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Music is not “Nice”

By Andrew Pudewa

Most people today think of music as a nice thing. Something to break the monotony of a boring job or keep you pumped up while exercising. It's nice to have music; it improves the quality of life. I posit that it is not nice. There is nothing “nice” about music. It is a profoundly powerful thing with transformational effects—on the individual as well as society, and we ignore this at our peril.

In 1925, mass-produced electronic recordings became possible, a development which profoundly changed the relationship of man to music. As the great Hungarian composer and music educator, Zoltan Kodaly, predicted: We changed from being a race of music producers to being a society of music consumers. A hundred years ago, if you wanted to experience music you either had to create it yourself or get very close to someone who could. Today, of course, the manufacture and distribution of music has become a massive industry, and iTunes has become the virtual concert hall to millions.

This profound cultural shift has brought about two significant changes—easy accessibility to music which may be beneficial, and the widespread distribution of music that may not be beneficial. Additionally, we find that we often have little control over the music we hear, especially when eating out, shopping, watching the news, or even in church. Add to that the ever-present question of the importance of music in education, and it makes for a truly complex issue requiring thoughtful investigation by all parents.

Playing an Instrument

First, let us consider whether music is an essential or a supplemental part of education. The trend in present-day schools has been to minimize instruction in all the arts—as basic skills of reading and math have become harder to acquire—while budgets have been stretched by the ever-increasing costs of textbooks and sports programs. However, we have seen time and time again that removing instrumental music programs from schools has had a negative effect on standardized test scores, while students with the opportunity for extra-curricular music instruction regularly score higher on SAT and ACT tests than their peers.¹ Why is this?

Dr. Francis Rauscher, while teaching at the University of California, Irvine's Center for the Neurobiology of Learning and Memory, published a remarkable paper documenting her research with preschool children and music instruction. After a six month period, those given piano lessons on a daily basis scored 43% higher on a special-temporal IQ test than children who did singing, free play, or computer games.ⁱⁱ Of course all piano teachers have known for centuries that playing piano makes you smarter, but today the trend is to depend on science for proof of what we already know. What's more interesting than the fact that playing music makes you smarter is why this is so.

When you play a musical instrument, you do something to your brain that no other activity can accomplish—you stimulate it with sensory input and motor output of a perfectly ordered set of information through three neuronal pathways simultaneously. Playing the piano (or any other instrument), you not only hear the information, you see a visual representation of it (either by notation or keyboard), and you also feel kinesthetically in your muscles and fingertips that same set of perfectly ordered information at the same time. Consequently, you make neural connections throughout the brain in a way that nothing else can do. On top of that, learning music requires repetition that ensures more precise, exact pattern storage, and the end result is ... more brain cells connected to other brain cells; in other words, more RAM in your CPU!

And music is *perfectly ordered* in that it is entirely mathematical. While there are the obvious fractional rhythmic relationships, the intervals and even the frequencies themselves are mathematical. And by learning to play a musical instrument, you are storing in the brain, the most perfectly ordered set of information in the most powerful way possible.

Music must not be an extra-curricular thing in education; it should be at the core of early education and continue throughout the school-age years. Many parents think, "Well, if our child shows a bit of talent, and if we have enough time and money, maybe we'll invest in music lessons..." This is totally wrong. Parents should think that by investing in music lessons they will be doing the single most powerful thing they can do to create raw intelligence. And if the child determines to quit as a teenager, all that time and money is not lost; to grow up playing music is to become a smarter person. Music education is essential.

Listening to Recorded Music

What about listening? Research also shows that even listening can have significant effects—both positive and negative. While music therapists have shown attitudinal differences according to musical styleⁱⁱⁱ ("New Age" music evokes an increase of relaxation and decrease of mental clarity; "Grunge Rock" music increases hostility and decreases relaxation), behavioral psychologists have shown minimal but temporary improvements in college students' IQ scores after listening to Mozart.^{iv} Even plants are affected by music, growing more abundantly with Baroque music, but withering and leaning away from rock music.^v

Perhaps the most dramatic demonstrations with music and intelligence have been done with mice and rats. Many experiments have been done to show that classical music will increase rodents' maze-learning speed, while repetitive "minimalist" or modern "heavy metal" music will impede their performance. David Merrell, a Virginia high school student, caused a dramatic change in his groups of mice after only three weeks of daily exposure to different music. With the first run, all groups completed the maze, on average, in just under 600 seconds. After one week, significant changes were noted, as the Control (no music) and Mozart groups improved their speed to around 450 seconds, while the Heavy Metal group (listening to Anthrax Stomp 442) slowed to a speed of over 900 seconds. After two weeks the difference was greater, and after three weeks, the Classical group was zipping through the maze in 106 seconds while the Control group was completing the maze in an average of 307 seconds. Profoundly retarded by the heavy metal music, the Anthrax group now averaged 1,825 seconds—taking over 30 minutes to get through a maze they had initially navigated in less than 10 minutes. That is called getting stupid fast!

More recent research seems to indicate that rodents may not even hear pitch, but that the entire effect is based on the rhythmic aspect of the music. Why would some musical structures enhance intelligence while others clearly injure the brain? Two factors seem to be involved: repetitiveness and persistent syncopation.

Rhythmic dominant music stimulates the physical body, whereas melodic dominant music connects to the mind and harmonic dominant music opens up the emotions. Most popular, classic rock, alternative, and even a lot of contemporary Christian music is rhythmic dominant, with repetitive patterns and narrow melodic variation. Popular music, even folk music, tends to be repetitive and narrow so that it is easy to sing with or dance to. Unfortunately, persistent syncopated music (with the accent on the off-beat) is not natural, and the mammalian body, which has a rhythmic heartbeat and pulse, perceives this persistent syncopation as an attack, and responds with a release of adrenaline and endorphins. Our heart is beating ONE-two-three, ONE-two-three, but when we listen to music with a stopped anapestic beat, one-two-THREE, one-two-THREE, it creates tension. When used occasionally for a short time, as was done during the classical and romantic periods, this creates excitement and tension in music, but when used continually, as is the case with most all popular music, it creates a persistent stress, and the body reacts accordingly. Most definitely it is an unnatural condition, clearly exemplified by the neurological damage suffered by the rodents in the maze experiments.

Conclusions

What are we to do with this information? One need is for us to study more—read and research the effects music can have, both on animals and humans. Secondly, we must learn to discern and evaluate the music in our environment. Even though we cannot always control it, at least we can be aware of whether it

is unnatural or harmful. Lastly, we must pray and consider the role of music in worship. Is it right to use intrinsically disordered (persistent, syncopated rhythmic dominant) music in a place where our goal is to become more in tune with spiritual truth?

John Locke noted in 1690, “That which is static and repetitive is boring. That which is dynamic and random is confusing. In between lies art.” I propose that the purpose of art is to bring the mind of man closer to the mind of God, which, when seen in nature, is the perfect blending of infinite variety within perfect structure. Every oak leaf, rose petal, snowflake, or human face is perfect in its structure, but differs in some way. From the smallest cell to the vast galaxies, natural creation demonstrates unlimited complexity within consistent structure. When art seeks to imitate this balance of structure and complexity, it brings us closer to the mind of God; when art intentionally diverges from this balance—either towards chaos or monotony, it has the potential to draw us away from God’s nature. Just compare the great cantatas of Bach with the drum-laden CCM of today, and ask yourself, “Which form of music is closer to that which God himself might create?”

We live in difficult times. The world seems morally upside down. Things that have been understood as clearly immoral and illegal are now touted as acceptable, natural, and even as rights deserving of legal protection. The general public accepts a lack of character and virtue as common, even expected. Surely, the spiritual sensitivity of the people of this nation has been profoundly undermined, and we cannot discount the very real likelihood that the music of the day has had a significant, even dominant impact on this decline. If our children are to reclaim this country for Christ, they must reclaim the culture—of which music is an essential part—and we need to be teaching this to them right now. Music isn’t just something nice; it has a profound effect on individuals and on society, and will contribute to either the building up of a Christian culture, or will speed its further destruction. We must choose wisely.

ⁱ <http://www.menc.org/information/advocate/facts.html>

ⁱⁱ “Music training causes long-term enhancement of preschool children’s spatial-temporal reasoning” (Rauscher, Shaw, Levine, Wright, Dennis, Newcomb) *Neurological Research*, Volume 19, No. 1, February 1997

ⁱⁱⁱ “The effects of different types of music on mood, tension and mental clarity” (McCraty, Barrios-Choplin, Atkinson, Tomassino) *Alternative Therapies*, Volume 4, No. 1, January 1998

^{iv} “Listening to Mozart enhances spatial-temporal reasoning: Towards a neurophysiological basis” (Rauscher, Shaw, Ky) *Neuroscience Letters*, #185, 1995

^v *The Secret Life of Plants*, by Peter Tompkins and Christopher Bird, HarperCollins, 1989