

# CIDOC CRM and Folksong

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## Abstract

This paper covers the use of the domain ontology for cultural heritage, known as the CIDOC CRM, and its application to the process of recording folk song. In a wider context the nature of folk song as an immaterial conceptual object is discussed, with focus on continuous transformations and variations as essential elements of its existence; we further argue that combination of both, FRBRoo and CIDOC CRM is needed for efficient overall representation of bibliographic and conceptual information.

## 1 Project Aim and Background

The founding idea of the Digital Archive project of the Institute of Ethnomusicology is very similar to one that started more than 100 years ago. At that time, the Folk Song Enterprise of Austro-Hungarian Empire, established in 1904, was to publish a representative edition of the folk songs of all ethnic groups within the Austro-Hungarian Empire, separated according to peoples and nations and written down in their native language. Although it remained implicit, it is likely that this “first major scientific work, which will present a true, clear picture of the musical practices of the people,” was intended to contribute to a better understanding between peoples and thus to peace within the monarchy.

Thus, material was collected and in part analyzed, the country’s archives grew, and regional work committees prepared the editions. In 1917, eleven volumes were considered ready for press and in 1918 one preparatory and one exemplary volume were published. But with the end of the war and the collapse of the Austro-Hungarian Empire came the end of the folk song enterprise. Since then, many parts of the collection have fallen into obscurity and remain unedited; some may even have “vanished.” The Institute of Ethnomusicology (as part of Scientific Research Centre of the Slovenian Academy of Sciences and Arts) has preserved the manuscripts of approximately 12,000 folk songs, complete with melodies that were originally recorded by the Committee for Gathering Slovene Folk Songs.

In collaboration with Golda Meir Library (University of Milwaukee), and on the occasion of its one hundredth anniversary in 2003, the Institute of Ethnomusicology started the digitization project to “rediscover” these collections and make them available to the public at large. This is of interest not only to source researchers since the analysis of (one’s own) history does not concern folk music alone, but also such diverse areas as identity, nationalism, cultural policy and politics, homeland, and minorities—areas that are still of great interest today.

The whole collection of Manuscripts of Slovene Folk Songs is digitized and currently work continues with the digitization of other valuable collections: audio archive

with field recordings, transcriptions, notes, and images. The general goal is to preserve the existing material, integrate (using the CIDOC CRM) the heterogeneous collections from our own archives with the related collections from other institutes of the Slovene Research Centre (SRC), and make them available, primarily to our own researchers but also to the general public.

## 2 Folk Song in the Center of Ethnomusicological Research

The core of the research is to investigate systematically the widest area of folk immaterial culture by field research, gathering, and critical processing of sources and material, and the systematization, cataloging, and digitization of field and archive material for preservation. The digital presentation of the gathered material aims:

- to increase the value of folk immaterial culture, including the creative transformation of folklore, customs, feasts, and life stories;
- to explain the origin, acceptance, communication, and modification of all the phenomena that make up the heritage of folk song, music, and dance. This contextualization is based on both the field work and the analysis of sources and material; and
- to give specialists and the general public an insight into this heritage, while information technology provides easy access to the archive collections.

The main goal of the project is to integrate, preserve, and present the collections of immaterial cultural heritage from the archive of the Institute of Ethnomusicology. The intention is to present the gathered material as not just instances of creativity, with their own internal logic and specific life, but also as an integral part of society, thus enabling folkloristic and ethnological research of Slovene Folk culture. By taking this additional step and addressing the main issues of creative and functional communication of folk song, music, and dance, and referring to the social elements of immaterial culture, and its diversity in structure, functionality, poetics,

life, and historical context together with material cultural heritage, the aim is to integrate our collections with those related, and kept in other Institutes of the SRC.

A secondary aim of the project is to foster wider understanding of folk immaterial culture, especially in areas of education and national development. This will allow folk immaterial culture to be utilized by a wider audience of researchers.

### 3 CIDOC CRM or Why Integration through Metadata is Problematic

Built to describe and organize the collections in specific domains, metadata schemata “encapsulate” information and “based on data models, ...they don’t go beyond the data actually present in descriptions; such models don’t aim at a representation of the semantic relationships that pertain inherently to the domain covered but are only implicit and unuttered in the data” (Le Beouf 2006). In short, they don’t describe the contextual information beyond the one already explicated by particular data model. As a result, many metadata standards for covering different domains of cultural heritage exist today, most of them quite specialized, but the contextual information (i.e., semantic relationships between information objects (in various collections) that are essential for integration of these collections) are mostly not recorded.

For example, “a data model usually relates ‘object’ and ‘date’, without stating that the ‘date’ is actually the date the ‘object’ was made, because such a statement would have seemed ‘obvious,’ although, as Martin Doerr et al. remind us, ‘any dating is about events’” (Doerr 2004, quoted in Le Beouf 2006). As a result, things are documented without an explicit relationship to the events in which those things took part or to which they were witnesses; and as consequence, with their inability to record contextual data beyond the scope of a particular collection, metadata formats offer a fragmented view of reality.

Despite the arguments above, good metadata are, nevertheless, essential for describing and organizing information resources, but they do not give a high enough perspective for the integration of heterogeneous information sources, as can an ontology like the CIDOC CRM.

The CIDOC CRM was created to enable information integration for cultural heritage data and correlation with library and archive information (Doerr 2003). The event-centric approach of the CIDOC CRM enables:

- mediation and integration between various collections from cultural heritage domain;
- multiple reasoning of possible “states of affairs” and relationships; and
- in our case, representation of the transformation of a particular song through all of its possible conceptual states as well as all its possible media, from initial recording to post-production events recordings plus the relationships between them.

With the CIDOC CRM all of these events, categories, and their properties are explicit, and thus, representation of the rich contextual information is enabled. Through these

events, categories, and properties, we can represent different aspects of our reality and the dynamics of transformations, so fundamental for any process in cultural heritage and beyond. In our mapping to CRM, an event is represented by session (for example, production session, post-production session, etc.) and is an “anchor” for anything that involves date, place, and actor.

### 4 Folk Song: Identity, Transformations, and Variations

In the process of mapping our data model to CIDOC CRM, some interesting observations were made. Ones we would like to investigate here involve documentation and representation of folk song as immaterial conceptual object, its continuous transformations related to the structure, content, and carrier, and representation of those processes through spatiotemporal reasoning; the mapping of CIDOC CRM is further analyzed with graphical representation. Though combination of Functional Requirements for Bibliographic Records (FRBR) and CIDOC CRM is envisaged for efficient overall solution (especially when describing bibliographic relationships), this paper contains only briefly mentions the FRBR due to the limited space.

It is in the nature of a folk song to be performed, to be mediated verbally (being written down on occasion). Folk songs were always passed to subsequent generations by “word of mouth” and this verbal communication has had and still has some major consequences related to the structure and content. The result is transformations and variations of folk songs. Transformations are influenced by social changes and spatiotemporal elements, type of performance (informal/formal, stage, radio, etc.), school, and other musical influences, and relate more to the inner structure of the song, whereas variations are influenced by the actors involved (singers, chorus, audience, transcribers, etc. vary, and as these actors vary, so does the folk song) and linguistic (dialect) and musical changes, which pertain more to an interpretation.

Transformations and variations that pertain to the folk song itself are essential to its form and content. They define and represent the nature of a folk song as a performance concept, and they restructure the form and the content of a folk song, often leaving only a trace of former identity (defined by variant type). This process is ongoing as it is exposed to constant influences from the external world (social changes, actors, spatiotemporal elements, etc.). Therefore, every new performance (a singing event) enables a distinct space, a spatiotemporal dimension where the folk song can be mediated; it uncovers the momentary identity of folk song as an unique conception—a new variant, with its form and content bearing a trace of its previous transformations and variations in common variant type. Thus, a recording of a folk song can only grasp this transitory state, or to be more precise, document it. The recording event is an act of transformation itself, a transformation that converts the conceptual object (folk song as a performance concept) into physical state (documentation recorded on a carrier). In this process, the identity of each variant embodies the

structure and content of its unique conceptual object—each newly recorded folk song performance, and in wider frame also the common variant type by which the folk song is classified. This can be seen as each variant represents a single unique “clipping” of a folk song’s ongoing transformation process. Each variant therefore further extends the scope of the variant type using the characteristics of the individual recordings of the folk song and its resemblance to the common characteristics of a certain variant type.

The bibliographic relationships that form between the song as a performance concept and its variants, as the embodiment of the folk song’s immaterial nature during the recording, fit well with the FRBRoo model: each performance creates a new immaterial conceptual object that is related to the original. Since in our case each performance creates a unique variant, the folk song as immaterial conceptual object becomes an F46 Individual Work (a subclass of CIDOC CRM E28 Conceptual Object) with “its concept is completely realized in a single F20 Self-Contained Expression”—that is the variant (F20 is a subclass of CIDOC CRM E73 Information Object) (FRBRoo 2005). One interesting thing to note is the distinction between F46 Individual Work and F21 Complex Work (both subclasses of CIDOC CRM E28 Conceptual Object) (FRBRoo 2005):

A Work can be either individual or complex. If it is individual its concept is completely realized in a single F20 Self-Contained Expression. If it is complex its concept is embedded in an F21 Complex Work. An F21 Complex Work consists of members that are either F21 Complex Works themselves or F46 Individual Works. The member relationship of Work is based on the members respecting the same concept, and should not be confused with the structural parts of an expression, that might be taken from other work. (FRBRoo 2005)

From the quotation above we can argue that each performed folk song belongs to a F21 Complex Work. A performed folk song is always an individual work, that is each performance creates a new immaterial conceptual object and since it always has a unique variant, a single F20 Self-Contained Expression. On other hand, the same essence that makes each performed folk song an individual work and consequently an unique variant, makes it a part of F21 Complex Work since “the members of a Complex Work may constitute components of the overall concept or be alternatives to other members of the work” (FRBRoo 2005). Though different from its previous performances, the performed song in its embodied variant still shows a trace or resemblance of the common characteristics that form the common variant type. Therefore, a particular variant type constitutes an F21 Complex Work based on all variants tracing a common conceptualization.

Looking from an information integration perspective, transformations of folk song can be represented in the CIDOC CRM since they are reasoned about primarily using events (performances, recording session, etc.), while the relationships between objects (i.e., folk song as conceptual object, variant as its embodiment) are bibliographical in nature and are best described with the FRBRoo extension.

## 5 CIDOC CRM Spatiotemporal Representation of Folk Song Transformations

Following the arguments above, there are two other kinds of transformation related to the nature of a song as performance concept (conceptual object) and its materialization: 1) transformation from immaterial to material (recording of a song in the event of singing, i.e., performing state); and 2) transformations from one carrier to another, are physical transformations of recorded material and represent the event of copying or re-recording of songs from carriers (from field recording session through all post-production sessions, that is the non-performing states).

Song as such is immaterial—its “natural” carrier is the human mind. The event of recording a song, its performing state, causes an alteration in the nature of a song, a transformation from conceptual state (song as E28 Conceptual Object and human mind as the carrier) to physical state (song as E73 Information Object on E84 Information Carrier). This distinction (on how different conceptual objects can be expressed) pertains to the cultural domain itself, as it is divided on performing and non-performing arts.

Non-performing arts products are physical objects that carry conceptual objects; such physical objects are the basic ‘documents’ that are preserved in a collection and described in a catalogue; through such documents, the conceptual objects they carry are preserved and described as well; it is also possible to gather ‘documentation’ about them, their creation, and the way they were perceived.

Performing arts products are events that convey conceptual objects; there is therefore no basic ‘document’, but only some ‘documentation’, which, consequently, becomes primordial, as the conceptual object conveyed by a show can be somewhat preserved and described only by preserving and describing that documentation. (Le Boeuf 2006)

The significance of performing arts products (songs, music, dance, etc.) is in that they need to be perceived in space and time; their essence cannot be grasped through a one dimensional representation. A recorded song is only the representation of its physical characteristics—audio or graphic documentation about the event of singing, not the event itself.

### 5.1 Spatiotemporal Definition of Material Transformations

For defining spatiotemporal characteristics of a song in relation to the physical carrier that the song is on, we have to consider the following: when we talk about duration of a song we are using temporal definition, but when we talk about location of a song on a carrier (for discovery and identification purpose) we are using spatial definition—position of a song relative to the whole tape. The duration of the song is a temporal dimension measured in HH-MM-SS format, but for its identification and discovery on the medium (DAT, tape, etc.), the duration of a song is represented as a

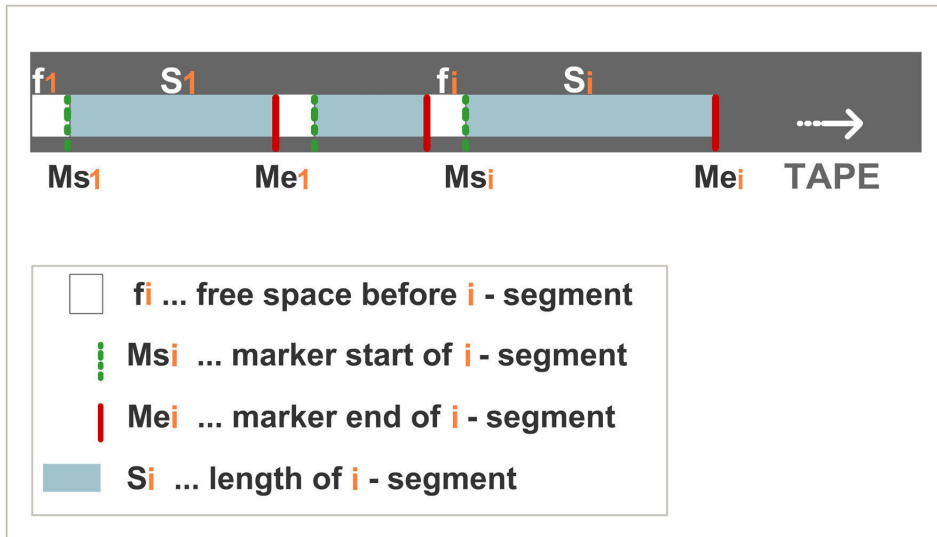


Figure 1. Defining location of a song on tape.

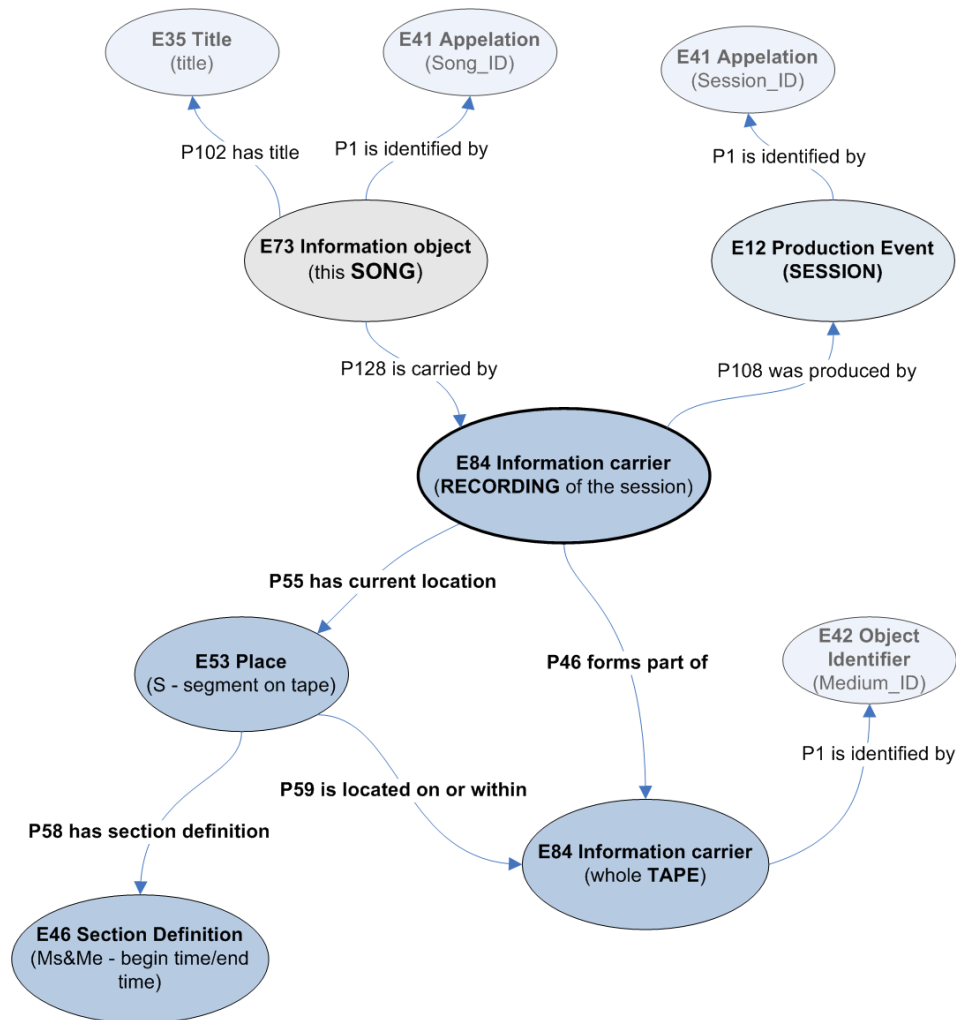


Figure 2. Graphical representation of folk song material transformation in CIDOC CRM.

location—a spatial dimension on the medium. The duration (as temporal dimension of a song) specifies an interval, i.e., time between the beginning of the song and end of the song as a spatial dimension, a tape segment defined by markers

that form part of the whole tape. The position of the segment (the duration of the song) is relative to the tape as whole and to other segments recorded on the tape, as shown in Figure 1.

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