“Now That’S What I Call Music!”. an Interpretive Approach to Music in Advertising

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“Now that’s what I call music!”. An interpretive approach to music in advertising Matthias Bode Department of Marketing & Consumption, University of Hannover Königsworther Platz 1, 30167 Hannover, Germany Phone (+49) 511 762 5927 Fax (+49) 511 762 5630 Email: mb@marketing.uni-hannover.de

ABSTRACT Music is a fundamental feature of commercials. Despite its significance, advertising research into this area is underdeveloped; furthermore, it is fragmentary and contradictory. This paper puts it down to misunderstandings of how music works. Instead of reducing music to an affective stimulus, a socio-semiotic model of music as a cultural system with an expressive potential is developed, based on contemporary studies in musicology and popular music studies. The reference point is interpretive advertising research that so far has focused on text and visuals. An approach is introduced that integrates music based on its potential of making meaning possible.

[to cite]:

[url]:
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Music is a fundamental feature of commercials. Despite its significance, advertising research into this area is underdeveloped; furthermore, it is fragmentary and contradictory. This paper puts it down to misunderstandings of how music works. Instead of reducing music to an affective stimulus, a socio-semiotic model of music as a cultural system with an expressive potential is developed, based on contemporary studies in musicology and popular music studies. The reference point is interpretive consumer and advertising research, that so far has focused on text and visuals. An interpretive approach is introduced that integrates music based on its specific socio-semiotic potential of making meaning possible.

INTRODUCTION

In 2001, the Wieden & Kennedy advertising agency developed the acclaimed “freestyle” commercial for Nike Inc. It featured basketball players showing off their moves. The sound editing constructs a steady beat made up with the sounds of squeaking shoes and the ball hitting the floor. Besides the acoustic link to hip-hop, the visual quotation of typical hip-hop dance moves intensified the close association. The longer version replaced the final “swoosh” logo with the typical music video credits for song title, musician and director. There were considerable discussions if the music video version could run as part of the programming or as a commercial (Elliott 2001). For most of the literature on music in advertising, this spot would not even be considered as “music”, as it misses such characteristics as harmony, melody or modality.

The purpose of this article is to advance research on music in advertising by proposing a new conceptualization of music as a cultural system with expressive potentials. As Scott (1990) criticized, studies on music in advertising are characterized by mechanistic stimulus-effect models, focusing on music as a nonsemantic affective stimulus. The implicit concept of music is based on 19th century psychoacoustic and psychophysiological music psychology, exemplified by scholars such as Helmholtz or Wundt and the empirical-experimental American music psychology of the beginning of the 20th century. The methodological procedures are still the same: musical reception is analyzed experimentally in laboratory environments; short acoustic stimuli are controlled and modified to detect a shared reaction pattern. Early on, Susanne Langer (1942, 211) noted the lack of knowledge gains with these approaches: “this approach has not taken us; it seems to be an essentially barren adventure.” The fragmentary and inconclusive research on music in advertising (Kellaris, Cox, and Cox, 1993, 114) proved Langer right. Here it is argued that the problem cannot be solved with improved measurement methods. Before one can decide how it is best to measure something, it should be clear what one is trying to measure. In that sense the music anthropologist Merriam (1964, 84) warns: “Without understanding of concepts, there is no real understanding of music.”

1I am grateful for helpful comments and support from Linda Scott and the ADV 487 Masters class at UIUC in 2002.

ABSTRACT

Music as emotional engineering

One of the main qualities of music in advertising is often seen as triggering moods and emotions. This romantic notion of music as the language of the heart is deeply ingrained in Western civilization. It assigns music to the expression of subjective feelings, to the “objectless inner” (Hegel), and separates it from the external social world. In advertising research, this shared credo has the tendency to blur the differences between emotions represented and felt. Bruner (1990, 95) exemplifies this widespread confusion when he summarizes the research on rhythm and emotions as: “Fast music is considered to be more happy (...) slow tempi tended to evoke tranquill (...) sorts of description; fast tempi elicited responses relating to exhilarating (...) sorts of feelings [emphasis by the author].” But already the often cited Hevner (1935) and Rigg (1964) explicitly point out that their results refer to the identification of emotions and not to experienced emotions. Pratt (1931/1968, xxv) famously explained the confusion between description and experience by saying “Music sounds the way emotions feel.” We tend to describe musical elements with the same words as emotions, but they are still two separate processes. It is expected that we would identify deep sadness in Bessie Smith’s blues songs; even so,
listening to them could deeply satisfy us and make us happy. As Tagg (1993) showed in his cross-cultural research, the musical articulation of emotions is based on conventions, rules and codes. This is also supported by neuro-physiological research, which refutes the old assumption of a direct affective impact of music without any cognitive involvement (Maeß, Kölsch, Gunter, and Friederici 2001). Cognitive processes are already relevant during the first unconscious acoustical perception in structuring sounds, comparing them with expectations, separating them from background noise and connecting them to learned schemata (Bregman 1990). So far, modern music psychology is rejecting the mechanistic assumption of directly manipulating emotions with music.

Music as acoustic stimuli

Other than research that codes music as absent/present (e.g. Gorn et al. 1991; Park and Young 1986; Stewart, Farmer and Stannard; Olsen 1995), the main approach is to examine the effects of structural musical elements (Alpert and Alpert, 1990, 115f.). Bruner (1990) grouped these studies according to time-related findings (e.g. tempo, rhythm, phrasing), pitch-related findings (e.g. modality, melody, harmony) and texture-related findings (e.g. orchestration, volume). As a research leitmotif he formulates “Music is not simply a generic sonic mass, but rather a complex chemistry of controllable elements.” (Bruner 1990, 94). But already the interaction of two controllable elements like tempo and modality (Kellaris and Kent, 1991) exhibits a complexity that is hard to control and to interpret. While the control of all structural elements seems to be infeasible, it also appears to be futile. The music psychologist Serafine (1988, 53) rejects the atomistic approach in emphasizing the perceptual perspective: “Scales and chords do not exist in music.” Structural elements are theoretical artifacts that are useful for analyzing intermusical structures, but for most recipients isolated structural elements will be understood as acoustic stimuli and not as music.

Music as an abstract artifact

To extract music from its context of production, transmission and consumption means to reduce music to an abstract, fictional, and theoretical entity. The possibility that the same music, heard in a laboratory, on an mp3-player, in a club or in a commercial, might be perceived differently is seldom mentioned (see as an exception Macklin 1988, 242). The separation of music from its context is based in the music theory tradition in which music is absolute music, expressing only itself and depleted from its social and cultural traces, became a regulative concept (Goehr 1992, 121). This ideological frame impedes research on music in advertising. Acoustic stimuli only become music in certain contexts: „by removing the bare score from its context in order to examine it as an autonomous organism, the analyst removes that organism from the ecology that sustains it.“ (Kerman 1985, 72). One example is the utilization of interpretive frames by listeners that differentiate between noise and musical experience. The same phrase, overheard from a practicing neighbor or attentively listened to in a concert hall, will be experienced in different ways. The interpretive frame applied to a song used in advertising can even totally reverse the musical experience. Favorite songs, listened to in an ad, can elicit the most negative feelings (McLaren 1998, 10).

A NEW CONCEPTUALIZATION OF MUSIC AS A SOCIO-CULTURAL PHENOMENON

Several authors have written about the obstacles encountered with the present conceptualization of music (Alpert and Alpert, 1991; Hung 2000; Murray and Murray 1996; Scott 1990). The basic hope was to develop an approach that acknowledges music as a cultural and social phenomenon. Scott, as a reference point, mentions advances in the areas of visual and verbal rhetoric. However, a meaning based model for music in advertising is still missing. Here it is argued that the application of a verbally- or visually-biased methodology might not be appropriate for making sense of music. In the following section, a new interpretive framework is developed, using the assumption that music is a symbol system with its own specific qualities that has to be approached from a music point of view.

What is music?

When adolescent music aficionados have to defend their preferences from adults who roll their eyes and say "you call that music?”, they might find a word of comfort in music ethnology. Cross-cultural research has shown that there is no single and universal concept of what music might be (Nattiez 1990, 55). What is called music differs in demarcations between environmental noise and music (Feld 1988), as well as in the context of rituals, social or behavioral functions that are responsible for the inclusion of sound into music or not (Blacking 1981). A general framework for music was developed by Merriam (1964, 32ff.) who suggested three necessary analytic levels: an acoustic, a behavioral and a conceptual one. In reference to this framework, music can be defined as the cultural and social structuring of sound, materialized in the process of composing, performing and listening. Besides personal elements, the shared reference to specific cultural conventions is necessary (see also Blacking 1973, 92; Moisala 1995, 17).

The expressive qualities of music

As an element of the Geertzian web of significance (Geertz 1973, 89), music as a cultural system incorporates expressive potentials. This resonates in the everyday understanding of music ("this music expresses exactly how I feel;" “this band articulates the zeitgeist of a whole generation”) and has a long intellectual history. Our understanding of the sad minor key can be traced back to the ancient Greeks, for whom specific musical modes implied a certain ethos. The theory of affects in Baroque music constituted a further refinement. Music should represent affects, with close analogies between musical figures and rhetorical (verbal) principles (Blake 2001, 262). The rise of instrumental music in the second half of the 18th century challenged the tight connection between the verbal language and music. Music in itself was seen as a superior language, able to express the most subjective, transcendental and romantic sentiments (Motte-Haber 1994). While still connected with the Baroque ideas, romanticism indicates a vital shift away from the social coding of music. The interpretation of music as rhetoric was finally lifted with the move towards autonomous, absolute music, free from any extramusical implications. However, it is only a small step from the concept of music expressing the unspeakable to the idea of music as a pure interplay of “forms moved by sound” (Hanslick 1854, 32).

In music theory, this shift is reflected in the dominance of approaches focusing on intra- and intermusical meanings (Davies 1994). From this perspective, musical meanings refer only to the music itself. Whenever listeners incorporate their own extramusical associations into the music listening experience, their interpretations are discredited as “misunderstandings,” as deviations from the “correct,” analytic understanding of music (e.g. Lissa 1973, 221). This normative position is problematic not only for the analysis of popular music but especially for the analysis of music in advertising. Here, the commercial contextual setting triggers certain interpretive frames, similar to the concept of schemer schema (Friestad
The semiotics of music

Semiotics, understood as a “science that studies the life of signs within society” (Saussure 1966, 16), claims universal applicability. Only music, however, shows considerable resistance to becoming “readable.” The semiotics of music, especially popular music, is one of the least developed fields in semiotics, without consensual terminology, approaches or even agreed on areas. It seems that “music and semiotics do not make comfortable bedfellows” (Gronow 1987, c7). The uniqueness of the musical signification process is identified as the main obstacle (Lidov 1986, 577).

Different attempts to develop music sign typologies reached a dead end when the linguistic anchor of the iconic, indexical, and symbolic sign structure proved to be restraining (Stefani, 1973). A problem is the semantic vagueness of the musical sign. The more musical signs get meaningful, as in iconic sound imitations, the less they are able to stand as a foundation for a general meaning model. They are considered to be semantic enclaves.

There are two basic positions in music semiotics on how to approach the problem of vague musical meanings. One strategy is to further work on substantiating the meanings, while another strategy accepts the vagueness as the essence of the musical sign system.

Until the 1980s, the formal study of musical syntax was the dominant approach in music semiotics to further clarify musical meanings (Ruwet 1967). If music is the structuring of sound material, then the meaning should be located in this syntactical structure. In general, the syntactical approaches are technical, formalistic and focus only on the absolute, intramusical meanings. Closely following linguistic methods, the idea is to find musical equivalents to nouns, verbs, predicates and grammar (Bernstein 1976). Though recently changes have become visible, the syntactical approaches are criticized for their lack of incorporating music perception (Echard 1999, 8).

The second strategy is to qualify music as necessarily semantic vague (Monelle 1996). Especially in Germany, this position is linked with Adorno’s aesthetic theory, that music as true art will always have an enigmatic quality, like an unsolvable riddle. As an ideological concept, this indissoluble quality also separates high art from “industrial products” like popular music. Theoretically more promising is the position that the concept of semantic vagueness in music stems from the reference point of verbal language. Langer (1942) especially tried to develop a “wordless” semantics that she labeled presentational symbolism in opposition to the discursive symbolism of the verbal language. However, a general difference between verbal and musical meaning does not necessarily imply a uniqueness of musical symbolism. From a semiotic point of view, meanings as mental concepts are part of the sign process, but they are not the same as words (Mick 1986, 198). In each sign system, verbalizations can work as proxies for meanings, which are again acoustic or visual signs. Furthermore, the definition of a musical meaning as something distinct from the definiteness of a verbal meaning misjudges the verbal sign system. The verbal language also has ambiguities and needs situational and contextual anchors. In a provocative way DeNora (1986, 90) even inverts the companion: “it actually may be more appropriate to treat language ‘as a species of music’.”

In this paper, Langer’s basic idea is adopted, without sharing her music philosophy. She coined the expression that music is the “unconsummated symbol” (Langer 1942, 240). To consummate the musical sign system, it needs a contextual semiotic approach that acknowledges the social and cultural dimensions of music and the distinctiveness of popular music.

The socio-semiotics of popular music

The traditional analysis of music in advertising was criticized for referring to classical music theory, while trying to make sense of popular music. Likewise, almost any semiotic approach to music refers to classical music of the functional-tonal era. Here it is argued, that such a focus distorts, discredits and misjudges popular music by a) inadequate analytic methods and b) a false fixation on the written score as the primary text. To make sense of popular music, one has to focus on the lived experience of a dynamic sound space.

a) Traditional music theory has primarily emphasized pitch organization with the analysis of intervals, melody and harmony. This dismisses essential structuring principles of popular music genres such as blues, hip-hop or electronic music that prioritize rhythmic structures and repetition. In a traditional harmonic analysis these genres are indeed simplistic and almost meaningless. However, traditional music theory lacks the analytic tools necessary for perceiving the significance of irregular rhythms, polyrhythms, deferred phrasings or overlapping rhythmic structures (Middleton 1993, 180f.). There is a prevailing illusion that elements that are not so easily classified or controlled, for instance a groove, must be irrational and irrelevant (McClary and Walser, 1990, 281).

An example of this fallacy is the problematic understanding of lyrics in songs, when they are seen as the meaning vehicle, and analyzed using traditional content analysis. But in popular music, voice and lyrics work differently. Lyrics are words in performance, defined through the relation of the voice and words, dependent on specific genre conventions, and specified by the sound of the specific song. In popular music it is the “grain of the voice” (Barthes 1977, 157) with different timbral qualities and microtonal inflections that makes singer like Billie Holiday, Janis Joplin or Will Oldham so special.

b) A semiotic analysis starts with a text to identify potential meanings (McQuarrie and Mick, 1992). In traditional music semiotics, the text in question is the score. Written notation represents the core ideas, the intention of the composer and the musical meanings. But even in classical music, the authority and accuracy of the score is disputed. Gustav Mahler warned that the music is not in the notes. Here it is argued that notation is an ethnocentric language, appropriate to represent music based on scale systems of equal temperament and square metric systems (Tagg 1987, 281).

For the music orally and aurally conceived, as in popular music and most non-European music, with improvised elements, distortions of pitch and flexible rhythms, written notation actually misses the music itself. The constructed text is not the text to which anyone else is listening. Rather, popular music is based on the materiality of sound as the primary text (Middleton 1990, 220ff.; Moore 2001). In the performance or in the studio recording, the essential sonic structure is created. The studio especially can be classified as one of the most important instruments in popular music (Frith 1996; 233). Recording defines a whole musical aesthetic and makes record producers like Sam Phillips, George Martin, Phil Spector, or Trevor Horn as famous as the musicians they produce. In most classical music, the recording works as an acoustic snapshot, trying to produce a realist, naturalist representation of an actual performance. In popular music, the sound of the recording defines the aural qualities of the music, which often are not even reproducible in a live performance.
The musical sign system as a nexus of inter- and extramusical references

In traditional music theory, the supposedly superiority of classical music is ascended to the autonomy of society. This normative view is reflected in the positivist research on music in advertising in its tendency to isolate music from its social and cultural embeddedness. If we accept the resonating cultural meaningfulness of music, the decontextualization tends to eliminate exactly the specific qualities of music, especially popular music. Popular music is inherently socially mediated and formed through a dialogical process between the participants of the popular music system. Popular music is functional music in the sense that it is used by the listeners, for making everyday life more controllable, navigable and worth living, as well as refining a sense of collectivity. Because of this social and cultural charge of the popular sonic sphere, it tends to be more easily incorporated into the extended self (Belk 1988). The materiality of this sonic system is intensified by the “politics of jouissance” (Hawkins 2002, 28), the physical-affective pleasures of popular music. It is argued, that this charge of popular music is not a certain attitude or an interpretive frame brought onto music. Rather, it exemplifies a semiotic process in music in which the relevant musical text is an amalgam of inter- and extramusical signs.

In this sense, music per se does not have to be meaningful. Its main capacity is to make meaning possible. Actual music, that is alive and meaningful, is always integrated into a nexus of cues that are hints for the appropriate context in which to develop interpretations. Contrary to other semiotic systems, this contextuality does not reduce the multivocality of signs but is a prerequisite for meaning. Only in-between the cue nexus can music be experienced as meaningful. Verbal and visual contextualization cues (Gumperz 1982) are the most significant cues. Verbal cues can include the title of the song, program-notes, booklets, the performers name, lyrics, artist statements, liner notes, music criticism, and informal talks about the music. Visual cues can include record covers, music videos, performance imagery, visual hooks, corporate design of musicians, the appropriation of music in video games and movies, and associated fashion and body codes (see for a detailed discussion Bode 2004, 365ff.).

Consequences for the proposed research

The basic idea of the proposed approach is that meaningful music cannot be limited to the acoustic sphere. As a sign system, it exists only in form of a multimedia nexus, with verbal and visual cues (Cook 1998). This has consequences for the analysis of music in advertising, especially for the research on the interaction of the acoustic, verbal and visual levels in a spot. This process cannot be understood as adding up several meanings, but as the emergence of a new meaning constellation based on a multi-level rhetoric. The conceptual equivalent for this process in traditional research on music in advertising is “fit” or “congruence.” As it turned out in experimental research, the affective and cognitive impact of music depends on actual music-spot combinations. MacInnis and Park (1991, 162) define the fit as the “subjective perceptions of the music’s relevance or appropriateness to the central ad message.” But in using songs with lyrics, a verbal appropriateness for music and the spot was tested. Furthermore, why participants assumed a fit, on what levels and what that meant for them remained unclear. A refinement of fit is the congruence concept by Kellaris, Cox, and Cox (1993), who focus on the relation between pure musical information and the verbal ad message. However, the concept of musical information is not further developed, and the dimensions of congruence are reduced to binary oppositions as “yes” or “no.”

To clarify these interactions, based on the musical sign system, it is important to distinguish the steps of a) coding, b) functionality and c) interaction.

a) Codes are socially shared rules of organizing single signs into sign systems (Hall 1980/1993, 98). To ensure the intended communicative effect of a text, an adjustment between the encoding and decoding practices is necessary. One adjustment refers to the appropriate coding level. A basic code model for music was developed by Middleton (1990, 174), who distinguished the levels from the most abstract codes with basic conventions to sub-norms, dialects, styles, genres, sub-genres and finally idiosyncrasies, the level of a concrete song. These codes structure the significance of certain parameters as well as the accompanying extramusical cues. For advertising, it is important to decide on what code level music is applied, e.g. on a stylistic level as a rock’n’roll song or on an idiolect code level of Elvis Presley’s “Blue Suede Shoes.” The code level does not only influence the rhetorical function of the music. In regard to different code competences (Stefani 1987) of target audiences, it also shapes the potential encoding and decoding overlaps. An example of this is the song “Respect” by Aretha Franklin, that when used in a beer spot, it was encoded primarily on a stylistic soul level, while in a spot for the UN Refugee Agency, the song was encoded on the idiolect level, referring to the feminist and civil rights movement’s origin of the song. Therefore, typology and characterizations of music in advertising go beyond music’s intrinsic aspects to explain different impacts of the same music.

b) The functionality of music describes the basic way music is integrated within the visual level of a spot. The main categories are foregrounding and backgrounding. The background use resembles the techniques of film music. Here, music’s function is primarily the emotional, social, and narrative framing of the image (Gorbman 1987). The background use leads to the musicalization of the image. Here, music works as a guide through the images, it helps to anchor basic interpretations of the image, without necessarily being listened to. The foreground use leads to a visualization of the music while the images guide through the music. Instead of a fit, here it is more appropriate to analyze the music-image relations along the diverse lines as illustrations, amplifications or resonance by incoherence (Goodwin 1993, 86ff.). A paradigmatic model for foregrounding is the music video format.

c) The interaction step is the primarily level for a meaning-oriented music analysis, as it is the music-spot context where the specific nexus of inter and extramusical references becomes fleshed out. Hung (2000) experimentally showed some basic interaction effects and the necessity to analyze the meaning potentials of the different modes not separately but through their interaction. Still, the conceptual framework was missing. The suggested model highlights the significance of a double interaction effect, once in-between the musical sign system and then in relation to the verbal, acoustic and visual elements of the spot. This can e.g. incorporate rhetorical elements already on the sound level, like a Hip-Hop song in a scratchy old gramophone sound or a heavy metal song played by a string quartet. In the interaction of the musical sign system and the spot, a multi-level rhetoric unfolds, based on stressing, accentuating and deferring diverse verbal and visual contextual cues of music. Here the work on resonance (McQuarrie and Mick, 1992) is important as a starting point to conceptualize not only the semantic consequences of the text-image interaction, but of the verbal, visual, and musical levels interaction in a spot.

Conclusion

Though estimations indicate that more than 70% of all commercials have music, neither traditional nor interpretive approaches
have dealt more in depth with music. The few empirical results are so far inconclusive about music’s impact. Linda Scott (1990, 234) proposed a new way of approaching music, consistent “with the way we experience the phenomenon in everyday life.” There might be a “spine-tingling sense of esthetic excitement” or an almost “shattering electric charge,” as Holbrook (1981, 37) reminded consumer researchers in his aesthetic imperative. Those experiences are a far cry from the acoustic stimulus manipulation of traditional advertising research. Though most of the time an ad will not be able to elicit such responses, these potential experiences frame the phenomenon of music. Interpretive approaches to the question of “how music works” were also not pursued further. This paper has argued that in both paradigmatic research streams, the main problem was the faulty conceptualization of music. In traditional research, the problem is the decontextualized analysis of acoustic stimuli. In interpretive research, the problem is the focus on literary and visual methods. It is time to realize the expressive potentials of music and to apply methods that can conceive these specific musical qualities. This can make the difference between acoustical stimuli and meaningful music, as a sonic space embedded in a nexus of inter- and extramusical references. Therefore, the intention of the paper is not to call for research on a supplementary musical rhetoric. Instead it is necessary to develop an integrative approach to the verbal, visual and sonic world we live in.

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It Seems Factual, But Is It?
Effects of Using Sharp versus Round Numbers in Advertising Claims
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ABSTRACT
This paper compares sharp versus round numbers in advertising claims. Round numbers have a salient conceptual basis (e.g., 10 years are a decade). Sharp numbers do not (e.g., 11 years). Estimates tend to be expressed with round numbers. An experiment is described that examines whether consumers make the false assumption that claims using sharp numbers are less likely to be estimates (i.e., are more factual) than those using round numbers and, if so, whether this makes sharp-number claims more believable. The results demonstrate that such assumptions do occur, even for those consumers considered to be advertising skeptics.

INTRODUCTION
A newspaper advertisement for a career-training program highlighted the claim that their recent graduates were earning between $43,000 and $57,000 per year. This salary claim could have just as easily been expressed using the phrases such as, “are well-paid,” “earning around $50,000,” or “earning from $40,000 to $60,000.” The advertising copywriter had to make a decision as to which wording would be best received. Current views of advertising effectiveness stress not just what the advertiser claims, but what inferences are made about these claims by the consumers (e.g., Kardes, Posavac, and Cronley 2004). The present paper explores one type of inference that consumers might make about an advertiser’s claim—that it is based on actual empirical data and not just on the advertiser’s general impressions.

LITERATURE REVIEW
The study of persuasive communications has identified numerous factors that affect whether or not the audience accepts the information and recommendations offered in the message (e.g., MacInnis, Moorman, and Jaworski 1991). One relevant factor is the choice to present advertising claims in a numerical or verbal form. For example, research by Yalch and Elmore-Yalch (1984) established that numerical messages (“many people do 95% of their banking...”) were better received than an equivalent verbal claim (“many people do virtually all of their banking...”) when attributed to expert sources but not when presented by nonexpert sources. Other research supports the finding of a numerical-superiority effect (Scammon 1977; Viswanathan and Narayan 1994). Children and Viswanathan (2000) attribute some of this superiority to the fact that numerical evidence is processed at a surface level, making it faster to recognize and compare numerical information compared to the equivalent verbal information.

Related to the above discussion, Darley and Smith (1993) draw a distinction between objective and subjective claims. Objective claims are those that have an element of verifiability and cite specific factual information. On the other hand, subjective claims rely on emotions and impressions. Their manipulation of the presence of objective information consisted of the use of numerical descriptors (“Loom woven of a 75% acrylic and 25% wool blend for shape retention and softness”) versus only verbal descriptors (“Proudly woven with the very finest shape-retaining material; the blanket is unusually soft and delightfully elegant”) for the subjective message. They found that objective claims were more persuasive than subjective claims, especially when based on factual evidence.

In thinking about numerical claims, we propose that there may be differences between numerical claims much as there are differences between numerical and verbal claims. In particular, we are interested in the distinction between round numbers and the other numbers, which could be called “sharp numbers” (Dehaene 1997, p. 108). Round numbers are those whose conceptual status gives them mental salience. For example, numbers such as 10, 20, and 30 receive salience by initiating decades in our base-ten number system, and numbers such as 15 and 25 receive salience by being midpoints of these decades (Dehaene and Mehler 1992; Schindler and Kirby 1997). Some numbers have salience, and thus roundness, only in certain contexts. For example, in time estimation, the period of seven days is salient because it represents a week (Huttenlocher, Hedges, and Bradburn 1990).

As a result of their salience, round numbers are the numbers that are most likely to come to mind when a person is trying to estimate a quantity that is uncertain. For example, in a variety of numerical estimation tasks, people show a strong tendency to produce 0- and 5-ending numbers (e.g., Hornik, Cherian, and Zakey 1994; Kaufman et al. 1949). This use of round numbers leads them to become indicators of the use of an estimation process rather than actual counting. Thus, if it is said that there are 100 people in a room, the use of the round number would lead listeners to interpret the statement as an approximation. The true number could be perhaps anywhere from 80 to 120 people. On the other hand, if it is said that there are 106 people in a room, the use of the sharp number would suggest that some counting has occurred.

It is interesting that the tendency to interpret a round number as a result of approximation is so pronounced that to communicate otherwise requires some additional wording. For example, if a count has determined that there are 100 persons in the room, one would have to say that there are exactly 100 individuals in the room to indicate that this is not an approximation (Dehaene 1997, p. 109).

Our research combines the round-versus-sharp-number distinction with Smith and Darley’s objective-versus-subjective distinction. We propose that sharp numbers are assumed by consumers to be objective and factually-based because they imply a high level of accuracy that could be achieved only through an empirical analysis. On the other hand, round numbers suggest the approximation that is likely to be a subjective estimate that may bear little relationship to reality. For example, a claim that a new allergy drug is 46% more effective than a popular competitor implies that the claim is based on some clinical research whereas the claim that it is 50% more effective indicates that the communicator lacks knowledge of the true level of differential effectiveness.

RESEARCH QUESTIONS
On the basis of the preceding literature review, a series of research questions were developed related to the relative effectiveness of advertising claims expressed with sharp numbers compared to round numbers:

1) Are numerical claims judged differently than equivalent verbal claims? Prior research has established that numerical claims

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1 The authors thank Hiralkumari Udawat for her assistance in the data collection for this study.