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Jainpedia: An Inclusive Website and Some Recent Initiatives in Digital Jainology

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Keywords: Jainism, Digitisation of manuscripts, Encyclopedic contents online, Digital resources, Online contents illustrated

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JAINpedia: An Inclusive Website and Some Recent Initiatives in Digital Jainology

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Abstract

The purpose of this article is to inform the public about the JAINpedia website, now in its second version, from both the perspective of the scholarly content producer and the users. The site is the original result of academics associated with librarians and members of the Jain community of the diaspora in the UK, eager to use new technological tools to promote their tradition in a non-sectarian and scholarly way. The aim of the site is to bring to the fore the rich heritage of Jain manuscripts held in the main London libraries (British Library, Victoria and Albert Museum, Wellcome Collection) through a significant selection of digitised images. The site provides a standard of comparison for the creation of new websites combining images of manuscripts, description of manuscripts, and allied contents for contextualising the ideological or religious backgrounds of the items digitised. In its final section, the article illustrates some recent initiatives in digital Jainology.

1. Introduction

In this paper I wish to celebrate the achievements of Shiyali Ramamrita Ranganathan (1892-1972) by examining a website on Jainism produced in England in the last decade and by illustrating my observations through a few screenshots, supplementing this exploration with some observations on recent initiatives in digital Jainology.

In many ways, the JAINpedia project and the resulting website illustrate in their aims as well as in their realizations the five laws of library science for which Ranganathan is so famous (1957). They are the following: First law: books are for use; Second law: every person his or her book; Third law: every book its reader; Fourth law: save the time of the reader; Fifth law: a library is a growing organism.

Their English wording is well-known. But they were also formulated in a Sanskrit *śloka* which is a rendering rather than a strict translation:

*granthālayī sadāsevī pañcasūtrī parāyaṇaḥ
granthā adhyetum ete ca sarvebhyaḥ svam svam āpnuyuḥ
adhyetuḥ samayaṃ śeṣeḍ ālayo nityam eva ca
vardhiṣṇur eva cinmūrṭiḥ pañcasūtrī sadā jayet*

Indeed, the quest for brevity of the wording of the five laws is clearly in the line of the classical Indian tradition of the *sūtra*-style. As some authors have tried to show, Ranganathan was influenced in his models and epistemology by Indian philosophy and by the tradition of *dharmasāstras* (Kumar 1992; Ray 2015; Doussa 2019). As this area of knowledge was concerned with laws or precepts, for Ranganathan library science could have been so as well. So each of the five laws is like an aphorism containing a minimal amount of words. In the introduction to the book, Ranganathan explains how his search for a scientific method and exposition of the laws came from direct experience of library practice as he had been appointed as first librarian of the newly created Madras University Library in 1923 and from precise observation of how, at that time, things worked in an unsatisfactory manner. There was the wish to change inherited habits in favour of new behaviours and practices. The path he followed, then, was from practice to theorization and the elaboration of the five laws was based on a large number of examples gleaned from the Indian environment as well as from other countries. Technological innovations in the transmission of knowledge have led to evaluate the validity of Ranganathan's five laws in the digital age as well (e.g., Safiii 2018).

2. Jain Manuscripts in London

The JAINpedia website (<https://jainpedia.org/>), which will be analysed herefrom, was preceded by a more traditional form of transmitting knowledge: a full catalogue of the Jain manuscripts kept in the British Library, the British Museum and the Victoria and Albert Museum, all in London (Balbir & al. 2006). This project was sponsored by the Institute of Jainology, an umbrella organisation for some Jain associations in the UK directed by London Jains, British passport holders who had emigrated to England in the 1970s coming from Uganda or Kenya after political turmoil in these countries which led to expelling persons of South Asian origin. After these persons had reconstructed their lives economically, they undertook various actions in order to underline their Jain religious affiliation as a community. In the 1990s they came in contact with Prof. Candrabhal Tripathi, a Gujarati Indologist and manuscript specialist who was teaching at the Free University in Berlin. When he died somewhat prematurely in 1996, I was asked to take up the uncompleted work, as I had acquired experience on working with

Jain manuscripts under his supervision during several years. Then Dr. Kanubhai V. Sheth and Kalpana K. Sheth, Jain manuscript specialists from Ahmedabad, joined the project, their stays in London being sponsored by the Institute of Jainology. This, finally, resulted in the publication of the three volumes catalogue accompanied by a CD containing manuscript illustrations. The book was published jointly by the British Library and the Institute of Jainology. This was a prerequisite in order to have a clear idea about the available collections. The catalogue allowed everybody to know how many Jain manuscripts were housed in the corresponding institutions – earlier there were only accession-lists, partial catalogues or even nothing for some groups of manuscripts which had never been registered. It also allowed to assess the scope and diversity of the works represented, as well as their aesthetic quality. Had there not been so many illustrated manuscripts with colourful paintings and a variety of themes, the catalogue would most probably not have been followed by another project. When the Institute of Jainology decided to go further, persons in charge applied for financial support to the National Heritage Lottery Fund, a British institution devoted in particular to encourage projects for the cultural visibility of minority religions in the UK. We then came forward with the project of an inclusive website, *JAINpedia*. *The Jain universe online*, in full open access.

3. The JAINpedia Project: Manuscripts

Preparing a repository where manuscripts were digitised was an important step. After all, digitisation is a 21st century manner to comply so-to-say with the first law of library science defined by Ranganathan: books are for use. In the case of Jain manuscripts, this is a rather recent development as there have been, and still may be institutional restrictions to their free access. Emphasis was laid on storage and protection or preservation, for the safety of the object partly, but, certainly even more, with the idea not to endanger what believers consider as its sacred value. Manuscripts were not chained, to repeat Ranganathan's statement about books (Ranganathan 1963: 26), but cupboards containing them were often shut tight.

As it was impossible to consider a full digitisation of some 1,200 manuscripts, we had to be extremely selective, but, apart from those described in the 2006 catalogue, we also included some from the Royal Asiatic Society, the Wellcome Trust and the Bodleian Library in Oxford. Then, what selection criteria did we apply to reach the present number of 92 manuscripts visible on JAINpedia, corresponding to over 5,000 folios?

Turning first to illustrated manuscripts was almost an obvious choice, not only for attractiveness or easiness. They are adequate media for us, today, but were so in the past too. If there are so many illustrated Jain manuscripts from the

13th century onwards, it is because Jain teachers always took visualisation seriously, considering that it is proper to impart teachings to audiences of various kinds on doctrine and practice, on one's place within the universe in relation with karma and rebirth, etc. The manuscripts held in the UK are in a remarkable state of preservation, having been taken care of properly by generations of curators. Getting these pages digitised in high-quality resolution photographs with all technical requirements needed for handling them and viewing them in all details through powerful magnifier tools ensures that they are now visible – while they were largely ignored so far. The collections under consideration are rich enough to include all the main trends of Jain pictorial traditions: *Kalpasūtra* and *Uttarādhyāyanasūtra*, two famous Jain Śvetāmbara canonical works, cosmological paintings, stories of famous heroes, or images of Jinas being worshipped.

Non-illustrated manuscripts present on the website have been selected on account of their rarity, antiquity or the importance their contents have. For instance, a palm leaf manuscript from Gujarat dated 1201 CE containing a Jain disciplinary work, the *Jītakalpasūtra* and its commentary (British Library Or. 1385), was worthy of digitisation because it is fragile and because palm leaf manuscripts from western India are a rare occurrence in libraries outside India. (In western India, palm leaf was later replaced by paper in the 13th-14th centuries; Jain palm leaf manuscripts are numerous in Jaisalmer, Ahmedabad, Cambay, Patan, but could very exceptionally be bought by European scholars at the end of the 19th century and thus were not part of the large purchases undertaken in this period). An Oxford copy of the *Karmakāṇḍa*, a Digambara Jain text in Prakrit with a Persian commentary from the 17th century (MS. Wilson 262), is another rarity now available for all to see on the website.

In the vast majority of cases we have decided for full digitisation. There are a few examples, however, where only a partial digitisation of the beginning and final pages was carried out. This option has been favoured in case of rather well-known works, where the unique feature lies not in the contents but either in an illustrated or decorated page or in a colophon.

4. The JAINpedia Project: Articles

However, mere digitisation would not have been sufficient to fulfil the requirements of the funding institutions. Thus the vision of some original undertaking had to be conceived where the Jain manuscripts would form the heart from which other things – to be identified – would irradiate. This was the website, produced with the collaboration of the Digital Humanities Department of King's College, London. The title JAINpedia has easily understood connotations. It focuses on the encyclopaedia-like features of the website and on its collaborative authorship –

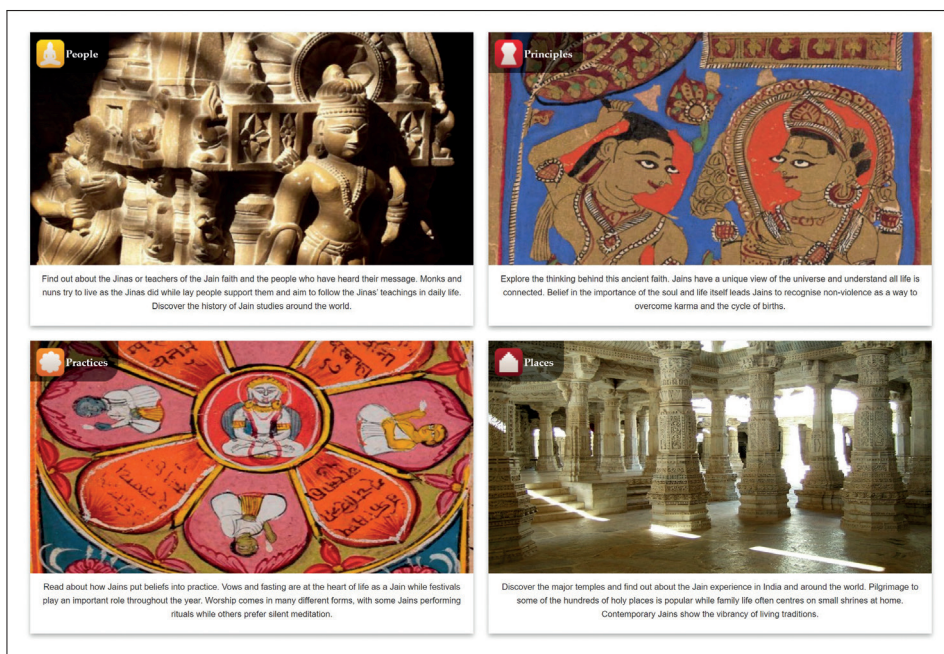


Figure 1. The four themes page of the JAINpedia website (<https://jainpedia.org/themes/>).

yet in our case a controlled authorship. From the start, the target of the website was twofold: academics but also larger audiences. Here also Ranganathan's second law "Every person his or her book" was implicitly followed in various ways. We wanted to serve a wide range of readers and we wished the website to represent both the community it serves – the Jains worldwide – and any lay reader. This concern determined the allied contents and tools made available.

The contextualisation was achieved through the production of encyclopaedic articles on important topics of the Jain tradition written with pedagogical concerns by authors of various backgrounds and countries, as the objective was to favour polyphony. For several years a content-editor, who had experience in writing for encyclopaedias but was not a Jain specialist, was employed for adjusting the style-level and clarity so as to reach a wide public. Over the years we faced a recurring difficulty: some younger international scholars approached by us because they were specialists of a given field did not consent to write because, they said, publications on websites, even if of scholarly level, are not rated for academic careers.

The articles section can be accessed from the main menu on the site home page by clicking on the "Themes" link (<https://jainpedia.org/themes/>). The articles are organised under four main headings, the four Ps: People, Principles,

The screenshot shows a web page for an article titled "Article: Images of the universe" on the Jainpedia website. The page has a breadcrumb trail: "Themes » Principles » Jain Universe » Images Of The Universe". Below the title, there are social media sharing icons (Facebook, Twitter, LinkedIn, Pinterest, WhatsApp, Email) and a "Contributed by Nalini Balbir" badge. A navigation bar includes "View Article", "View Gallery", "View Reading", "View Links", and "View Glossary". The main content area starts with a summary paragraph, followed by a paragraph about the religious significance of the universe, and then a paragraph about the visual forms of the universe (pata paintings). A bulleted list includes "cosmo-man", "Two and A Half Continents – Adhā-dvīpa", and "the first continent, Jambū-dvīpa". Below this is a section titled "Manuscript illustrations" with a sub-section "Visual aids in manuscripts discussing cosmology". To the right, there is a "Contents" sidebar with a table of contents listing sections like "Manuscript illustrations", "Large cosmological paintings", "Modern visualisations of the universe", "Themes", "People", "Principles", "Jain Beliefs", "Jain universe", "The 'Three Worlds'", "Images of the universe", "Writings on the universe", "Mathematics of the universe", "Cycles of time", "Sects", "Sacred writings", "Holy symbols", "Practices", and "Places". At the bottom right of the main content area, there are three small images: a manuscript page with text and diagrams, a colorful cosmological diagram, and a circular diagram with text.

Figure 2. Example of the treatment of an article (<https://jainpedia.org/themes/principles/jain-universe/images-of-the-universe/>).

Practices, Places (fig. 1). These are broad, overlapping categories which have the advantage of being easily understandable.

The article structure is unified (fig. 2). It has a table of contents and each article starts with a summary paragraph. It is divided into clearly marked sections through the use of headings and through formatting with recourse to tables, bullets, etc. Each article is accompanied by illustrations of various kinds (contemporary practice, art and architecture, manuscript images, etc.).

The articles were written specifically for the website. The level of style is meant to be accessible but mention of technical terms, for instance, cannot be avoided. So there is a glossary. The types of entries are:

1. general religious concepts e.g., monk, scriptures, liturgy
2. Jain concepts – Sanskrit term e.g., knowledge, time, *tattvas*, Jina, *sol satī* the sixteen faithful wives
3. specific scriptures or people e.g., Mahāvīra, Tattvārtha sūtra, Indrabhūti Gautama, Jambūdvīpa, Pāṇḍava brothers
4. general Indian concepts or places e.g., Gujarat, Prakrit, *yojana*, Shatrunjaya, *rasa*, Indian music instruments e.g., *tabla*
5. general academic concepts e.g., commentary, philology, Indology, as well as Jain academic concepts e.g., Ṭabo, Nirvyukti.

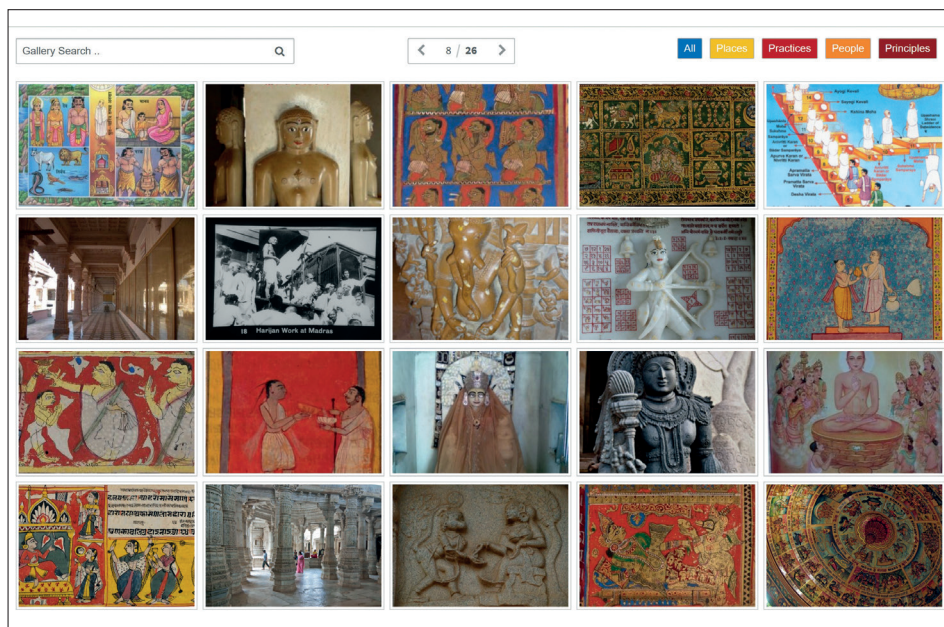


Figure 3. Instance of the picture gallery on the JAINpedia website (<https://jainpedia.org/gallery/>, p. 8).

Hovering the mouse over a word in blue produces the appearing of a pop-up providing concise definitions.

Moreover, each article is provided with tabs leading the reader to additional material which can be viewed in continuity for the relevant article. Each one has suggestions for further reading. Using the richness and interconnectedness of web technology and the wide accessibility of the internet – e.g. original texts online, translations online, pictures – of places and contemporary people living out their religion and heritage is one significant feature of the website. Therefore, one tab (“View Links”) leads to links of other material available online externally, and another one (“View Gallery”, fig. 3) to the corresponding picture gallery on the website.

The section dealing with the digitised manuscripts (<https://jainpedia.org/manuscripts/>) has a layout similar to individual theme pages and the site home page. Our work is meant to be as accessible as possible to everyone, but the standard is that of academic scholarship. Keeping this perspective in mind, we have produced two articles entitled *What is a Jain manuscript?* (<https://jainpedia.org/resources/what-is-a-jain-manuscript/>) and *How to read a Jain manuscript* (<https://jainpedia.org/resources/how-to-read-a-jain-manuscript/>), which are meant as guides and illustrations.

Kalpa-Sūtra (IM 08-1931)

Birth of Mahāvira

- Source: Victoria and Albert Museum
- Shelfmark: IM 8-1931
- Author: unknown
- Date of creation: second half of the 15th century
- Folio number: 33 recto
- Total number of folios: 5; other folios in unknown locations
- Place of creation: western India
- Language: Ardhamāgadhī Prakrit
- Medium: watercolour on paper
- Size: 26.5 x 11 cms
- Copyright: V&A Images/Victoria and Albert Museum, London
- Image Copyright: Creative Commons Public Domain

Description

On the left, a lady is on her couch in her bedroom. It is the **ksatrya** lady, Queen **Trisālā**, into whom **Mahāvira**'s embryo was transferred. She is holding the newborn **Mahāvira** in her arms and looking at him tenderly. On the right side is a female attendant, fanning the queen with a **fly-whisk**.

This is the standard scene of Mahāvira's birth, and, more generally, is used for the births of all **jines**.

The long protruding eye is a typical **iconographic** feature of western Indian painting. Its origin is not clearly known.

Figure 4. Instance of the treatment of a manuscript page (<https://jainpedia.org/manuscript/birth-of-mahavira/>).

E-Library

Jainpedia
E-LIBRARY

Art books

For academics and students

For children

Figure 5. The elibrary page of the Jainpedia website (<https://jainpedia.org/e-library/>).

Jain manuscripts are mostly made of individual unbound pages having two sides. On the website, each side is considered as one image. All of them are shown in succession in the carousel found at the top. Each image can then be selected individually and seen as a whole or magnified. In the metadata section (left-hand column, fig. 4), descriptive information is provided for the manuscript page: title, source (institution), shelfmark, author, date and place of creation, folio number, number of folios, language, medium, etc.

The contextual information, the purpose of which is to allow the reader to understand what he sees, and to make sense out of it through references to other sections of the website, to the glossary and to the relevant encyclopaedia articles, is distributed over several tabs in the main section of the page under the image (fig. 4). After “Description” tab – selected by default – there are the following tabs: “Background” (including information on the text: general contents, type of work, remarkable features, etc. of story or general context), “Transcription”, “Translation”, “Resources”, and “Glossary”.

5. The JAINpedia Project and the Ranganathan’s Five Laws

Unfortunately, not all have already been implemented. But, hopefully, the way we deal with manuscripts on JAINpedia could encourage viewers to try to read for themselves and check. Training new people to read manuscripts could be a possible side result of our work as well, and we know that our attempts have inspired other institutions to work along the same lines (e.g., the Cleveland Museum).

Throughout the website, side tabs as well as footers are the places where information related to a given article or manuscript page that is located on JAINpedia itself can be looked up: other articles, manuscripts or manuscript images, for instance. Thus, the main orientation is a multi-faceted approach allowing to access the material from different avenues through user-friendly and intuitive browsing, allowing the reader to go deeper in acquaintance, to discover for himself while saving his own time – another of Ranganathan’s laws.

Making additional material available at hand on the website, so that it can be used as a self-contained resource, also partly responds to the time-gaining concern. The elibrary is one such tool (fig. 5).

It is divided into different categories of printed books or magazines, in order to serve the needs of various audiences, from children to academics – as Ranganathan would say: Every person his or her book. At some point of time user surveys were made in order to build an elibrary collection with multiple targets. A searchable gallery provides an overview of all the photographs used in the website. Hovering the mouse over the image shows the text of the detailed caption. Aids for contextualising consist in a timeline, where important events in the

history of Jainism, including recent ones, as well as India and world history landmarks, are covered. Similarly, the Resources tab gives access to various useful tools.

Ranganathan's fifth law is "A library is a growing organism". This holds true for JAINpedia as well. In August 2021 version 2.0 was made available, ten years after the initial launch. It is now no longer supported by the Digital Humanities Department of King's College, but by Agile Thought, a leading custom software consulting firm. All the features of the earlier version have remained but there have been some modifications in the presentation at a superficial level and new material has come up. For instance, a PDF version of the 2006 catalogue of Jain manuscripts is now accessible in the website elibrary and features on the home page (<https://jainpedia.org/>, under "Treasure of JAINpedia"). Space is allotted to interaction with social media such as Facebook and Twitter. A mobile Application, Jainpedia.org, has also been produced. Thus various adjustments and expansions contribute to the updating of the website platform so as to address new audiences, especially among youth. Technical improvements are also significant. In particular, the zoom functionality for examining the manuscripts and the functionality meant to browse over them are now stable. This is a very important improvement over the earlier version. The dynamic character is due to growth that increases the quantity of items and growth that improves the overall quality. In the earlier version as in the updated one, the website's dynamic nature is also ensured by the balance between permanent contents and focus on featured articles or featured manuscripts which changes. For instance, the celebration of the Jain festival of Paryushan in September is the occasion to draw the viewers' attention on the related article on this topic.

Finally, the website is – in a way – self-reflexive. This attitude is expressed through two FAQ sections. One is the Website FAQ, where a question such as How do manuscripts end up in the UK is briefly addressed. This is becoming a sensitive issue, especially in times where repatriation of objects acquired by colonial powers from colonised nations becomes more and more crucial, and, indeed, is a question that today Jains often ask. During the 1870s, the search for Indian manuscripts was systematically organized in Western India, under the supervision of the Bombay Presidency and local agents. These missions brought to light a considerable amount of Jain works, opening totally new avenues for research. These manuscripts appeared as *the* source for original information and they played an important part in the discovery of Jainism as a full-fledged tradition with a long history, an enduring presence in India through individuals, artistic and literary works. Jain manuscripts were kept in the traditional Indian temple libraries, but British India government rules were put into effect, authorizing libraries outside India to make purchases, in case many manuscripts of the same work were found. This was how collections of Jain manuscripts began to be

thoroughly assembled in Great Britain, Germany, Austria, Italy and France in particular. The other self-reflexive space is the Jainism FAQs, which can be accessed from the home page or through Resources. In this text, which is laid out like an article, having headings, table of contents, pagination and pictures, questions – often raised by non-Jains on the Jain tradition or on the Jain way of life – are directly addressed with concise answers and references to articles of the website which may contribute to elucidation.

6. New Digital Initiatives in Jain Studies

In the last two decades, there have been a number of digital initiatives in Jain studies. I do not aim at exhaustivity but would like to describe some of them as they all converge for the sake of significant progress in this area of knowledge.

A large number can be described as resources. The first one, which is now widely used by all scholars in Indology, is the JAIN eLibrary (<https://jainelibrary.org/>), which results from the successful association of the Jain diaspora in America with two important Indian institutions, under the adequate leadership of Pravin K. Shah (see the website tab “About us: history”). It is “financed through contribution from the Jain communities of North America, India, and other parts of the world” and is fully open access as the only requirement to be able to download any of the material is to register. The extant of material found there is unequalled to date as it covers a large variety of the languages used by the Jains: Prakrits, Sanskrit, Hindi and Gujarati (what has been written by Jains in Dravidian languages, Tamil or Kannara, has not been taken into account so far). The JAIN eLibrary goes much beyond “academic” books, articles or manuscripts, as it also offers a wide range of magazines, journals, etc., so that it is useful to all types of audiences. Since its first version launched in 2009, the site is ever growing and improving. A recent addition (February 2022) is the searchable Agams. Whereas several websites have been providing the possibility to fully search the Pali Tipitaka, there was no such tool for the Jain Agams. The possibility now offered by the JAIN eLibrary is thus most welcome, as well as quite efficient, even if sorting out the data that emerge from the search is obviously required. Jain Quantum (<https://jainqq.org>) is closely linked to the JAIN eLibrary. Launched in August 2020, this tool has been devised by “using OCR technology to search volumes of text even when the user’s input is not perfectly accurate” (Visaria 2022). Being extremely powerful and yielding innumerable relevant results in a very short time, it has the capability to search and cover the entire JAIN eLibrary catalogue, and has now become a primary recourse for all types of Jain audiences.

One Indian institution which has had a leading role in the formation of JAIN eLibrary is the Shri Mahavir Jain Aradhana Kendra, Koba (Ahmedabad). It has

really become a prominent centre over the years and has had a pioneering role under the leadership of the visionary Jain monk Acharya Shri Ajaysagarsuri. A large part of the material scanned on the JAIN eLibrary comes from Koba's immense library. There digitisation of Jain manuscripts has been undertaken on a large scale, thirty-three volumes of bulky catalogues have also been published, and the work is continuing at a regular pace. The presence of a staff of extremely competent scholars who are also trained in modern technologies has allowed implementing a powerful in-house software and search engine that procures results on manuscripts, scribes, sponsors, dates, etc. in no time, and allows in-depth investigations. In addition to the main Koba centre, there is also a "city centre" located in Ahmedabad (Paldi), where a very active team of ladies works on computerized data. In 2019 I was fortunate to get initiated into the use of this software, which proved extremely rewarding for identifying fragmentary manuscripts or short Jain pada texts from the pre-modern period in vernacular-MSS from the L.P. Tessitori collection kept at Udine, which I was then cataloguing (Balbir 2019). The website (kobatirth.org) gives a description of all the activities of the institution but does not allow direct access to digitised manuscripts. However, Koba is really a kind of public service for scholars, so generous and willing is the entire staff when it comes to sharing knowledge and documentation in a smooth process. Among other current initiatives at Koba, one cannot but mention the preparation of the new and updated Ardhamagadhi dictionary (expansion and correction of Ratnachandra, 1923-38) using advanced technologies.

The vast collection of manuscripts gathered at the L.D. Institute of Indology, Ahmedabad, by Muni Punyavijaya, and increased along the years, was until recently available only on the spot or through scans prepared individually and on demand. But, in recent years, the digitisation process has been accelerated significantly (Suhrod 2020). This has resulted in a new website (<https://ldindology.org/>) where manuscripts can easily be found and accessed fully through a powerful search engine. Digitisation of the valuable manuscript collections in the Hemacandra Jain Bhandar at Patan has also started actively, under the impulse and supervision of Acharya Pundarikavijaya and Muni Mahavidehavijaya and the cooperation of Yatin Vrajlal Shah, who has been an appropriate facilitator in procuring Patan manuscripts to scholars for many years. The process also involves digitisation of precious Jain magazines which have now become difficult to access and are being repaired with utmost care by a dedicated craftsman (February 2024). Outside Gujarat, similar undertakings are also present. For instance, the project to transform the Śrī Dev Kumār Jain Oriental Research Institute Arrah into a manuscript resource centre producing electronic data began as early as 2005, in collaboration with the National Manuscript Mission (Jain 2006). The NMM has indeed been efficient in encouraging manuscript cataloguing and description through the help of new technologies leading to increased digitisation.

In fact, there are now quite a number of places where manuscripts have been listed electronically (Excel sheets), have been digitised, and are available as PDFs at an internal level, but not (yet) online in open access. For instance, I was able to consult the lists and get copies of scanned manuscripts of various provenance held by the Mangalaayatan Jain Teerthdham, Aligarh, during my short visit there in May 2023. Other undertakings are described by Dhariwal (2022). The Shrut Bhavan Research Centre (www.shrutbhavan.org/index.php; headquarters in Pune) is intensely involved in the digitisation of manuscripts from a large number of Jain libraries:

Digitization of manuscripts is also done as an affiliate activity of this project. Based on this, a useful index is prepared for the scholars according to the international standard. Under this project, information of more than 7,00,000 (7 lakh) manuscripts of 300 Bhandaras have been collected till date. 1,00,000 manuscripts of 56 Bhandaras have been digitized (55,00,000 pages). A listing of more than 35 Bhandaras have been created.

All this information has been compiled in a software called *Matrikaadeepa*. This allows to obtain the information of expected manuscripts easily and quickly in minutes.

From experience, I can confirm that the concluding sentence is not an exaggeration. Lists of digitised manuscripts of a given text, for instance, accompanied by its relevant basic descriptive information, are readily provided by a competent staff. One of the aims of the Centre is to construct the *Vardhamaana Jina Ratna Kosha* a cumulative catalogue including the material from all the libraries digitised. This would aptly supplement Velankar's *Jinaratnakośa* (1944) which no longer meets today's requirements although it remains a fundamental tool that should be consulted first.

Outside India, several institutions housing significant collections of Jain manuscripts have undertaken systematic digitisation with either minimal metadata or with the addition of full manuscript catalogue entries and various links to other items. The digitised Jain manuscripts at the Bibliothèque Nationale de France (BnF, Paris) now available on the Gallica website are a case in point (see Petit 2020). A large number of Jain manuscripts which form part of the Cambridge University Library have also been digitised in a similar way and accompanied by detailed descriptive notices (<https://cudl.lib.cam.ac.uk/>). In Germany, Jain manuscripts are being integrated to the website qalamos.net "connecting manuscript traditions" headed at the Berlin State Library. Its aim is "to provide metadata and digitised copies of Oriental holdings of all German memory institutions".

There are other digital initiatives which intend to be more than resources. In India, one such instance is the Gitarth Ganga Research Institute (Ahmedabad) working under the intense inspiration of Acharya Yugbhushansuri. Its current mission is to prepare a scriptural encyclopedia on 108 identified prime subjects

and about 15,000 sub-subjects. It makes use of Agamic sources and all kinds of materials (books, magazines, etc.) described on the basis of a variety of parameters. The information scattered in various sources is collected and organised. This implies a sophisticated coding which goes deep into the analysis of each line and each word of the scriptures. This impressive task is achieved painstakingly by a team of competent specialists and technicians, the ultimate aim being to “enhance a perpetual flow of Samyak Jnan (right knowledge) among the masses” and providing “a logical understanding of Shastriya Jnan (scriptural knowledge) for future generations, thereby amplifying the legacy of Shrut Jnan”. This implies the creation of numerous trees and charts to present the topics in a pedagogical manner. A presentation of the project was given on the spot to a small panel of scholars (Ahmedabad, 29 January 2024) who suggested that the Beta version of the website become accessible to all as soon as possible, instead of being confined to internal use. Outside India, one extremely significant website is the Jaina Prosopography database (<https://jaina-prosopography.org/>; Hanlon 2021), which involves a large Indian team under the direction of Prof. Peter Flügel (SOAS). The page presenting the methodology and aims of the project is worth reading for its rich contents, clear exposition, and intellectual ambition. In brief, it consists in the “collation and use of the data assembled in manuscript catalogues and compilations of inscriptions for systematic sociological research” and analysis of networks implying Jain mendicants and laity, which could hardly be done without recourse to electronic tools. This is clearly a powerful and innovative initiative of historical scope.

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