may have this effect as well.

3.2   The Psychological Functions of Nostalgia

Many psychologists and sociologists have proposed that nostalgia has many important psychological functions. First, Davis [9] proposes a "discontinuity hypothesis" of nostalgia, which has been tested by several empirical studies [6, 3, 28]. Davis views nostalgia as an emotion to discontinuity, which indicates that people who are experiencing major transitions or changes in their lives (e.g. leaving home) usually give the past more favorable appreciation and more feel like being nostalgic. The discontinuity could cause some highly negative affects, such as fears, anxieties, or uncertainties, loneliness etc. [24], and nostalgia is a mechanism that helps people cope with these negative affective states. Second, nostalgia is also believed to be an important source of both self-identity and cultural identity [21, 22]. In terms of the individuals, the sense of selfhood can be enhanced by gathering pieces of memories through nostalgia. Besides, nostalgia also has the capacity to cope with loss of self-esteem by resorting to an idealized past [18]. From a cultural perspective, cultural and

virtual nostalgia are able to protect the identity of a culture or a nation by reinforcing the value of heritages or cultural traditions, especially during the increasingly fast globalization process, and it in turn offers people the sense of belonging. Finally, nostalgia strengthens the social bonds with significant others, which also potentially helps people deal with the feelings of isolation or disconnection [22]. Nostalgia is a social emotion [13], people could build or rebuild the symbolic connections with significant others through bring back affective memories to the present [4, 18, 21]. Overall, nostalgic experience satisfies one's need for interpersonal belongingness and benefiting self-esteem and identity at the same time [19]. As a result, the nostalgic people would often experience a sense of safety.

In general, it can be seen from the functions of nostalgia that nostalgia actually performs as an identity keeping method and also a negative affect management strategy helping people cope with adversities in their current lives. These psychological functions of nostalgia may also be an explanation for why nostalgic experience and nostalgia-evoking artifacts are attractive and make people feel pleasant, especially during some particular hard time of their lives. Because of the positive nature and functions of nostalgia, the relationship between nostalgia and human wellbeing has been identified as a valuable further research direction in some psychologists. Meanwhile, a new legitimacy of designing for nostalgia has also been given by these psychological and sociological discoveries.

4   The Classification of Nostalgia

4.1   Adopting the "Four-way" Classification of Nostalgia for Design Research

Nostalgia is complex and diverse. In order to understand nostalgia thoroughly, researchers from various fields have tried to classify nostalgia in many different ways. For example, Davis [9] categorizes nostalgia as *simple*, *reflective* and *interpreted*; Stern [25] classifies nostalgia as *personal* and *historical*; Baker and Kennedy [2] write that nostalgia could be divided into *real*, *simulated* and *collective*. These ways of nostalgia categorization, to some extent, all could be used as frameworks for relevant design research. But, most of them are either too simple to cover the whole range of nostalgic experiences, or too abstract for designers to make the connections with design practice and guide them in the design strategy applications.

Holak and Havlena [15] develop a more comprehensive "four-way" classification of nostalgia (i.e. *personal*, *cultural*, *interpersonal* and *virtual nostalgia*) based on two basic dimensions of nostalgic experience: *individual* (or *personal*) *experience* versus *collective experience* and *direct experience* versus *indirect experience*. The original intention of this "four-way" classification of nostalgia is for directing marketing strategy implementation. Since to provide consumers with desired experiences is one of the aims that shared by contemporary marketers and designers, it is common to find that some excellent theoretical frameworks for marketing research are meaningful and valuable for guiding design research and practice as well. Thus, we adopted this classification of nostalgia for current research.
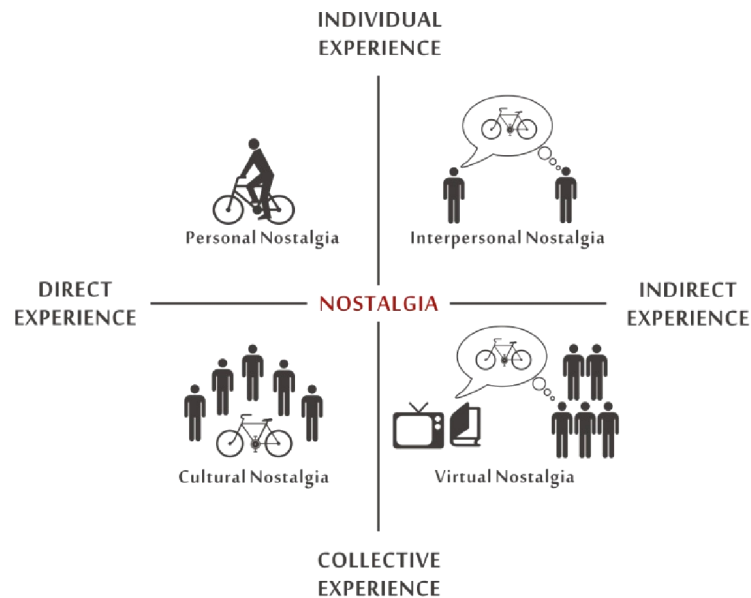
INDIVIDUAL
EXPERIENCE

Personal Nostalgia

Interpersonal Nostalgia

DIRECT
EXPERIENCE

NOSTALGIA

INDIRECT
EXPERIENCE

Cultural Nostalgia

Virtual Nostalgia

COLLECTIVE
EXPERIENCE

Fig. 2. The illustration of Four Types Nostalgia

In this matrix, individual experience is "based on memories that are specific to the individual and differ significantly across people", whereas collective experience is "grounded in cultural events or phenomena that members of a group share". Direct experience "refers back to events in the individual's own life", while indirect experience "results from stories told by friends or family members or from information in books, movies, or other media" [16: 173].

Personal Nostalgia is an emotional experience based on individual's own memories or experiences (direct individual experience) and differs significantly across people. For example, my first bicycle could bring back my personal memories and evoke my personal nostalgia. *Cultural Nostalgia* involves experiences that directly experienced and shared by members of certain group (direct collective experience). For instance, if a lot of people in a society all had the same bicycle as their first bicycle, this bicycle could evoke cultural nostalgia of the group of people. *Interpersonal Nostalgia* refers to nostalgic experience based on interpersonal communication concerning the memories of others and combines the other person's experiences with the individual's own interaction with that person (indirect individual experience). Suppose my father had a beloved bicycle in his adolescence, I had never seen it but he always talked about it to me. One day I saw a bicycle that looks exactly like the one my father described, and then it would evoke my interpersonal nostalgic experience. *Virtual Nostalgia* can be seen as "virtual reality, with the emotion based upon shared indirect experience" (indirect collective experience), which people might learn from books, films or other media [16: 173]. Imagine many years ago, for example, there was a very popular film about a particular bicycle. This bicycle never existed in reality, but if it appeared in the real life today, it is very likely that it would make the group of people who liked the film feel nostalgic.

4.2 The inspirational sources for designing

One of the essential things that designers think of at the early stage of design process is whom they are designing for. The target may differ from an individual customer to a mass market. Thus, the importance of the four types of nostalgia differs under different designing situations.
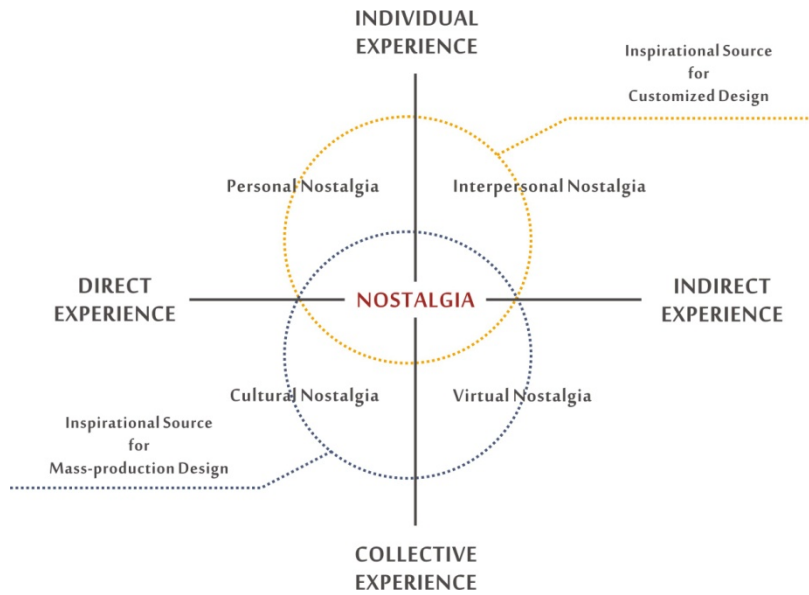

Fig. 3. The different inspirational sources for mass-production design and customized design

Firstly, on the individual and collective dimension, the collective types of nostalgia (i.e. cultural and virtual nostalgia) are thought to be much more consistent across people than individual types of nostalgia (i.e. personal or interpersonal nostalgia) [16]. Hence, when designing for mass production, if designers go through the collective memories of target group, especially based on age-related segmentation, and aim to evoke cultural or virtual nostalgia, it could help them identify the proper design elements more easily and precisely, anticipate the users' nostalgic responses to the design outcomes with much greater accuracy. Whereas the personal and interpersonal nostalgia may be more worth looking at, when designing for a single customer or a very small group of people who have certain strong inner bonding with each other (e.g. a couple or a family), because it is more likely to make the design outcome and experience more special and unique for the customer(s).

In the other dimension of nostalgia, direct experience versus indirect experience, the direct memory or experience tends to be more vivid and richer than the indirect experience, therefore it is reasonable to consider direct types of nostalgia (i.e. personal and cultural nostalgia) are more valuable for designer to explore than those indirect ones (i.e. interpersonal or virtual nostalgia) in most cases.

Although nostalgia can be divided into four categorizes by the two dimensions in theory, it is difficult to identify the border and distinguish them clearly in reality. They are intertwined in most instances. For example, the personal nostalgic experience may be also viewed as part of cultural nostalgic experience, if only we examine it from a social perspective. Similarly, perhaps because of humans' capacity to empathize, some virtual and interpersonal nostalgic experiences may be very touching and intensive as well and people may feel those indirect experiences have strong direct influences on them.

5   Conclusions

Nostalgia is a universal and predominantly positive experience or emotion that can be experienced by people from a variety of age groups. It may be base on direct or indirect memory, or experienced personally or collectively. It helps people to keep identities and deal with negative affects caused by adversities in their lives. Because of the positive nature, complexity and psychological functions of nostalgia, people are usually attracted to approach the artifacts that evoke nostalgic experience.

Interestingly, it seems that mainstream design research has been avoiding studying nostalgia as an important concept in the design field. When we acquire such a comprehensive understanding of what nostalgia is as expounded above, we realize that one important reason for this may be that quite a lot of products in the marketplace were designed to evoke the nostalgic experience of users or consumers, but actually failed to. For example, a poor nostalgic design strategy may lead to too many old visual elements being copied from an classic product without a proper amount of novelty for designing a new retro product, and the nostalgia-evoking intention would be excessively obvious without any surprise to the users or consumers, then such negative emotions as contempt and disappointment would be much more likely to be evoked than nostalgia by this retro product. Consequently, the word "nostalgia" is associated with many negative thoughts of designers and design researchers. We argue that design researchers should not simply consider nostalgia just a worthless or indecent word, but explore more and deeper to find out how to design for evoking proper nostalgic experience.

6   Further Research Directions

6.1   Identifying target user/market segment

The business field has been treating nostalgia seriously and using it at the strategic level since the late 20th Century. Not surprisingly, some knowledge and experience on this topic from the business studies can be adopted to guide design. For instance, the age-based market segmentation method proposed by Holbrook & Schindler [17] could be useful for designer to clarify the target group for nostalgic design as well. Design strategists may identify target segment for applying nostalgic strategy

according to some important variables, such as cultural background, age, gender and personality (nostalgic proneness).

6.2   Which product types are more applicable?

To what types of product the nostalgia-evoking design is more applicable and effective and to what kinds the strategy is less applicable is a question that has not been thoroughly investigated. There are a few studies regarding the high-involvement products may provide some clues for this issue. As stated in Martin's study [20], some product categories are perceived by consumers to be more relationship-prone than others. It is logical to posit that nostalgic strategy would be more effective when designing and developing the high-involvement and relationship-prone products. Besides, some research methods from this area could be adapted to gather empirical data.

6.3   Designing Sensory Inputs and Social Interaction

Negative affects, sensory inputs and social interactions are tested to be the most common triggers of nostalgia [28]. Obviously, the sensory inputs and the social interactions are the two aspects that design could exert influences. But it is not wise to keep producing things just look old, because the market is already full of this kind of products. Vision is only one of the five senses of human being and some psychological studies have shown that olfactory and auditory elements are more capable to bring vivid memory back. Hence, to explore how to use other sensory elements to design in order to evoke nostalgia is worth doing. In addition, given the increasing interests of designing interaction and the booming of internet social network, it would be also promising to investigate how social interactions or other interactions can be designed aiming at evoking nostalgic experience. For example, it is proposed that designers also could try to design new product functions, usages and interactions which are associated with target group's memories to evoke nostalgic experience [29].

6.4   The Ethical Issues in Nostalgic Design Strategy

Finally, the ethical issues in nostalgic design should also be seriously considered. It is true that nostalgia is mainly positive and could help people to get over adversities, but some negative effects, such as losing interests in new opportunities or experiences, may happen if nostalgia was evoked excessively [23]. As a result, to what degree nostalgia should be evoked by design and how to make it abstemious should be investigated as an important ethical issue. In addition, in terms of the environmental issue, how to avoid the "buy fast then discard fast" behavior that this emotional design strategy might lead to is also an important consideration of applying nostalgic design strategy.

References

1. Arnold, M.B.: Emotion and personality. Columbia University Press, New York (1960)
2. Baker, S.M., Kennedy, P.F.: Death By Nostalgia: A Diagnosis of Context-Specific Cases. Advances in Consumer Research 21, 169-174. (1994)
3. Batcho, K.I.: Nostalgia: A psychological perspective. Perceptual and Motor Skills 80, 131-143 (1995)
4. Batcho, K.I.: Personal nostalgia, world view, memory, and emotionality. Perceptual and Motor Skills 87, 411-432 (1998)
5. Bellelli, G., Amatulli, M.A.C.: Nostalgia, immigration, and collective memory. In: Pennebaker, J.W., Páez, D., Rimé, B. (eds.) Collective memory of political events: social psychological perspectives. Lawrence Erlbaum Associates, Mahwah, N.J. (1997)
6. Best, J., Nelson, E.E.: Nostalgia and discontinuity: A test of the Davis hypothesis. Sociology and Social Research 69, 221-233 (1985)
7. Brewin, C.R., Furhnam, A., Howes, M.: Demographic and psychological determinants of homesickness. British Journal of Psychology 80, 467-477 (1989)
8. Chaplin, S.: The psychology of time and death. Sonnet Press, Ashland, OH (2000)
9. Davis, F.: Yearning for yesterday : a sociology of nostalgia. Free Press, New York (1979)
10. Fisher, S.: Homesickness, cognition, and health. Erlbaum, London (1989)
11. Frijda, N., Schram, D.: Special issue on emotions and cultural products. In: Frijda, N., Schram, D. (eds.) Poetics, vol. 23, pp. 1-6 (1995)
12. Gabriel, Y.: Organizational nostalgia: Reflections on "The Golden Age". In: Fineman, S. (ed.) Emotion in organizations, pp. 118-141. Sage Publications Inc., London, England (1993)
13. Hertz, D.G.: Trauma and nostalgia: New aspects of the coping of aging holocaust survivors. Israeli Journal of Psychiatry and Related Sciences 27, 189-198 (1990)
14. Hofer, J.: Medical dissertation on nostalgia (C. K. Anspach, Trans.). Bulletin of the History of Medicine 2, 376-391. (Original work published 1688) (1934)
15. Holak, S.L., Havlena, W.J.: Feelings, Fantasies, and Memories: An Examination of the Emotional Components of Nostalgia. Journal of Business Research 42, 217-226 (1998)
16. Holak, S.L., Matveev, A.V., Havlena, W.J.: Nostalgia in post-socialist Russia: Exploring applications to advertising strategy. Journal of Business Research 61, 172-178 (2008)
17. Holbrook, M.B., Schindler, R.M.: Market segmentation based on age and attitude toward the past: Concepts, methods, and findings concerning nostalgic influences on customer tastes. Journal of Business Research 37, 27-39 (1996)
18. Kaplan, H.A.: The psychopathology of nostalgia. Psychoanalytic Review 74, 465-486 (1987)
19. Leary, M.R., Baumeister, R.F.: The nature and function of self-esteem: sociometer theory. In: Zanna, M. (ed.) Advances in experimental social psychology, vol. 32, pp. 1-62. Academic Press., San Diego (2000)
20. Martin, C.L.: Relationship marketing: A high-involvement product attribute approach. Journal of Product & Brand Management 7, 6-26 (1998)
21. Mills, M.A., & Coleman, P. G.: Nostalgic memories in dementia: A case study. International Journal of Aging and Human Development 38, 203-219 (1994)
22. Sedikides, C., Wildschut, T., Arndt, J., Routledge, C.: Self and Affect: The Case of Nostalgia. In: Forgas, J.P. (ed.) Affect in social thinking and behavior: Frontiers in social psychology. NY: Psychology Press, New York (2006)
23. Sedikides, C., Wildschut, T., Arndt, J., Routledge, C.: Nostalgia: past, present, and future. Current Directions in Psychological Science 17, 304-307 (2008)
24. Sedikides, C., Wildschut, T., Baden, D.: Nostalgia: Conceptual Issues and Existential Functions. In: Greenberg, J. (ed.) Handbook of Experimental Existential Psychology, pp. 200-214. Guilford Publications (2004)

25. Stern, B.B.: Historical and Personal Nostalgia in Advertising Text: The Fin de siècle Effect. Journal of Advertising 21, 11-22 (1992)
26. Van Tilburg, M.A.L., Vingerhoets, J.J.M., van Heck, G.L.: Homesickness: a review of the literature. Psychological Medicine 26, 899-912 (1996)
27. Werman, D.S.: Normal and pathological nostalgia. Journal of the American Psychoanalytic Association 25, 387-398 (1977)
28. Wildschut, T., Sedikides, C., Arndt, J., Routledge, C.: Nostalgia: Content, Triggers, Functions. Journal of Personality and Social Psychology 91, 975-993 (2006)
29. Xue, H., Woolley, M.: Collective Memory and Nostalgia: A New Perspective on Affective Design Strategy for the Chinese Market. In: Proceedings of the International Association of Societies of Design Research Conference 2009. (2009)
30. Xue, H. Inspired by "Transformers": A potential emotional design approach based on target cohort's collective memory of early experience. Unpublished report, Central Saint Martins College, University of the Arts London. (2008)