

MUSIC, EMOTION AND HOPE

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I have suggested to Jan Visser, the founder of this series of colloquia, that music of the American composer David Ludwig could be very appropriate for presentation at this meeting. He listened to Ludwig's music on the internet, and was also greatly moved and impressed. He has downloaded what he heard so that it could be presented at the conference. If I can obtain an even better copy of the music by then I will bring it along.

Jan has suggested that I write a few words about why I find Ludwig's music so appropriate to issues of peace and human future we will be discussing. I will also include briefly some more general thoughts that respond to some of the questions Jan has raised already in his PreConference comments.

David Ludwig's music seems especially appropriate for the nature of its emotional communication, and also for its creativity, its beauty, and its cognitive and emotional powers that all relate to music's potential to help address the problems we have been discussing in previous and now this conference.

SPECIFIC EMOTIONAL COMMUNICATION BY LUDWIG'S MUSIC: One piece by Ludwig I have heard performed recently, for violin and piano, was entitled "Swan Song". Another for string quartet, which we will hear and see performed in a video taken from the internet, is entitled "The Pale Blue Dot", a reference to our earthly home when seen from the edge of the solar system. The composer discussed both pieces briefly at the performances I attended, but did not include

discussion of their emotional communication. What follows is my own reaction. Others may react differently, and I will be very interested to know how others feel. But emotions can be a very private matter, and not everyone wishes to discuss them. I felt these emotional reactions very strongly.

Ludwig's music that I heard seems to me as much about emotion and as open emotionally as the music of Beethoven and Schubert that I love and that Ludwig told us he also loves. But the music of Beethoven and Schubert comes from a different time from now, and Ludwig's music can help us feel some of the differences.

Both Beethoven and Schubert communicate a wide range of emotions with great power and develop their musical language to do so. Beethoven is said to have said of Schubert that he had a soul similar to his, perhaps referring to their common interest in emotional communication by music. Beethoven was still a creature influenced by the enlightenment, and its hopes and optimism for the future. The 9th symphony, for example, begins with a first movement that in its entirety can express vividly a world unsettled in many ways, the movement even ending with a brief funeral march. But the scherzo that follows moves immediately to a masterful illustration and celebration of human cleverness, the following adagio a great hymn to human goodness with depth and yet directness that can be spellbinding. And then the finale with its supreme optimism for brotherhood and illusions to a God who lives above the clouds but somehow helps humanity move forward. The United States was founded in part on this optimism that Beethoven illustrates.

Ludwig's music that I have heard also seems to address the state of the world. There are moments of peace and quiet joy, as for example, the quiet expression of hope at the end of "Swan Song". But there are many episodes expressing turmoil, and strife, and much intense sadness, and even grief, and loneliness. The title of "Swan Song" suggests to me that Ludwig, like many of us, feels it as a question. Can humanity find a way out of the mess it is creating? And "Pale Blue Dot" further emphasizes such emotions. We are just a small episode in the vast

universe, other examples of living creatures if they exist at all may be very very far away and as lonely as we are.

The world has become in many ways a very difficult and challenging place for humanity. And many problems seem to be getting worse. And yet humanity is not yet reacting with the urgency that seems increasingly needed. Ludwig can help us realize emotionally how critical it is to find ways to take actions.

CREATIVITY AND BEAUTY: At this time when humanity finds itself so greatly under siege due to the enormous variety of problems it must address, David Ludwig reminds us that as humans we have the capacity to build marvelous creations whose beauty can rival the beauty we can find in the world in which we live. Our ability to create has very likely been our most important human capability in our struggle for evolutionary survival, even if other creatures are stronger, and faster. As I have written about human ecology. music that seems to have been with us throughout our history illustrates the richness of our capability to create to modify the world in which we live in ways we desire. And music such as Ludwig gives us illustrates how much humanity can achieve in response to such desire. If we are to find a way through the many problems we face, it will have to be our creativity on which we must depend. And music of the quality Ludwig shows us can not only help to illustrate our creativity, but also help us better understand it, and help each of us to further develop this essential part of our mental ability.

COGNITIVE COMPLEXITY: The cognitive complexity of Ludwig's music reminds us that our brains we have evolved have great potential for addressing cognitive complexity. The issues we must address for human survival in a world that is changing so rapidly will call for the very best of our cognitive capabilities. I have been using music to study human mental capabilities for dealing with cognitive complexity. Colleagues and I have been publishing evidence that musical skill to advance must build increasingly upon the most advanced human cognitive capabilities. The importance of advanced cognitive skill to musical creation supports the hypothesis that when one builds skill at making and creating music this can help support learning of capability for other applications of cognitive skill as well. We have in fact published and continue to publish evidence on impact on

math and verbal language learning which supports this hypothesis. Since learning musical skill is appealing to so many, such broader impact on cognitive capability that Ludwig's music illustrates may have practical implications for education which we have often discussed already at these conferences.

EMOTIONAL COMMUNICATION: Even if the cognitive aspects of musical creation can be marvelous, as Ludwig's music illustrates, they are not as important to its human value and appeal through its long human history as its ability to communicate emotion. I have begun to study emotional communication by music, and two papers on the still very much open question of how music can communicate emotion as powerfully as it can are now in press.

Ludwig's music is masterful in its communication of emotion. It illustrates the power of communication of emotion that music can achieve. Studies I did with newborn babies years ago showed me that they reacted emotionally to quite complex music of Berlioz very much in the same way I did. Of course mothers and fathers have used singing and rhythmic rocking to sooth babies throughout history. Music has ways of reaching each of us emotionally which have tremendous potential. This potential has been exploited in many different ways throughout history. Music can reflect culture but also influence culture. Music can be used in support of peace, but also in support of war. Its powers with regard to emotion can be especially important today. I hope this will be one of the topics we will find time to discuss at this conference.