

#### Introduction

*I am fairly new to both MARC21 cataloguing and the CIG group, having recently completed the CILIP basic cataloguing training, and I was fortunate to be selected for the CIG sponsored place at the extremely popular 'RDA in a Day' course.*

*I would very much welcome any feedback, comments or suggestions in response to my report.*

The **Stuart Hall Library** (SHL) is a specialist reference library in Shoreditch, London, that holds the collections and research of the arts organisation Iniva (Institute of International Visual Arts). As Librarian and Manager of a library with an international arts usership, it is important to me that we move to international industry standards of cataloguing and that we are accessible and visible online for researchers around the world. I am currently implementing a move to a new Library Management System (LMS) that will hold full MARC records (our current one is MODS, or Metadata Object Description Schema, -based<sup>1</sup>). This article considers the implications of updating our records to RDA (Resource Description and Access) for the future of the library data.

The RDA in a Day course took a very practical, hands-on, practice-lead approach, which gave me a good understanding of RDA's structure and how to apply it. It provoked conceptual questions for me about the nature of linked data, how it differs from the AACR2 (Anglo-American Cataloguing Rules) model, and – most importantly – what might be the advantages of RDA and linked data in general and for the Stuart Hall Library (SHL) collection in particular; what can it do that our current record structures can't? When many new Library Management Systems and discovery systems have the capacity to search anywhere in the records for any piece of information, and to search across library's collection catalogues and archival systems, what is the value of RDA's linked data structure? What is the conceptual framework of RDA, what are its implications for searching and retrieving information, and how might it affect the shape of knowledge? Below, I consider the potential of RDA and possible future applications for SHL as I understand them from the RDA in a Day course and from my subsequent research.

#### Case Study: Stuart Hall Library (SHL)

**Context:** Iniva is an evolving, radical visual arts organisation dedicated to developing an artistic programme that reflects on the social and political impact of globalisation, and issues surrounding the politics of race, class and gender. The Stuart Hall Library supports the work of Iniva by documenting and facilitating its research into the contemporary visual arts within an international and transnational context, as well as providing critical material on issues of cultural identity and offering a specialist collection for researchers of international art and cultural theory. The geographical scope is broadly international in focus, with an emphasis on art and artists from Africa, Asia, Latin America, and UK artists from diverse backgrounds. The collection contains foreign language and dual language exhibition catalogues, and has holdings for many biennial exhibitions around the world going back to the first Sao Paulo Bienal in 1951.

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1. <https://www.loc.gov/standards/mods/mods-overview.html>

## Benefits and Applications of RDA for SHL

**Accessibility and sophistication of information:** modelled on the semantic web stack rather than the analogue catalogue card, RDA is conceptually structured around the thing in itself and its user tasks, rather than fitting it into the pre-existing requirements of a card-based indexing system. The object oriented approach articulated by RDA's 'WEMI Stack' structure, constituted from the conceptual entities Work, Expression, Manifestation, and Item, gives the capacity for more specificity and for complex relationship modelling between entities and attributes. The entity elements are held separately, coming together as summoned when searched. This structure adds the capacity for semantic queries which are much more sophisticated than Boolean searches, and for machinic inferences to be made from the data. When applied to a specialised library collection, keyword linked data searches performed in closed systems have the potential to generate valuable seams of connected resources, including different manifestations and editions of items, and complex relationships between items and agents in their specific collection context. The ability to better link and interrogate the rich data we have indexed, abstracted and created controlled vocabularies for, over our 24 years of collecting, would be invaluable to Iniva and to our usership of artists, arts professionals, researchers and academics.



**Breadth of information:** RDA's removal of AACR2's 'rule of three' means that the cataloguer can choose to record all, some, only the first or none of an item's multiple attributes, which gives more flexibility and ability to record the fullest information. This is important to SHL's exhibition catalogues collection, especially the international group exhibitions and biennials, to record and link often marginalised or incomplete information about non-Western, diasporic or transnational artists.

**Inclusivity of all types of content and media**, from print to AV and digital objects. The Library Reference Model of FRBR (Functional Requirements for Bibliographic Records), an object oriented expression (FRBRO) beginning to be incorporated into RDA, follows the CIDOC 'Conceptual Reference Model'<sup>2</sup> which harmonises data models between museums, libraries and archives. The potential usefulness of this, for Iniva in particular, would be in the aligning of data modelling and metadata standards for art and archival objects with that used for bibliographic records, as SHL has an archive including digital artworks, physical objects and ephemera. Archival data concerned with sources of information and collections (archival fonds) would add context to the SHL collection as much of the material is donated. It would also enhance data for the archive collection, which includes many artist, curator and exhibition files that relate to catalogues in the print collection.

**International visibility:** RDA facilitates unified cataloguing standards for linked data, modelled on the semantic web and the Resource Description Framework (RDF)'s use of ontologies. Linked data is visible and searchable online, not just in the library catalogue, which enables information from different sources to be connected and queried. This would be valuable in connecting the SHL collection to other relevant collections and resources, and collocating data, particularly with the collection's focus on non-Western, often under-represented or marginalised, artists. RDA's linked data structure has the potential to use controlled vocabularies and formal structured ontologies for information retrieval alongside Natural Language Processing (NLP) and machine learning.<sup>3</sup>



2. <http://www.cidoc-crm.org/>

3. See Jones, Ed and Siekel, Michele, eds. (2016) 'Linked Data for Cultural Heritage'

**Visual modelling:** RDA enables visual representation of information and complex networks of relationships. This is especially relevant to Iniva as a visual arts organisation, and to our large constituency of practice-lead arts and humanities researchers. It would be possible, for example, to map movements of artists in the collection through space and time between cities, countries and continents, via the exhibition catalogues and the related information held within those records. When linked out to external data sources, this could further enhance the number and complexity of relationships mapped.

**Less Western, Anglo- and Euro-centric:** RDA's potential to add to Authority vocabularies and ontologies, the choice of language, of additions to access points and data supplied, choice of script, transliteration, calendar and numeric system all make it more accessible globally. This is significant for SHL as an opportunity to move away from Western-centric, outdated vocabularies and subjects.

## The shape of knowledge

As David Stuart points out:

*"... when something is encoded, it is encoded with a particular world view. Even deciding what is to be encoded and what isn't has implications for the representation of marginalised voices and perspectives... It is important that we move beyond the limited ontologies of the commercial sector, and for that to happen there is an important role for the library and information professional."*<sup>4</sup>

I would argue that it is also encoded, more subtly, within a particular structure, in a similar way to how we think being limited and shaped by language.

In thinking about how linked data might affect the shape of knowledge, it is important to recognise the non-neutrality of databases and infrastructures. I will sketch four examples, from items in the SHL collection, a paper by a researcher Iniva has recently worked with, and an artistic practice case study I am working on, to demonstrate some considerations for the future shape of thought.

**1. Digital Media Researcher Ramon Amaro's 'Racial Profiling in Data-driven Decision Making':** Amaro discusses the ethics of data-driven technologically-made decisions that are "by the very process of their design, fallible to social consequences that are most frequently articulated in forms of biases, segregations and other social restrictions."<sup>5</sup> Whether datasets are generated by corporations or the state, as with any information, it is important to ask how, why and where they are generated, but also how they are applied. Machine reading of data often misses nuance, and algorithms often reinforce inherent biases.

**2. My case study on the practice research of Maggie Mer Roberts / OrphanDrift in response to a Goldsmiths Library collection:** Roberts' work with the machine vision of the popular DeepDream tool initially returned disappointingly repetitive image results, rather than continually evolving the imagery from her inputs as she had expected. She realised that the machine learning was hindered by its coding, which instructed it to recognise forms that had already been fed into it. Once recognised, it would fix on and duplicate that form within the image. The machinic intelligence "*describes only what it is trained on*",<sup>6</sup> reproducing more of the same. Roberts is working with a coder to attempt to resolve this and build a DeepDream algorithm that evolves independent of human coding mandates.

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4. Stuart, David (2016) 'Practical Ontologies for Information Professionals', p157.

5. Amaro, Ramon (2016) 'Machine Learning and the Politics of Data', and 'Machine Learning and Racial Profiling in Data-driven Decision Making'

6. Barcelos, Iendl and Vertolli, Michael O. (2016) 'Transformations in Shifting Models: Reorienting with DeepDream', Journal of Creative Music Systems Vol. 1, Issue 1, September 2016. Available at: <http://jcms.org.uk/issues/Vol1Issue1/3/3.html> (Accessed: 10/08/17)



Maggie Roberts—Deep Dream digital sketch

**3. Peter Sloterdijk’s ‘Spheres’:**<sup>7</sup> Sloterdijk argues that the structure and form of the sphere has shaped thought and philosophies since ancient times, up to its contemporary conceptual iteration of the globe in ‘globalisation’ – currently an era of ‘electronic globalisation’ – as articulated in his description of globalisation as “*the encounter between being and form in a sovereign body*”.<sup>8</sup> Perhaps the new morphology for philosophy will be the stack rather than the sphere.

**4. Benjamin Bratton’s ‘Stack’:**<sup>9</sup> Bratton portrays the geopolitics of the stack through the layers Earth, Cloud, City, Address, Interface and User. Cyberterritories overlap with geographical territories and jurisdictions, creating “*new spatial and temporal models of politics and publics*”. The RDA version of the stack based on Work, Expression, Manifestation and Item constitutes a similar open territory of potential for global knowledge organisation systems. Bratton’s concept of the Black Stack, or “*the platform that might be*”, which is “*defined at this moment by what it is not, by the empty content fields of its framework...*”<sup>10</sup> is useful in thinking the potentiality of RDA for future thought – the kinds of information it is made up of is just as important as its form – and taking into account that “*the decisions that are made about the structuring of an ontology and the properties that are selected have important ramifications in the way people both view and access resources.*”<sup>11</sup>

7. Sloterdijk, Peter (2013) ‘In the World Interior of Capital’

8. *ibid*, p9.

9. Bratton, Benjamin (2016) ‘The Stack: On Software and Sovereignty’

10. <http://www.e-flux.com/journal/53/59883/the-black-stack/>

11. Stuart, *op cit*. p49

## Conclusion

Biased and outdated information and knowledge structures can only be de-skewed through international accessibility and cooperative efforts, which RDA's linked data structure and capability for linked open data visible beyond individual library information silos has enormous potential to enhance. From the point of view of diversity of information, rather than a proliferation of the same, Librarians have a responsibility to make specialist knowledge and marginalised discourses accessible and visible. RDA seems to be the most effective means of doing this, as well as being able to represent the range of different objects in SHL's collection. While the full RDA stack structure is not currently supported by any LMS, SHL's new LMS is FRBR-ised and the records have been upgraded to include RDA fields, preparing for future RDA-compatible systems developments.