

Music, Mood, and Museums: A Review of the Consumer Literature on Background Music

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Should you use music in your exhibit? The topic is a debated one, with arguments for and against, and we shall explore some of the factors. The subject is perhaps more complex than imagined, and has been extensively explored in the consumer literature. I am continuing here my ongoing project of bringing some of that literature to the attention of museum professionals. In an earlier paper (Webb, 1993), I pointed out that the tasks of the advertiser and the exhibit designer are the same. That is, both have a few seconds to catch the viewer's attention, and deliver a message, and both hope it will affect future behavior. No matter the goal, the process is identical. Thus, music can be used by both. Four topics emerge of particular interest to museum professionals: first, the complexity of the term "background music"; second, the roles and uses of mood created by music; third, the use of music to cue appropriate behavior and perceptions; and fourth, the influence of background music on the comprehension of verbal material.

Before I begin, however, let me point out that the term "background music" in this paper should not be construed in the common way as equivalent to "easy listening" music, or "elevator music" such as Muzak, per se, since there are hundreds of other forms. One instance of the ambiguity of the term is illustrated when Milliman (1988) differentiates between "foreground" music and "background" music in his study. As he uses the terms, foreground music is popular music with lyrics and a faster tempo, while background music is instrumental, slower, and less differentiated. He means foreground music gets more attention, while background music gets a little. It is true that the amount of attention given to the music differs with the music itself, with person and situation, as well as from moment to moment. In general, however, "background music" refers to any music that is not the center of focal attention, and that is the way we shall use it here.

Another point to emphasize is that music does its work regardless of whether the setting is a museum or a store. The task wherever it is used is the same, namely, to make the effect of the music contribute to the goal of

the space, whether it is to sell trinkets or communicate an important historical message. Perhaps the reason exhibit designers dismiss advertising applications so quickly is that they do not realize how carefully crafted marketing uses can be. The music is often there not simply to make the moment pleasant, but to produce a carefully calculated impact on the shopper. Let me introduce you to some of the studies they are using in their calculation.

The Complex Nature of Music

The first, and most daunting, problem in discussing the effects of music on visitor behavior is the question of just what is meant by "music." The term is a complex one that includes almost endless variations in many dimensions. The most important dimensions seem to be:

- a) tempo—e.g., slow, romantic, upbeat, lively, rock, driving; usually measurable in beats per minute
- b) pitch—including rising and falling effects of pitch
- c) texture—simple or complex, particularly in the type of instrument(s) or voice(s) involved, and their combination
- d) genre or style—e.g., classical, country, rock, heavy metal, rap, jazz, elevator
- e) form—e.g., major or minor mode, tonal or atonal, melodic, harmonic, consonant or dissonant
- f) volume or loudness—anywhere from soft to painfully loud, steady or variable
- g) lyrics—with, without, or with understood-but-not-verbalized lyrics
- h) meaning—has associations from nature of the music itself, as in the sound of water in a brook; or from past events that have previously occurred with the music, as in a remembered video, movie, or even a particular moment or place
- i) familiarity to the listener; (e.g., is able to whisper the words, or hum the tune; is familiar with the style, but not this piece; is only vaguely familiar with the style)
- j) degree liked by the listener or not (e.g., buys the CD; seeks it on the radio; listens if it comes on; changes the station)

All these complexities mean that exactly what characteristic in the music has a particular effect is not always clear, but, on the other hand, what the studies have so far indicated is not all that surprising. The dominant characteristics are tempo, pitch and texture. Relationships found include the following. Fast music is happier than slow, with 70 to 110 beats per minute being the preferred tempo. Firm rhythms are more serious, smooth rhythms more playful or dreamy, and

uneven rhythms more dignified. Major mode is more happy, while minor mode is plaintive or mysterious. Consonant harmonies are more serene, dissonant ones more agitating, ominous or sad. Loud is more exciting, soft more tranquil. Finally, type of instrument determines texture, and has a number of predictable effects on mood. Much more detail on each of these factors is provided in an excellent review by Bruner (1990), whose mellifluous title I have adapted for this paper. Moreover, Bruner also cautions that one has to be concerned with not only the main effects, but also interactions which have seldom been explored.

Because of these endless complexities, interpretation of the "effects of music" is rendered extremely difficult. What all this means to those who would like to use music as a background to an exhibit is that evaluation is a must. Fortunately there is enough agreement between people that one's subjective interpretation of the potential effect is probably pretty close, but wide differences sometimes exist across ages, cultures and situations, so that actual testing is essential. Because of the complexity, I will bypass the research on the specific characteristics of music as such, and deal with more general aspects. For recent discussions of this more specific literature, only recently beginning to appear, see Alpert and Alpert (1990) and Kellaris and Kent (1991, 1993), as well as Bruner (1990).

Mood and Affect Effects

Creating Mood

There seems to be little disagreement that music can create mood. Gardner (1985) defines "mood" as "feeling states that are subjectively perceived by individuals" (p. 282). She notes they are general and pervasive, not directed at any particular object, transient, and less intense than emotions. Hers is a good review of the effects of mood. The reasons one has for wanting to change the mood of the listener are various. "Hearer" is a better term than "listener" here, because listening implies a directed attention that is by definition generally not there in background music. In fact, viewers may be so absorbed by what they are seeing, that they do not consciously notice the music at all, yet their mood is influenced. Let us consider the main reasons for creating mood.

Increasing pleasure of the moment. The purpose may be to simply increase the pleasure of the moment for the hearer. Properly applied in a museum setting, just as in a store or restaurant, this might be intended to make the visit experience more pleasurable, with the consequence of repeat visits or favorable reports to friends. Also, a person in a good mood is more open to message. A particular music's ability to increase pleasure is a matter for testing, but it is not the characteristic that has most relevance for exhibits, as we shall see.

Temporarily enhancing the perception of objects. Mood creation may also have the purpose of bringing a particular affect (or feeling) to the moment, thereby enhancing the objects being seen. Music can do this in a number of ways by increasing drama, tension, and affect, so that we become more involved. This clearly applies to exhibits as well as marketing. Ken Burns, the producer of the public television documentaries on the Civil War and baseball, works with still photographs to a large extent. He is a master of using music and sound tracks, as he says, "to jump start the pictures" (Burns, 1994). When he does this, we become emotionally involved, and begin to care about the subjects, but he spends an enormous amount of time choosing music with just the right nuance. It has been argued that Burns' use of music is as part of the instructional message and is not background music at all. My point is that all background music is part of the instructional message, some intended, some not. Advertisers regularly use music to make us care about their products. Their music is not lightly chosen, and they certainly intend it to be a part of their instructional message. In fact, one cannot avoid this impact. If the music is bland, it does not simply do nothing, but rather adds blandness to the object or instructional message. It is always part of the message whether the producer intended it or not.

Music not only increases affect, but also directs affect, so that it can determine how we feel about what we are seeing. This is, of course, the aspect that is so powerfully used in movies and television. In movies the music often precedes the action, so that we anticipate the action, and feel suspense. It is at the same time an ability that some may specifically not want, say in an art museum. The argument here is that the work of art should be allowed to create its own affect, not have to overcome or compete with some else's idea of what is appropriate. Thus a quiet atmosphere is seen as most favorable for the viewer's interaction with art, and other types of exhibits as well. However, background music has been effectively used to accompany art by Woltman. He writes of the music, "It is there to suggest, to provide a catalyst for the visitor's imagination, and to reinforce and enhance the overall message of the exhibit" (Woltman, 1993, p. 27). He reports that visitor feedback suggests that it does so, but one should note that the music was very carefully chosen. Still, the topic is likely to be debated for some time.

Advertisers and marketers use mood to create affect as part of the general application of "atmospherics," a term that originated with Kotler (1973), and refers to the multiplicity of sensory experiences that accompany a shopping event and strongly influence purchase probabilities. Atmospherics are clearly found in museums as well, and music may be a major player, though the supporting research comes largely from the marketing realm. For example, commercials and stores use classical music to create a sense of luxury: Acura uses Prokofiev, Federal Express uses Bizet, and Victoria's Secret uses Mozart.

In fact, John Trivers, said to be a supplier of sophisticated background music for high visibility ads, was quoted in *Forbes Magazine* as saying that "Classical music has been so overused that it's starting to lose its impact" (Queenan, 1993).

To see whether classical music actually does enhance objects in its environment, Areni and Kim (1993) selected a small wine cellar, located in a restaurant, where patrons could purchase wine. In a carefully controlled study, they compared a number of behaviors when "Top 40" music was playing as compared to "classical." They found that customers did not purchase more items, but they did buy more expensive wines when the classical music was playing. It would seem that the value of the wine had clearly been enhanced, but another factor may also be operating, as we shall see in a moment. Be careful not to dismiss this kind of study because it seems to be about buying and spending, for the principle applies to exhibits as well as gift shops. Music can be used to enhance objects other than wine.

More Permanently Attaching Affect to Objects

Recently Groenland and Schoormans (1994) have made the point that two mechanisms may both be working in these situations. First is the creation of a mood, and its attachment to a stimulus presented, but a second factor may be affective conditioning whereby affect is associated directly with a stimulus without having to induce a mood. Affect attached to a stimulus through the mood mechanism is thought to be short-lasting as compared to affect transferred directly through conditioning.

The attaching of the affect of music to words and pictures has been demonstrated a number of times, which leads to the assumption that three-dimensional conditioning should be equally possible, but very few studies have used music to create the affect. One of the most influential demonstrations of this process was a study by Gorn (1982). Popular American music was played while a pen was displayed on the screen, and unfamiliar Indian music was played while another pen was displayed. When given their choice of pens at the end, of those students who had listened to the popular music, 79 percent chose the pen they had seen while listening to that music, while 70 percent of those who had listened to the Indian music chose the other pen than the one they had seen on the slide. However, Kellaris and Cox (1989) tried to replicate Gorn's study, and were unable to do so.

Bierley, McSweeney, and Vannieuwkerk (1985) set out to try Gorn's procedure using better controls in order to find out whether it was really classical conditioning or not. They presented subjects with slides of red, blue, or yellow circles, squares, triangles, or rectangles. For some subjects these became conditioned stimuli, and were followed by music from Star Wars which they had determined previously the subjects liked. The study utilized elaborate controls,

and the results supported the findings of Gorn. Initial color preferences were altered for the two groups who received the conditioning procedure of color followed by music, but were not altered for the control groups. Stimuli that were followed by music came to be more highly preferred than those that were not.

More recently, Blair and Shimp (1992) were able to show the conditioning of negative affect using music that subjects had come to associate with a distasteful procedure. This, of course, would not be a desirable outcome, but their study underscores the necessity of choosing music carefully, and the likelihood that, because of prior associations, not all visitors will react to it in the same way. On the other hand, if it were completely idiosyncratic, advertisers would not be able to use it so effectively. Note, too, that the pairing of music with objects or pictures does not need to be intentional for it to work. The point is simply that when pairing occurs, for whatever reason, affect is likely to transfer. It means that background music is probably changing the perception of exhibits whenever it is used, whether we intend it or not.

Supplying Cues to Behavior

Areni and Kim (1993), following the suggestion of Markin, Lillis, and Narayana (1976), found another interpretation of their data from the wine cellar we introduced above: the music may be providing cues to guide behavior. In the unfamiliar setting of the wine cellar, the music may have been particularly effective as a cue, indicating that "more expensive purchases are appropriate here." From their design, they could not determine whether this second factor was operating in addition to, or instead of, the first factor of enhancement of object.

Lending support to the behavioral cue interpretation are studies that show that people are more likely to look for external cues to guide their behavior in places where they are unfamiliar. For example, Clark and Isen (1982) report that mood states are more influential for ambiguous situations than for clear-cut ones. This means that, because museums are generally unfamiliar places, music might possibly have greater effects there as a cue to behavior. One might also predict that the impact of music would be less for regular visitors, who are more familiar with the place, than for first-time visitors. Moreover, if people look to the music for cues as to behavior, it might be important to avoid familiar bland background music, such as "elevator music," in exhibit spaces, because such music has usually been present in situations requiring little or no attention to surroundings. It may thus provide a cue that serves to turn off attention, suggesting that "nothing of importance is going on here," and may well be counter-productive.

Speeding Up or Slowing Down

Behaviors. It has been well documented that background music tends to change people's pace: fast music speeds them up, while slow music slows them down. In these cases the creation of mood does not appear to happen, and the effect is clearly a direct one. For instance, McElrea and Standing (1992) found that subjects who were asked to rate the flavor of a soda drank significantly faster in the fast music condition as compared to the slow music condition. Milliman tested this notion in a store, and in a restaurant, defining "slow" as less than 72 beats per minute and "fast" as more than 94 beats per minute. In the slow condition, in-store traffic was 17% slower (Milliman, 1982), and in the restaurant customers stayed longer, 56 min. as compared to 45 min. (Milliman, 1988). In another study, he again found lunch patrons stayed less time with faster music (Milliman, 1988).

Smith and Curnow (1966) reported that in their study of music volume, shoppers spent less time in a store when loud music was played as opposed to soft, apparently simply shopping faster. Surprisingly, there was no difference in customer satisfaction in their two conditions. Once again, let me parenthetically caution you not to dismiss such studies because they are consumer studies. The principles clearly apply not only to stores, but to other spaces as well. One implication, for example, may be that music used to make an exhibit more exciting may also be speeding people through it.

Time Perceptions. Would the presence of unpleasant music make time seem slower, as we seem to think when we say, "Time flies when you are having fun"? The evidence on this point is not completely clear, but the pleasantness dimension does not seem to be the crucial one. One of the earliest studies of time perception did not involve music, but was done by Gulliksen (1927), who found that "an interval of 200 seconds was estimated at 242 seconds, on the average, when filled with mere waiting, but as only 169 seconds when devoted to work on problems in long division" (as reported in Woodrow, 1951). In other words, Gullikson found that time slows when waiting, but speeds when doing problems. This agrees with the popular view that time drags when you are bored. It indicates that it is not "having fun" that makes time speed, but being absorbed in a task. Supporting this interpretation, a number of studies have varied the use of cognitive resources and found that it is the use of these resources that makes time fly. The implications are interesting. Playing familiar music for those waiting in a line may actually make the wait seem longer rather than shorter. Pleasant, but unfamiliar, music would make the wait seem shorter. Clearly, evaluation and additional studies would be helpful.

Getting and Holding Attention

Music-Message Congruence Factor. One of the properties music has is attracting attention. The distant sound of a brass band brings people out to see the parade. Sometimes, however, music can attract so much attention to itself that the message, whether advertising or educational, is ignored (Macklin, 1988). Wakshlag, Reitz, and Zillman (1982), for example, found fast-tempo music best at attracting attention, but also the most distracting in interfering with the message. In this respect music appears to act like any other attention-getter. For example, Ogilvy (1985) says he gave up using celebrities in ads, because he found people remembered the celebrity, but not the product. The key point is that all attention-getters must be related to the message or they distract from it as they get stronger (see Webb, in press). The recent literature has begun to clarify the nature of the music-message relationship.

It is well known that music can convey images and meanings in listeners, and that they will generally agree as to what these are. Building on this, Kellaris, Cox, and Cox (1993), following Macklin (1988), proposed that music has two properties, attention-getting and message enhancement, and that when these properties of the music are congruent, then increasing audience awareness of the music will increase the impact of the message. On the other hand, if they are incongruent, that is, the meaning of the music is different from the meaning of the message, then increasing audience awareness of the music will distract from the message. They explain what they mean by congruent as follows: "Music-message congruency refers to the congruency of meanings communicated non-verbally by music and verbally by ad copy" (p. 115). Alpert and Alpert (1990) called attention to the need for congruency also between aroused feelings and implied behaviors. Music-message congruency is thus essential to avoid competition between the parts of an exhibit.

To understand better what is meant by music-message congruency, we can look at how Kellaris, Cox, and Cox (1993) produced it in their study. They had students rate 12 pieces of instrumental music for attention-getting value, and also list their thoughts as they listened to them. They report that the images evoked by the music were "remarkably similar" across subjects. The images were then matched to appropriate products. For example, music that suggested action was paired with an ad for an action movie, and copy was written to agree or disagree with the action theme. Using these materials, tests were then run on new subjects in congruent and incongruent conditions. Results generally supported their proposal on congruency.

Involvement level factor. Park and Young (1986) identified another major variable, and reported that music affects people differently depending on whether they are of high or low involvement. High-involvement consumers are

those who are more interested in the exhibit, who are paying attention to the message, and are likely to be using a cognitive mode. Low-involvement consumers, on the other hand, are those who are not paying particular attention, and are drifting more or less mindlessly. Low-involvement people are more reachable than the high-involvement group by affective appeals, and are thus more strongly affected by music, particularly toward a change in attitude. [For a further discussion of involvement see Webb (1993)].

MacInnis and Park (1991) continued to explore the differences of the high- and low-involved. Referring to music-message congruency as the music's "fit" with the message, they found that poor fit between music and message registered with the low-involvement person as an unpleasant attitude toward the ad, which has been shown elsewhere to carry over to the product. This is a particularly important point in a museum setting, which tends to have a large number of low-involvement viewers. The finding translates that poor music-message fit in the case of low-involvement visitors may lead to negative emotions toward the exhibit without the visitor attempting to understand it. It suggests that the negative emotions may carry over to the visit experience itself.

High-involvement people, on the other hand, who are more cognitively engaged, will use some of their energy trying to resolve the incongruity of the music-message mismatch, reducing their attention to the message. They are not as likely, however, to generate as much negative emotion in the process. A surprising finding from this study was that the good fit condition generated strong positive emotional responses toward the ad (read: exhibit) in both high- and low-involvement subjects. MacInnis and Park (1991) conclude that "fit has a powerful role in creating favorable ad and brand attitudes" (p. 171). Attitude toward the ad is, of course, the equivalent in the museum setting of attitude toward the exhibit, and is of major importance in attitude toward any message the exhibit contains. Thus, particularly because of their low-involvement visitors, museums should pay close attention to music-message congruency, if they plan to use music. The formula seems to be to use involving music to draw low-involvement viewers into exhibit interaction, but to keep music-message congruity high so as not to distract the high-involved viewers from their reading comprehension.

Learning and Comprehension Effects

Of some concern to the museum field is the literature on the use of background music to aid retention of material. For example, do visitors learn less from an exhibit if there is background music? The answers are not all in, but there seem to be several important factors.

Music information-load factor

Kiger (1989) showed that it is useful to distinguish between high and low music information-load. Generally, the more that music demands attention, the more information-load it has, and the more distracting it will be when competing with verbal material. In the language of the cognitive capacity model, high information-load requires more cognitive resources. A number of studies (e.g. Hilliard & Tolin, 1979) have shown comprehension tasks suffer when background music is unfamiliar, making a strong argument that unfamiliar music uses more cognitive resources.

It is not surprising then that Kiger's subjects showed the best comprehension when the background music was of low load as compared to high load. What was a bit surprising was that subjects did better with low information-load music than they did with silence. The explanation seems to be that the low-load condition masked distracting sounds, allowing for greater concentration, yet did not have sufficient information to be itself distracting. On the other hand, most museums do not have significant levels of distracting noise, and in this situation, silence is golden. On reading comprehension tasks, where distractors are not a factor, the task much like the museum environment of reading labels, Etaugh and Ptasnik (1982), Fogelson (1973), and others have found that silence produced better scores than even preferred music. While music nearly always reduces comprehension, Etaugh and Michals (1975) found that the more frequently college students reported studying to music, the less music impaired their performance on a reading comprehension task. This suggests there may be generation differences to consider, since younger people are more used to constant music. Gender differences have also been reported (Miller & Schyb, 1989). To get at some of these effects, one might hand out cassettes with different types of music to accompany an exhibit, and evaluate various variables afterward.

Relaxation factor

Since visitors often arrive in small social groups and discuss as they move along, music effects on conversation might have some relevance. Low-level background music in the case of discussions seems to be beneficial, and it is probably music's relaxation property that is the factor here. Davidson and Powell (1986) looked at the effect of "easy listening" background music on the ability of fifth-graders to stay engaged in discussions. They found a significant increase for boys, but, since girls were already highly engaged, there was little room for improvement, and the effect was unable to demonstrate significance, though it was in the right direction. Note that here, because the situation involves auditory comprehension, the music is better if it is uninvolving. That is, the music is not being used to draw people in, but to relax them. However, there is

an inverted U-shaped function of amount of attention as a function of relaxation, so that some relaxation increases attention, but too much reduces it again. Again, a matter for testing. For cognitive participation, a science museum that is an exciting place may want more relaxation, while a history museum may want less. Again, a matter for testing.

As we have seen, music, while relaxing, may also interfere with comprehension of written material. Is there a way to use it for relaxation without the interference? Perhaps so. An orientation session in which music is used for relaxation might be beneficial. A few studies have shown that music used to relax before a comprehension task increased scores. For example, Thaut and de l'Etoile (1993) induced a relaxed mood before a learning session and found comprehension to be better than with any combination of music presented during the learning or during the recall stages. Stanton (1975) compared high and low anxious subjects on a verbal comprehension task under three conditions: no music, music before the test while subjects were entering the room, and music throughout the test. The music in this case was a slow movement from a Mozart symphony. For the low anxious students there were no differences, but the high anxious did better under the music condition than under the silent condition. For some subjects even the few minutes of Mozart had an important beneficial effect, since there was no difference whether they heard music only while entering, or for the whole test time. While museum visitors are probably not very anxious in the museum setting, some children, particularly in groups, may be too excited. These studies suggest that the relaxation property of music is an important one, and devices to relax the visitor even briefly before their exhibit viewing may lead to better comprehension, showing the possibility that it might be worth testing. Perhaps music played at the ticket window could be used for this purpose.

Only evaluation will reveal whether visitors need more or less relaxation, and how it might best be done. However, a cautionary note indicates that particularly the younger generation may not all be equally relaxed by Mozart. The management of 7-eleven stores have used loud-speakers playing Mozart, Mantovani, and '60s folk songs to clear their parking lots of young people who liked to hang out there. According to reports, "They hated it," and went looking for an alternative site (Glamser, 1990).

The Question of Research Relevance

A final note. My review has been intentionally drawn primarily from the consumer behavior literature, and does not include studies from other areas, such as the field of instructional design. It is also true that very little of all this research has been done in museums. However, there is reason to believe that museum based research will not differ a great deal, but until such studies are

done, these findings should be regarded as suggestive. Music effects in museums have seldom been measured, and to my knowledge museum visitors' preferences in background music have never been directly assessed. As the museum visitor population increasingly consists of a generation that has grown up surrounded by music, perhaps music is a dimension that museums need to acknowledge and investigate. Part of my purpose in presenting this material is to stimulate interest in testing some of these findings in the museum setting.

With all this discussion of the effects of background music, one should not lose sight of the possibility that museum visitors may like the quiet as an escape from the constant barrage of background music, and that this characteristic may be an important part of the museum's appeal. In other words, it may turn out that music can be more involving, that it can aid comprehension of verbal material, and yet at the same time it may also be found to be aversive. On the other hand, there is no evidence that younger viewers want to "escape" from their constant surrounding of music. Indeed, they are likely to carry their music with them constantly and feel disoriented without it. Research opportunities abound.

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