Structuring Mnemonic Encoding of Development Plans and Ethical Charters using Musical Leitmotivs

Introduction

The following proposal is inspired by the idea of a Leitmotif as used in Richard Wagner’s operatic cycle The Ring of the Nibelungs. The Ring (which takes over twenty hours to perform) is tightly unified by the use of Leitmotifs, musical motives which represent persons, places, things and ideas. Leitmotivs are easily remembered melodic elements associated either with a character or object in the opera, or with a specific emotion or feeling. They are used to illustrate and represent a variety of characters, symbolic objects and themes of easily recognizable melodic, rhythmic or harmonic identity. The melodic fragments acquire symbolic meaning in the music-dramas and serve an integrative structural purpose. Extended symphonic passages are built up on them and they are combined, contrasted and superimposed, one on another, in a manner to suggest the development sections of symphonies.

The relevance of Leitmotifs in popular culture is explored in a powerful comparison with their use in the Star Wars film series (Kristian Evensen, 1999). Such a "pattern language" is consistent with that developed by Christopher Alexander (1977) as a participative design tool, and subsequently adapted as a guide for computer programming.

Proposal

It is proposed to explore ways of associating a distinct Leitmotiv with each article or theme of an international ethical charter or global development plan as a way of:

- ensuring its memorability to a wider audience through its musical associations,
- rendering comprehensible the systemic relationships between the parts,
- providing musical cues to enable variants of well-established 'strategic melodies' to be more easily distinguished

The recently formulated UN Earth Charter could thus acquire a memorable musical articulation, as with Agenda 21 or the Universal Declaration of Human Rights.

The following sections describe some of the other possibilities that will be explored during this project.

Sonification and 'auditory display'

An extensive bibliography (annotated) of items providing the rationale for this approach is provided by the International Community for Auditory Display (http://www.icad.org/) whose 7th International Conference was held in 2001 (see proceedings). Selected items have been incorporated into the extensive references to the UIA study on Knowledge Gardening through Music: patterns of coherence for future African management as an alternative to Project Logic (https://www.laetusinpraesens.org/docs/music.php)

The legitimacy of this whole approach is reinforced by current interest in the hard sciences in using sound as a way of detecting unusual patterns in very large and complex data sets (see New Scientist, 28 July 2001, pp. 31-33). Associating sounds cognitively with data is now known as sonorification (see Stanford University humanities project, 2000-1) or more commonly as sonification (see University of California-Santa Cruz tool-kit). Examples of applications include: climate data, seismic data, astronomical data, DNA sequences.

Presentation of plans, declarations, charters, etc

This approach might permit the presentation of declarations so that each individual article has one or more musical Leitmotivs associated with it. Where several Leitmotivs are associated with a single article, it might be useful to offer options according to different musical styles.

In a web version of the declaration, users could click for the Leitmotiv, whether in a single style or in the option of several alternative styles.

Declarations and global plans tend to be taken very seriously by the international community, but they are absolute disasters in terms of memorability, aesthetics and popular appeal. There is a need to review how they are articulated from poetic and musical perspectives.
Introducing aesthetic dimensions may ensure that they are able to hold complex systemic checks and balances in a more comprehensible and credible manner.

Agenda 21 should be patterned on the ecosystem it purports to manage, rather than exemplifying the grid-thinking which is destroying the ecosystem. If it is indeed a paean to restoring balance on Earth, then it should be as singable as the great epics like the Mahabharata, the Kalevala, or the Ring cycle of Wagner. The 100-odd Leitmotivs (cf Deryck Cooke's 192 examples, including variations) used in the latter suggest a way of encoding an array of dynamically related issues that need to be collectively comprehended - perhaps a kind of periodic table.

**Popular appeal: an alternative communiqué**

At present declarations and global plans tend to be inherently unmemorable to wider audiences, especially those who are alienated by the legalese in which they are written.

Providing an appropriate Leitmotiv for each article of such a formal document offers a mnemonic key with which its content may be associated. With some thought, it is possible that ways could be found to combine the Leitmotivs together to give mnemonic form to the set of articles as a whole, which would constitute a unique achievement in communication.

This approach might suggest possibilities for feedback from the aesthetic criteria to condition the form of the document so that it acquires greater mnemonic integrity. Such non-substantive 'feedback' is already a feature of 'spin' in the crafting of such communiqués. This could prove to be a vital step in ensuring the credibility and implementation of any such plan.

The presentation of declarations might in future be accompanied by their musical articulation so that people can acquire familiarity with them. The criteria should be analogous to that of presentation of potential hit songs - a success would be signaled by the tendency of people to immediately start humming the tunes. Advertisers of products have already explored this possibility through musical jingles -- that are being extended to political advertising in support of electoral campaigns.

The Universal Declaration of Human Rights should resonate in peoples hearts rather than appeal only to those who enjoy legalese or the slogans derived therefrom. To the extent that plans address the darker side of humanity, those functions should be factored into dramatic presentations that render credible and coherent the dynamics of the plans -- especially since the implementers of such plans are themselves viewed, with increasing suspicion, as open to dubious temptations.

How many kinds of "dance" are evident in the dynamics of a parliament? Should the United Nations Charter be formulated in epic form as a major cultural artefact of modern civilization? Why should the "communiqués" of global summits not be as significant, to the peoples for whom they are purportedly conceived, as the "hit" songs that people take up with such enthusiasm? Why do such communiqués exemplify imaginative failure and unmemorability to such a high degree?

International treaties and plans might in this way be associated with a form of anthem that could be played on occasion to rehearse the content and remind participants of its nature. Such presentations would also point to melodic possibilities that were outdated -- raising interesting questions regarding their substantive equivalents.

**Periodic table**

Leitmotivs may possibly be distinguished either musically, or by the symbols with which they are associated, so as to form a periodic table. In such a table more fundamental Leitmotivs would appear in earlier rows than those associated with less tangible phenomena (emotions, principles, etc).

The columns might then distinguish variants within the row.

It is conceivable that such a periodic table could be developed in association with conception of the total pattern of relationships between Leitmotivs -- along the lines explored by Bach's *Goldberg Variations* (The Well-Tempered Clavier) [see discussion]. These are based on a single ground bass theme, providing an encyclopedic summing up the entire history of Baroque variation -- the *Diabelli Variations* by Beethoven being the Classical counterpart.

It is interesting to reflect on a situation in which the complete set of Leitmotivs is thought to number N -- where N might be 8, 16, 64 or some other number. The resulting periodic table would then be of greater or lesser complexity. Each simpler periodic table might be considered as nested within more complex tables.

Leitmotivs may also be understood as linked together in a piece of music -- namely flowing into one another to form a larger musical whole. An interesting way of thinking about this is the manner in which letters of the alphabet are linked together to form a continuous script as in handwriting. This flowing together may occur over time or as a kind of 'knot' of intertwined leitmotivs active at a given moment. Within any given periodic table, a given Leitmotiv could be considered as having a kind of 'valency' which defined the number of links it could make to other Leitmotivs. In the simpler tables, the rings of leitmotivs would be necessarily simpler than those possible in the case of the more complex tables.

**Clarifying interplay between elements of a plan - a key to sustainability**

When any global plan is articulated through a series of articles, the meaning associated with the relationships between the articles is easily lost, even if cross-references are employed within the text. The implications of such relationships may not even have been explored when the plan was negotiated.

By using Leitmotivs as suggested, and exploring their interplay systematically, it may prove possible to clarify the implications of many
relationships - or at least highlight their existence by giving each a musical identity.

This approach moves towards providing a musical mapping of systems that have to be managed and could therefore be vital to the successful implementation of complex plans. This could be vital in the case of plans focusing on ecosystems or concerned with sustainability, even including sustainable community development.

It is even possible that this approach could offer a form of musical simulation of what is proposed in complex plans. Minimally this might raise questions about certain relationships that would have a precise musical identity. More optimally it would be isomorphic to some degree with the systems that the plan is designed to address. Better still it would suggest directions to explore for richer and more complex plans that would nevertheless remain comprehensible in their integrity.

Archetypal and symbolic dimensions: There is extensive literature on such dimensions in relation to Wagner's Ring cycle, for example (eg see Jessica K. McShan). It is very interesting to note Kristian Evensen's review of the symbolic and musical parallels between the music of the widely popular Star Wars films and the relatively little known Ring cycle of Wagner.

Recurrent themes and issues in meeting dialogue: Dialogue in meetings, whether at the local or the international level, tends to be characterized by recurrent themes. These may be dramatic issues (racism, poverty, injustice, etc), values (peace, harmony, tolerance, equity, etc) or strategies (funding, prayer, mobilization, etc).

There is a case for exploring the use of Leitmotifs to tag each such theme, perhaps when it is repeated for a second time. During conference speeches, recurrent themes could then be accompanied by such musical tags, perhaps on a separate circuit where headphones are in use. This is somewhat reminiscent of the provision of musical accompaniment to movies -- dating back to the silent movies. The challenge is to ensure some meaningful cognitive relationship between the substantive structure-content of the speech and the musical structure-content -- rather than a contrasting musical 'background' to relieve the tedium of the content.

Alternatively the approach might offer a way to provide a musical description of a lengthy debate, especially for those disinclined to listen to it, or read the transcripts.

This would give greater focus to concerns about the fundamental similarity between political speeches and conference communiques -- a judgement characteristic of both journalists and the wider population.

There is also the possibility of developing techniques to compare conference 'compositions' from successive events to provide musical encoding of the variations and developments from one to another -- notably over a number of years.

Leitmotivs: Problems vs Strategies vs Values vs Actors: In a time of fragmentation and lack of coherence, Leitmotivs offer an interesting and memorable way of interrelating the issues of society with the strategies deployed in response to them, the bodies undertaking those initiatives and the values they seek to uphold.

The Union of International Associations maintains large interlinked databases on these different entities and is tentatively exploring the association of sound with visual representations of such networks (see).

Automated musical encoding: a response to the challenge of translation and interpretation: There is a case for exploring the possibility of automatically encoding any standard conference speech in terms of embedded Leitmotivs. This would involve detection of semantic patterns (keywords in particular relationships, etc) susceptible to such association (cf the concept of file 'association' in desktop computer packages). Some of the techniques required are extensions of those already used in automatic translation.

Major advances are being made in automatic translation techniques and their accessibility, notably on the web (cf http://world.altavista.com/). This progress is however severely limited to certain language pairs (eg English to German, etc).

Automatic encoding of Leitmotivs would directly address comprehensibility of political texts for thousands of language-culture groups -- at very low cost. It would provide a kind of musical Esperanto whose form the user could adjust according to cultural preferences. It is possible that, as with Altavista's Babelfish, users might activate such a facility for themselves on their desktops (portables, etc) using alternative encoding techniques corresponding to their cultural preferences. This corresponds somewhat to the 'seed pattern' technique used in generative music (cf SSEYO's Koun).

Development implications

Encoded musically, widely advocated development plans might be revealed as having fundamental flaws immediately perceptible to those with any feeling for music. It might even prove to the be the case that such plans tend to be developed by people educated into disciplines effectively requiring 'tone deafness'.

Music suggests the possibility of various forms of development extensively explored in musical theory -- notably through the transposition of key. The creative interplay between those sensitive to musical issues and those sensitive development issues may suggest new kinds of development organization -- especially in cultures such as Africa.

An interesting author in relation to this proposal is Jacques Attali (Noise: the political economy of music, 1977) who celebrates the prophetic power of music with respect to social organization. Of special interest is the controversy this book aroused (see web reviews). He himself became the first president of the European Bank for Reconstruction and Development.

Engagement: Unlike declaration and strategic legalese, musical encoding and singability is likely to encourage a higher degree of engagement and sense of coherence than is increasingly characteristic of societies challenged by voter apathy.

This process may be seen as analogous to the role of songs associated with manual work (sailors, etc). It would be interesting to explore the nature of the distinction of what is advocated from the political and military songs developed by the Nazis and the Communists. Why
was it that the Nazis were recognized as having a monopoly of "all the good tunes"? Is there a danger than the reactionary mainstream may acquire a monopoly on the good tunes of the future -- especially given the nature of the holders of musical copyright?

**Alternative demonstrations and demonstration of alternatives:** The turn of the millennium has seen thousands of people taking to the streets in protest against the stultifying inadequacies of globalization initiatives. It is however ironic that it is the protesters that bring new music -- whilst those at such conferences tend to listen to music from the past, if they listen at all (cf Attali, 1977). This situation is also in ironic contrast to the historical parallel in which it was the Catholic hierarchy that controlled the music celebrating its universal faith -- whereas the Protestants tended to have strong reservations about any use of music.

There is the possibility for the future that counter-conferences and demonstrations might be characterized and reinforced by alternative styles of music to those into which mainstream plans might be encoded. There is a long tradition of musical mockery that can reframe inadequacies to the point of ridicule. The challenge would be to offer appealing musical alternatives that would give organizational credibility to new styles of development initiative. Modern warfare (psy-ops), as well as the advertising industry, already makes powerful use of music as an instrument of propaganda.

**Intractable challenges: Jerusalem, Kashmir, Northern Ireland, etc:** The world is torn by a number of intractable territorial conflicts -- in addition to those relating to polarizations over development-vs-environment, jobs-vs-environment, etc. The options have been explored many times and have become totally alienating from a purely aesthetic perspective. This leads to apathy and lack of creativity.

Encoding such challenges in musical terms, so that the repeated claims and counter-claims are recognizable musically, would quickly make it apparent that other musics could usefully be called upon to reframe the arid dialogue. At the same time, music might well provide a language to articulate organizational options that cannot be rendered either comprehensible or credible in the conventional legalese that is the outcome sort in conventional negotiations. The people suffering in such conflicts have a right to new songs to honour those of the past in a new context.

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**References**


Anthony Judge:

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Jessica K. McShan. Symbols in Richard Wagner's *The Ring of the Nibelung*. 1997 [text]

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