From Plato's Greece to modern Estonia the power of music has been recognised and harnessed.

Now more than ever, argue Chuck Holdeman and Alastair McIntosh, the world needs that power.

The environmental holocaust with its human implications is already here. An equivalent of 400 jumbo jets full of people die from lack of nutrition every day. Between ten and 25 plant and animal species go extinct every day, compared with a natural rate of just one every 10,000 years. For living standards in the third world to catch up with those of Western Europe by the year 2010, global iron and steel production alone would have to increase 140 fold. This would exhaust remaining known world oil reserves in just 11 years, and so cannot happen.

Something has to give or change. It is possible that nature's time-honoured recourse to war, famine and pestilence with the added dimensions of potential climatic change will redress the balance by gearing up the frequency and scale of catastrophe. Alternatively, it is just conceivable that we can achieve sustainable livelihood by drawing on the fullest resources of our intelligence, creativity and love.

To reach such a point requires recognition that the present crisis of Western-style development is not primarily economic or technical, but cultural and spiritual. The prevailing myth that human development is primarily a function of economic growth has been likened to a neutron bomb, destroying the soul of cultures while leaving outward structures intact. Since President Truman first used the term 'underdeveloped areas' in his 1949 Congressional inauguration speech, thereby defining people by what they do not have rather than by what they are, most nations have leapt aboard a hell's merry-go-round of industrialisation and agricultural intensification.

We are goaded on in the race for material prosperity by the fear of being trampled from behind. Yet the poor remain even more with us. The Earth is sickening with unprecedented rapidity, and values, such as relationship, sense of place and community, which cannot be given a price, are dismissed by most economists because they are not measurable. Such is the development of culture bequeathed to us by the culture of development.

Recently in Edinburgh University we completed a study looking at how to 'green' undergraduate education, so that all students could see how their discipline impinges on matters of environmental concern. Opinions vary as to whether developments in science and technology are capable of coming up with lasting solutions to global problems. Interestingly, it was the scientists more than their colleagues in other faculties who saw greatest hope in such areas as the arts, humanities and music. This surprised and encouraged some who had not previously recognised the global import of their field. Our report on the faculty of music, which was drafted with the dean, said:

If one views environmental education in a narrow sense, the role in it for music is not immediately apparent. But if one reflects for a moment on such myths and legends as those associated with Orpheus or with the Music of the Spheres, or indeed on the meaning of such commonly used words as "concord", "harmony", "compose" (though perhaps not "orchestrate"!), it rapidly becomes apparent that the place of music in the total order of things is potentially more significant than is always recognised. Musical composition involves little cost in terms of the consumption of natural resources and the healing powers of music - its capacity to "compose the soul", as well as to liberate human creativity - have come to be widely recognised. (Environmental Education for Adaptation, Centre for Human Ecology, 1991)

It is our view that music has a central role in addressing contemporary problems of the human condition. This derives from its ability qualitatively to affect consciousness, to stimulate creativity, as well as from the very structure of music. It is important for musicians and music educators to understand and be affirmed in this. We would suggest that to help change the world musicians should develop some understanding of ecology, and vice versa.

A pond, meadow or wood is considered to be an ecosystem on account of the complex relationships between the component species. Natural cycles of plants and animals harmonise with nutrient cycles, seasonal cycles, energy flows and so on, the whole system being in
and outer (political) levels of human experience. Let us look at this.

In American musical history, one of the most powerful developments has been the blues, which was not invented to make us sad but to lift us out of that sadness. In tracing music back to the post-slavery amalgam of African spirituality, writing in *Whole Earth Review*, Michael Ventura addresses the roots of western sadness, asserting that, 'All of them - the many Africans who created Voodoo ... would have their revenge. Jazz and rock 'n' roll would evolve from Voodoo, carrying within them the metaphysical antithesis that would aid many a 20th-century westerner from both the ravages of the mind/body split codified by Christianity, and the onslaught of technology. The 20th century would dance as no other had, and, through that dance, secrets would be passed. First, North America, then the whole world, would - like the world's radios - "hear that long snake moan". (Whole Earth Review Nos 54/55, USA, 1987)

So the desperation of slavery and its aftermath, with a ground of African culture, called forth this great healing music, with such strength and poignancy that it entered the overall fabric of musical life, combining with other trends in popular music and evoking jazz and rock. This healing/spiritual music linked with the general cultural revolutions of the Fifties and Sixties and with the need for physical/sexual expression, which went on to join the 'consciousness expansion' ethos of the late Sixties and early Seventies.

Musical energy/group phenomena such as Woodstock, the Fillmore, and later the Live Aid concert and the Amnesty tour, have continued the role of music in cultural evolution and the search for social justice. The 1991 film *The Commitments*, set in Dublin, uses a transformation of American soul music as a flashlight for a grassroots band formation, directed at the economic and cultural dislocation of modern urban life. This blight existed, and still does, in many a 20th-century westerner from both the ravages of the mind/body split codified by Christianity, and the onslaught of technology. The 20th century would dance as no other had, and, through that dance, secrets would be passed. First, North America, then the whole world, would - like the world's radios - "hear that long snake moan". (Whole Earth Review Nos 54/55, USA, 1987)

Writing in the Estonian cultural weekly, *Sirp ja Vasar*, Heinz Valk said: 'Participating in that celebration compensated for suffering decades of humiliation and denial of one's true nature. It was the most magnificent celebration of the 20th century. It was the most magnificent celebration of the 20th century. It was the most magnificent celebration of the 20th century. It was the most magnificent celebration of the 20th century. It was the most magnificent celebration of the 20th century. It was the most magnificent celebration of the 20th century.' (Whole Earth Review No 65, USA, 1989)

In the realm of art music, several Americans have become identified with change and a shift of consciousness. An early leader and still vibrant exponent is John Cage. His reaction to the enormous level of intellectual complexity in western art music led him to embrace chance and 'disorder' in sound, derived from the philosophy of the far east, particularly using the I Ching method of chance discovery.

Pauline Oliveros is another American composer whose fascination has been devising procedures, rituals one might say, to unlock a group intuition for musical discovery. Still other composers like Steve Reich have immersed themselves in African drumming or Indonesian gamelan as a means of discovering the ceremonial and meditational sides of musical consciousness, in contrast to the...
expository, event A leads to B leads to C, mindset of most European-based classical music.

Another American, Paul Winter, sometimes touted as a founder of 'new age' music, has established major concerts at the changing of the seasons, solstices and equinoxes, as well as using whale or wolf ‘songs’, overtly embracing Earth themes to generate music.

So we see that there is much to suggest the musical experience can bring musicians and listeners to a common plane of emotional or spiritual excitement or relaxation. While some music referred to may have overt political or social meaning in its lyrics, the non-verbal qualities also have a powerful emotional sweep which may be pleasurable, uplifting or inspiring. Plato's grounds for censoring the arts in his ideal state, The Republic, was that 'Rhythm and harmony penetrate most powerfully into the innermost part of the soul and lay forceful hands upon it, bearing grace with them, so making graceful him who is rightly trained, and him who is not, the reverse.' (Book 3, 401, trans A.D. Lindsay, Dent, 1935)

Pythagoras, according to Porphyry, saw music as being able to exercise 'a healing, purifying influence on human actions and passions, restoring the pristine harmony of the soul's faculties'. (De Vita Pythagorae, Edit. A. Nauck, Leipzig, 1885)

On a personal level, finding a way to express one's predicament or ideals through musical creativity or other artistic means can free the spirit. The need for freedom or love, or anger at oppression, can find a necessary outlet. Barbara Swetina of the innovative community Findhorn has suggested that singing is as important to health as brushing your teeth: do it at least twice a day!

The British composer Nigel Osborne, a developer of the 'community music' initiative, gives two examples of transformational music in prison life:

'one, a prisoner rendered temporarily unable to speak by prolonged solitary confinement and his muscles weakened in creating a John Cage-like “soundscapes” to accompany his text, a collection of aural events evoking the great significance of sound in his experience of enforced silence; and two, an in-prison three-day festival of African Yoruba music, based on the ethnic background of some prisoners, was able to bridge and effectively erase the explosive racial tension which existed before the festival.'

Reality, as we daily experience it, comprises only nature and art. Perhaps art is what happens when the inner nature of our being acknowledges outer nature. This fusion of subjective and objective changes both. It is the very process of creation; a matter of taking the outer world as we find it, and giving it meaning. In solidarity, becoming vulnerable so as not to hold back, and thereby allowing the magic of touch to happen. Through art in all its forms we actually call one another into being, creating relationship, ecology, community, between the Earth and its peoples.

A liberating factor of contemporary musical life is the fascinating diversity of styles we have. World music, with its myriad folk traditions and hybrids has been brought to our attention by recordings and touring groups. Within western 'serious music' in the classical and jazz traditions there is tremendous variety: we no longer have a situation in which creative 'contenders' have to write atonal music or to keep up with the particular innovations of the late Miles Davis. While the most commercial music urges conformity on those who aspire to its type of success, success in other musical genres can happen in myriad ways; while music criticism has an undeniable need to categorize, the creation of new categories is an ever-present possibility.

A related phenomenon in the world of European-type classical music is the seeming disappearance of the 'genius/romantic hero' composer or conductor. There is a greater anonymity of musical talent, looking at the range of

| People who make a revolution singing and smiling should be a noble model for everyone |

- 'We do not pretend or aspire to eliminate computers, cassette tapes or synthesizers, but to shift the focus from these items to the human exchange, which they were intended to encourage but have often supplanted instead. It would be interesting to know, through psychological testing, the effects on work satisfaction of a person singing while doing a job compared with listening to tapes or the radio.

- So, in our groups, we say 'show us what you've made' or 'let's hear your sounds'. This year's Human Ecology midwinter ceilidh comprises all home-grown entertainment in the form of dance, poetry, fiction, music and story-telling. What we are is what we get! You may feel embarrassed or vulnerable, that your own music is not good enough, but only by releasing our deepest longings, for understanding, for community, for our children's futures, can we change ourselves and dance over the Earth in a way worth singing about.