

AN INFORMATION ETHICS-CENTRED APPROACH TO MUSIC AS INTANGIBLE HERITAGE

Christian Benvenuti

Universidade Federal do Rio Grande do Sul
cbenvenuti@gmail.com

ABSTRACT

This paper discusses ethical principles in the preservation of our increasingly digital musical cultural heritage, particularly in the context of the impact of information and communication technologies. UNESCO's Information for All Programme has recently drawn attention to the digitisation of intangible cultural heritage as a primary safeguarding measure. This paper will focus on the unfolding ethical issues concerning digitisation policies, such as the likely excessive reliance on information and communication technologies, the ethics of the decision-making powers regarding the selection of what musical heritage is worth keeping, the vulnerability of digital depositories, and future ethics-oriented paths.

Keywords: intangible cultural heritage; information ethics; archiving; data storage

1. DIGITISATION POLICIES

Modes of music production, transmission, and preservation are in a constant state of reshaping in a world where music has been increasingly being mediated by technology. In particular, information and communication technologies (ICTs) play a crucial role in this mediation as far as our musical intangible heritage is concerned, encouraging new approaches that bring ethical issues to the foreground.

Information ethics and information preservation were listed as priorities in UNESCO's Information for All Programme (IFAP) (UNESCO, 2017) with great emphasis on:

1. fighting the 'digital divide' through universal access to information and to ICTs;
2. safeguarding measures usually involving digitisation of intangible cultural heritage (ICH);
3. making the internet a safe place for its users.¹

Information ethics, as proposed by Luciano Floridi, is the radical assumption that *existence* has moral intrinsic

worth (Floridi, 2015). This is a non-biocentric approach that replaces *life* with *being*; it is not only about our biosphere, but about our *infosphere* which is the whole ontological kit and caboodle. In this context, any form of negative agency by destroying, corrupting, polluting, and depleting informational objects can be treated as something more fundamental than suffering.² This means that anything capable of altering the integrity of information raises questions about its moral implications.

In spite of the fact that we are the moral agents of the infosphere, our understanding of the moral implications, as well as the nature, of something as intangible and fundamental as information is still in its infancy. Information society as a whole expands in a pace exceedingly faster than the growth of our ethical comprehension of it. Nevertheless, the evolving consideration given to our ICH puts the integrity of our cultural memory at the centre of moral concerns. Threats to ICH, as laid out by UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003), are generally – and perhaps deliberately – vague, but we can sum up the described threats as including the following:

- Turning traditional forms of art into commodities;
- Contextual and structural distortion due to tourism;
- Social or environmental factors (for example, an economic crisis might impact the amount of time a community devotes to its musical practices while an environmental issue might impact the availability of materials used to make certain musical instruments);
- Traditions fed back into a community as a simplified version due to cultural appropriation or limited notation/transcription procedures.

¹ Other 'information curation' initiatives besides UNESCO's IFAP include the National Digital Stewardship Alliance (NDSA) and the International Internet Preservation Consortium (IIPC).

² Floridi suggests the use of the word 'entropy' to describe such 'impoverishment of reality' (2010, p. 103), but with a completely different meaning than the one intended by Claude Shannon in his information theory, which is more akin to complexity, disorder, or unexpectedness.

Traditional music is a notable example of the fragility of cultural heritage. The occasional co-existence between traditional music and their commoditised counterpart might seemingly operate as a symbiotic relationship, in the sense that the actors of such traditions could benefit from an additional source of income. However, commercial pressures tend to promote radical changes of context or content to traditional manifestations, eventually leading them to miss an important piece of their identity. The apparent inevitability of such changes encourages safeguarding measures in the form of the digitisation of musical practices – digital audio/video recording, digitised symbolic representations (MIDI files, notation, transcriptions), and databases. I will refer to these measures under the umbrella name ‘digitisation policies’.

1.1 From Intangible to Tangible (and Vice-Versa)

We are currently experiencing an ontological shift. In order to preserve our intangible musical heritage, digitisation policies resulting in very tangible storage media (ranging from vinyl records to hard drives) are considered to be a necessary measure to protect worthy information. Musical information becomes then accessible, portable, and replicable. The next shift is from a musically materialist reality where the tangibility of storage media is taken for granted, relying on physical objects to ensure storage and reproduction, to an informational one, which promotes the illusion that music is independent from a physical support in order to be archived and retrieved, in spite of the fact it is more technology-dependent³ than ever. This de-physicizing shift is a core element of current music listening and sharing habits (Benvenuti, 2017), which are characterised by streaming digital music files and their inherent ability to be faithfully copied and accessed from anywhere, provided that some infrastructure requirements are met.

Storage of data still depends on a physical support, whose most significant infrastructure is the one provided by data centres. The increasing need of physical space, energy, and maintenance for such infrastructure is of enormous importance.

2. ICT-DEPENDENT SOCIETIES

Only information societies are at risk of informational threats; the more they depend on ICTs, the higher the stakes when it comes to the nourishment and proper preservation of information. Information ethics can be seen as a tripartite approach concerned with information as:

a *resource* which must be accurately accessible within moral limits. In terms of our ICH, this refers, for instance, to ensuring proper access to sound archives but restricting access to personal data when appropriate;

a *product*, which is to be ethically created in order not to be characterised as plagiarism or ‘fake news’, for instance;

a *target* subject to vandalism (by hacking, for example), social control, and claims to freedom of expression. In terms of our ICH, this can refer, for instance, to filtering content by using (immorally acquired) data about a person’s browsing behaviour in order to promote certain music genres or artists. It can also refer to the deliberate destruction of data by acts of state policy or terrorism, for example.

Therefore, since the informational shift has radically transformed the moral context in question, our relationship with technological mediation must be considered critically.

2.1 Relying on ICTs: How Much Is Too Much?

Particularly (but not only) in the state members of the G7 – Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States of America – the Gross Domestic Product (GDP) is mostly comprised of intangible goods – information. In 2016, global expenditure on entertainment and media got a 2.54% share of the global GDP (see Figure 1) (“Global Entertainment and Media Outlook 2017-2021,” 2017), of which digital entertainment and media comprise 33.9% (Floridi, 2016).⁴ The projected decrease in global expenditure, according to the report, might be due to the increase in digital activities not actually traceable by its methodology. At any rate, this is a higher share than military expenditure in the same year (2016), which was 2.2% (US\$ 1.69 trillion) of the global GDP. In the first half of 2017, 184.3 billion streams of on-demand audio were logged in the United States alone (Nielsen Music, 2017).

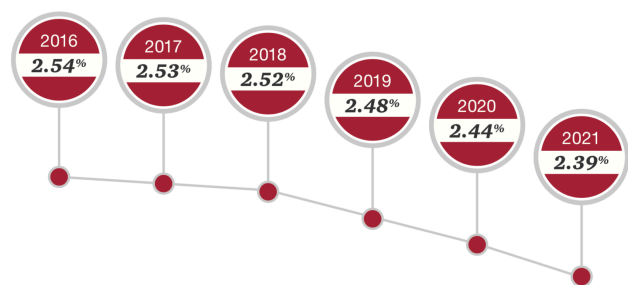


Figure 1 - Global Entertainment and Media Revenue as a Share of Global GDP. Source: Global entertainment and media outlook 2017–2021, PwC, Ovum

³ By ‘technology’ I specifically mean ICTs, not just any technology such as the modern piano or the ballpoint pen.

⁴ Based on 2010 data.

Streaming is now the dominant revenue source for recorded music. This impressive figure, which does not include music being played via other digital means (offline music files, CDs, DVDs), expresses the profound role of technology-mediated music in our daily lives. It is not surprising that traditional art forms are not immune to the pervasive influence of ICTs in these information societies.

As emphasized by UNESCO:

Performances may also be researched, recorded, documented, inventoried and archived. There are countless sound recordings in archives all around the world with many dating back over a century. These older recordings are threatened by deterioration and may be permanently lost unless digitized. The process of digitisation allows documents to be properly identified and inventoried (UNESCO, n.d.)

This point is important because it assumes that digitisation is free from deterioration and ‘entropy’. Digitisation is seen as a safe harbour for information worthy to be kept. Relying too much on digital storage for safeguarding our musical heritage might inadvertently promote some carelessness toward traditional music: once our musical heritage is deemed to be safe, we can (wrongly) come to the conclusion that the focus of our concerns could change to something else, neglecting the need to *continuously ensure the viability of traditional art forms*. However, as Floridi points out, ‘[t]he gradual informatization of artefacts and of whole (social) environments means that it is becoming difficult to understand what life was like in pre-digital times’ (2016, p. 43). By progressively digitising our musical heritage, we are faced with an ethical concern often involving the ontological transformation from intangible (tradition) into tangible (storage): some traditional musical practices might eventually come to exist – albeit in a radically decontextualized, deconstructed way – solely on digital storage media. As we will see below, digital storage – notwithstanding its enormously convenient features – is an archiving method which is eminently unstable.

2.2 The Ethics of Decision-Making

As the infosphere grows, so grows the logical need to select between what to maintain and what to delete. This refers to the basic problem of information theory as a selection problem: one must know what to accept or reject during communication (Benvenuti, 2010, p. 40) and, as it has been pointed out, preservation always involves choices of some objects over others which might eventually disappear (Lundberg, 2015, p. 681). This calls for two questions with far-reaching ethical implications:

1. Who has the decision-making powers to decide what information, within the scope of our

intangible musical heritage, is worth keeping and what is not?

2. Who owns – and under which commercial circumstances, if any – the depositories of such information?

Someone has to make decisions, and unlike the information curation initiatives discussed above might suggest, political decision-making is carried out not by states but by individuals invested with such power. The ownership of data centres should, in turn, be given the same ethical consideration. While their role in preserving information is bound to some contractual obligations, the fate of stored data in case of significant changes to the circumstances of their management – such as insolvency – is still uncharted territory. The ‘cloud’ in cloud computing, after all, is still simply somebody else’s computer.

Research and historiography might be important motivators in the preservation of cultural heritage, but this in itself does not prevent ideological agendas from preferring and selecting musical manifestations that are deemed more valuable over others. For example, it is reasonable to suppose that considerable effort will have been spent in the preservation of *samba de roda*, since it has been recognised by UNESCO as Intangible Cultural Heritage of Humanity. On the other hand, it is also reasonable to suppose that Rio de Janeiro’s *funk carioca*, an essentially urban Brazilian genre of electronic dance music not currently recognised by any information curation initiative, will not be given similar consideration, regardless of being a cultural manifestation enjoying phenomenal popularity.

2.3 Dependability of the Global ICT Infrastructure

There is evidence that a strong coronal mass ejection (CME) event – a solar superstorm – might be catastrophic for our power grids, basically rendering any electrical device useless (National Research Council, 2008). This would impact not only our computers, mobile phones, and other electronic devices. In most large cities, even the water supply is supported by pumps which depend on electricity (see Figure 2 for a projection of the impact of a strong CME event). A study by the National Academy of Sciences estimates an economic impact of such an event as 20 times greater than the costs inflicted by Hurricane Katrina; restoring the global power grids might take years (Phillips, 2014).

According to recent evaluations, such tragedy might not be as unlikely as one would wish. The probability of occurrence of a catastrophic CME event between 2012 and 2022 was estimated at around 12% (Riley, 2012). This is a chance roughly equivalent to getting the flu in the US sometime along the year (Molinari et al., 2007, p. 5092). A catastrophic CME event actually nearly missed the Earth by a relatively small margin in 2012 (Phillips, 2014).

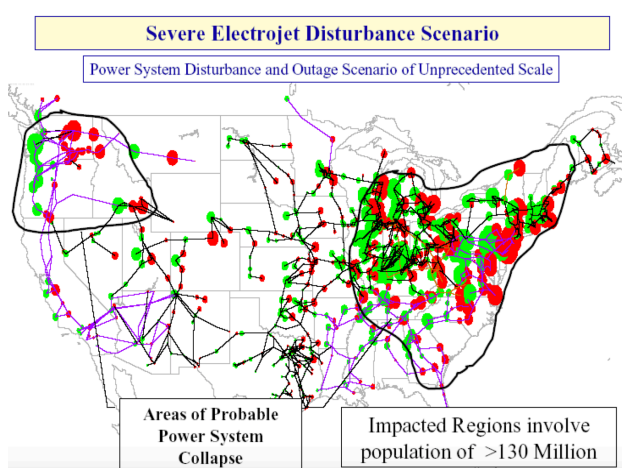


Figure 2 – Estimated Impact of a Solar Superstorm on USA Power Grids. Source: National Research Council, 2008

Seeing that most music in technology-dependent societies is transmitted over digital or electric devices, and that the subjacent infrastructure is sensitive to harmful interference – from unwarranted social control and acts of terrorism to solar storms and coronal mass ejection (National Research Council, 2008)–, the wellbeing of the infosphere does not seem to have been given satisfactory attention. The increasing reliance of our musical culture on the health of an essentially vulnerable infrastructure raises serious ethical issues, at the very least from the perspective of a negligent ecological management of information.

Furthermore, most information in the musical infosphere might be perceived as an intangible cloud asset but is not secured by an intangible cultural heritage status. Consequently, an eventual energy collapse might permanently prevent access to it, hence annihilating one of the most significant musical manifestations of our time. These are ethical implications of the mismanagement of music information which are not being adequately addressed. An information ethics-centred reflection on the imbalance between the expansion of the information society and its ethical roots must be a priority in the context of our musical heritage, at the very least.

3. ALTERNATIVES TO DIGITISATION POLICIES?

Organisations – governmental or otherwise – can play a crucial role in ensuring the viability of traditional art forms. The development of wider audiences and raising public awareness might be the single most important safeguarding measure. This is, in a way, a counter-argument to the notion that the contact of wider audiences with some musical practices might be harmful. It is the equivalent of increasing storage redundancy (where the ‘storage’ is carried out by individuals). By gaining familiarity with traditional music, audiences can promote its protection and popularity, attracting institutional interest and even a more

active role of individuals in participating in the musical manifestations.

Digitising our intangible musical heritage might not be sufficient to ensure the proper transmission of our cultural memory on to future generations. These are unprecedented challenges as our digital environment calls for the development of a more active and empowered ethical framework. This is not to say that digitisation policies are superfluous or not necessary, but safeguarding information requires providing for the worst. As discussed above, the worst might effectively happen, as a catastrophic CME already did in fact happen in 1859 and seriously affected telegraph lines (Cliver & Svalgaard, 2004).

This paper is not advocating a return to a pre-electricity society, not even to a pre-digital society. As informational agents in the 21st century, we have ourselves been reshaped by the infosphere; to remove that aspect from our own selves would be an ontologically radical feat. Many of us might be ‘digital immigrants’, but many more others are bound to be ‘digital natives’ even more embedded ecologically in the infosphere. In a *post*-digital era, however, we are left with only our collective musical memory and whatever music is archived in non-electrical media (an archaic gramophone, as primitivist as this example may sound, could still play a record even if humanity were thrown back into the Stone Age).

What this paper advocates is thoughtful examination on the preservation of our intangible musical heritage, which requires ensuring the integrity of knowledge about modes of production, techniques, *lutherie*, and the whole of musical manifestations – not only what is able to be recorded – in an ethical, collectively responsible way.

ACKNOWLEDGEMENTS

This work was supported by the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), an agency under the Ministry of Education of Brazil.

4. REFERENCES

- Benvenuti, C. (2010). *Sound, noise and entropy: an essay on information theory and music creation*. University of Surrey. <https://doi.org/10.13140/RG.2.1.2067.0480>
- Benvenuti, C. (2017). Craving Information, Drowning in Sound: Ethics and aesthetics of music information. *Submitted*.
- Cliver, E. W., & Svalgaard, L. (2004). The 1859 Solar–Terrestrial Disturbance And The Current Limits Of Extreme Space Weather Activity. *Solar Physics*, (224), 407–422.
- Floridi, L. (2010). *Information: A very short introduction*. New York: Oxford University Press.
- Floridi, L. (2015). *The Ethics of Information*. Oxford University Press.
- Floridi, L. (2016). *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford University Press.
- Global Entertainment and Media Outlook 2017-2021. (2017).

Retrieved from
<https://www.pwc.com/gx/en/entertainment-media/pdf/outlook-2017-curtain-up.pdf>

- Lundberg, D. (2015). Archives and Applied Ethnomusicology. In S. Pettan & J. T. Titon (Eds.), *The Oxford Handbook of Applied Ethnomusicology*. New York: Oxford University Press.
- Molinari, N.-A. M., Ortega-Sanchez, I. R., Messonnier, M. L., Thompson, W. W., Wortley, P. M., Weintraub, E., & Bridges, C. B. (2007). The annual impact of seasonal influenza in the US: Measuring disease burden and costs. *Vaccine*, 25, 5086–5096. <https://doi.org/10.1016/j.vaccine.2007.03.046>
- National Research Council. (2008). *Severe Space Weather Events: Understanding societal and economic impacts: A workshop report*. Washington, DC. <https://doi.org/https://doi.org/10.17226/12507>
- Nielsen Music. (2017). *Nielsen Music US 2017 Mid-Year Report*.
- Phillips, T. (2014). Near Miss: The solar superstorm of July 2012. Retrieved March 11, 2018, from https://science.nasa.gov/science-news/science-at-nasa/2014/23jul_superstorm/
- Riley, P. (2012). On the probability of occurrence of extreme space weather events. *Space Weather*, 10(2), n/a-n/a. <https://doi.org/10.1029/2011SW000734>
- UNESCO. (n.d.). Performing arts (such as traditional music, dance and theatre).
- UNESCO. (2003). Text of the Convention for the Safeguarding of the Intangible Cultural Heritage. Retrieved March 11, 2018, from <https://ich.unesco.org/en/convention#art2>
- UNESCO. (2017). *Information for All Programme*. Paris. Retrieved from <http://en.unesco.org/programme/ifap>