

Article

Revisiting the Contributions of Dr. S. R. Ranganathan to Library Science With Special Reference to Knowledge Organization

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Dr. B. Ramesh Babu was Professor in the University of Madras and formerly Visiting Professor at the Mahasarakham University, Thailand. Awarded Dr. S.R. Ranganathan Memorial Gold Medal by the University of Mysore, Commonwealth Fellow (UK), C.D. Sharma Best Paper Award by the Indian Library Association, IATLIS-MOTIWALE Best LIS Teacher Award, ILA-Dr PSG Kumar Lifetime achievement award, Best Reviewer award by KISTI, South Korea, etc. His research interests include information retrieval, knowledge organization, public libraries, metric studies, information seeking behavior etc. About 30 candidates were awarded Ph. D degree under his guidance. Member of the editorial board and reviewer for 15 national and international journals. Currently he is the Co-President of International Library and Information Science Society.

Abstract

Dr. S. R. Ranganathan is widely recognized in India as the Father of Library Science. The global library community, as well as the entire Indian library profession looks back on his contributions with gratitude. The year 2025 marked the 133rd anniversary of his birth. More than fifty years have passed since he left this world, making it natural to discuss the relevance of his contributions in the context of an artificial intelligence (AI)-driven society. With reference to the concept of an AI society, this article outlines his contributions and examines their continuing relevance in the context of the digital society, which is transforming day-to-day library operations, with particular emphasis on knowledge organization. Dr Ranganathan's contributions to the Five Laws of Library Science, classification, cataloging, the Three Card System, and the Staff Formula, among others, are revisited with special reference to knowledge organization. The article also argues that we should commit ourselves to fulfilling his unfulfilled vision and work to advance the profession. It concludes that his theory and philosophy remain relevant and are still recognized as valuable means of addressing a wide range of issues in knowledge organization and other areas related to libraries and their users in the contemporary world.

Keywords: S. R. Ranganathan; Five Laws of Library Science; AI society; library classification; library cataloging; knowledge organization; philosophy of Ranganathan; staff formula; Indian librarianship

1. Introduction

"Ranganathan is to Library Science what Einstein is to Physics". — Eugene Garfield

"To Indians Dr. S.R. Ranganathan was what Melvil Dewey was to Americans and James Brown to the English".
— Ravindra Nath Sharma

Dr. Shiyali Ramamrita Ranganathan (SRR) (1892–1972), considered in India as the Father of Library Science, was born on August 9, 1892, in Shiyali, a small village in Tamil Nadu state's Tanjavur district (the date is currently used as August 12). He married Sarada in 1929 after his first wife Rukmini died in 1928, and they had their sole son, T. R. Yogeswar Ranganathan, in 1932. The Government Colleges in Mangalore and Coimbatore employed Dr. Ranganathan as an Assistant Lecturer from 1917 to 1921. Later, he started working at Presidency College as an assistant professor of mathematics. His career took a drastic turn in January 1924 when, without any official training, he took over as Chief Librarian of Madras University after leaving Presidency College in Madras (now Chennai). There, he arranged the books and paperwork in a methodical manner. In September 1924, Ranganathan traveled to England to research modern Western library techniques. Following his appointment as librarian at Madras University, he studied library science at University College London, where he graduated with honors. He spent nine months there, visiting more than a hundred libraries to see how they functioned (Oh, 2012). He became acquainted with W. C. B. Sayers, a grammarian in library science. He became well-versed in the literature on library science, got to know British library management techniques firsthand, received training in analytical techniques, and returned to India in July 1925 with a newfound zeal for a library movement. In the Madras Presidency, which included nearly two-thirds of South India at the time, he was a trailblazer of the library movement. He offered open access and implemented the open shelf system. As a result, readers were motivated to visit the department frequently.

His most notable publications, such as Five Laws of Library Science (Ranganathan, 1931), Colon Classification (Ranganathan, 1933), Classified Catalog Code (Ranganathan, 1934), and others, were produced while he was a professor and librarian at Madras University from 1925 until 1944. He taught at the University of Delhi (1947–1954) and Hindu University in Varanasi (Banaras) (1945–1947). From 1954 to 1957, he conducted research and wrote in Zürich. He was a visiting lecturer at Vikram University after his return to India. He established and oversaw the Documentation Research and Training Center (DRTC) in Bangalore in 1962 (Oh, 2012). He was referred to as a "natural teacher" and employed what is known as "library-centered teaching" (Gopinath, 1972).

He donated a portion of the savings to the Sarada Ranganathan Chair of Library Science at the University of Madras in honor of his wife (1956) and to a mathematics fel-

lowship at Madras Christian College in honor of his mathematics professor, Edward B. Ross (1925–) (Garfield, 1984). Some of the followers of Ranganathan believed that he had accepted library science as a means of achieving spiritual perfection because they "saw him as a yogi, and he focused his whole body, mind, and soul on the discipline" (Garfield, 1984).

He committed himself to the advancement of library services, library professions, and library and information science. He is renowned for his significant contributions to timeless principles. He was a philosopher, educator, inventor, and librarian. He was the epitome of a library scientist. His goal is to apply the scientific process and its tenets to various library science fields. He dedicated his life to advancing the field of librarianship. He is renowned for his diverse contributions to the subject of library and information science, which have lasting significance. With thanks, the entire library profession will remember, especially in India and beyond. He played a crucial role in coordinating the nation's library movement. He raised awareness of the Indian library through diligence and hard effort. His sole objective in life was to advance the field of libraries, all library types, and the general public's access to library services. Satija and Gupta (2024) suggested that "Ranganathan's creativity was fueled by a blend of mathematical methods, intuition, and mysticism".

This article outlines his contributions and tries to justify the relevance in the context of present society, which is influencing the day-to-day library operations, with a special regard to knowledge organization. The revisiting of his contributions on Five Laws of Library Science, Classification, Cataloging, Three Card System and Staff Formula, etc. was made in the context of their relevance in the artificial intelligence (AI) society.

2. Contributions of Ranganathan on the Areas Related to Knowledge Organization

There are noteworthy concepts and ideas contributed by Ranganathan in the areas related to knowledge organization. The following contributions by Ranganathan are still regarded as foundations of an organized subject field of library science.

2.1 Five Laws of Library Science: Implications on Library Classification and Knowledge Organization

Five Laws of Library Science were developed by Ranganathan and are derived from the contemporary notion of library services, which is founded on the democratic and socialistic conceptions of Western society. It represents a turning point in library science history. In 1924, he came up with the concept of the Five Laws of Library Science, and finalized it in 1928, as evidenced by the formulation of the statements that embodied them in that year. In 1931, he published Five Laws of Library Science. This classic work provides a detailed explanation of the Five Laws of Library

Science and how they apply to library operations. A scientific method for library science has been made possible by these laws. They make up the philosophical foundation for all types of library operations and services. In addition to offering guidelines for the day-to-day operations of libraries, these laws also assist librarians in making important decisions regarding seemingly insignificant details such as the appropriate width and treatment of the windowsill of the stack room, the arrangement of items in a biographical reference's list section and the font size used in shelf guides, gangway guides, and bay guides (George, 2022).

As Sayers (1957) put it, it is "a work of great simplicity which reveals what may be called the springs of his activity, while concealing depths". For their majestic simplicity, they are also known as the "Bible of Library Science" (Kaula, 1986). These are spoken accounts of the integration of science and library practice, or what librarianship refers to as "ekavakyata" (Kumar, 1992) (note: ekavakyata means "agreement or uniformity of meaning or import" in Sanskrit, etc.). These laws undoubtedly form the foundation of the entire philosophy of librarianship and have revolutionized the way the library industry thinks in the modern era. The impact of the Five Laws on their day-to-day work and the fact that they have elevated librarianship to the status of a research topic is something that no library professional can overlook. These five laws continue to serve as a cornerstone of professional ethics and as potent catalysts for social change. The growth of the field and the services provided by all libraries are still strongly influenced by these foundational ideas of library science. The Laws' 24 words offered a conceptual framework for comprehending every facet of library work. The laws have proven beneficial in the instruction of various library and information science (LIS) specializations. These would continue to serve as the librarian's compass in the current situation and in the years to come as they worked to create the perfect library. The legality of these laws remains unchanged from their original intent.

The five laws still hold true over 90 years after they were published, just as they did in the traditional library setting. All the customs from the past, present, and future are derived from and comprised of the five laws. Despite the information literacy gap and the digital divide, these laws will never be rendered obsolete if human civilization and culture endure. Ranganathan's five laws serve as a guide for our professional values. Although the language may seem restrictive, the underlying values mean that it is constantly reinterpreting itself for the future, and it already has. It provides a helpful framework for understanding the role of libraries in society and offer a useful set of guidelines for library professionals to improve the quality of their services. While some of the laws may seem outdated in today's digital world, they nonetheless provide an important foundation for understanding the importance of libraries and their place in our culture (George, 2022). Satyanarayana (1988) says

that "Dr. S. R. Ranganathan has, in the simplest possible terms, enunciated the total philosophy of library science in the form of his five laws of library science these principles when applied in practice indicate the best result of their adoption come out when library users are informed or taught the library skills in exploiting the resources and services to their maximum advantage".

Each of five laws is re-investigated below one by one with a special regard to library classification as well as other library services and operations.

2.1.1 First Law: Books Are for Use

Like Newton's first law of motion, this is the most fundamental and basic law. It is the outcome of Ranganathan's math teacher, Prof. Ross, having an epiphany. Ranganathan (1931) spelled out the remaining laws. He believed that books ought to be read, used, and shared. He noted that the focus was on preservation and storage rather than use. Ranganathan's emphasis on use brought the field's attention back to issues connected to access, like the location of the library, loan policies, operating hours, and day-to-day operations, as well as minor details like personnel levels and library furnishings. All other library science laws are founded on this law, which embodies an essential notion. It is the patrons' usage of the library that makes it great, not the collection itself. This law emphasizes the selective use of data. From any location, patrons can obtain bibliographical information through the library system's online public access catalog (OPAC). A variety of initiatives have been made to encourage the use of information with the aid of information and communication technology (ICT). The government has also introduced various means to provide information to its residents, even at the local level, through e-government programs. The law's most evident effect is that librarians must assess their holdings and offerings considering patron demands. And the legislation requires library workers to play a different role in the digital and electronic world. Additionally, this law requests more attention to create a facility and a well-organized collection that encourage and facilitate the use of its reserves.

From the library classification perspective, libraries should be prepared for the books and collections to be used easily through the helpful order for them introducing systematic classification systems of subject arrangement to satisfy this first law.

2.1.2 Second Law: Every Reader His/Her Book

This law guarantees that everyone in society has the right to access information and is user centric, as another expression of "books are for all" easily suggests. As a result, the collection needs to align with the library's objectives. This law includes availability assessment in addition to collection evaluation. It is not enough for the library to own an item that a user needs; the user community must also always have access to it. The idea of reference service

is guaranteed by this law. This law directs librarians and other information professionals to ensure that information users have unhindered access to information. In a welfare state, the second law requires the government, library authority, library employees, and readers to do certain mandatory tasks. By all means and techniques, the government is ultimately responsible for providing education for everyone. Books serve as educational resources. It assumes that everyone should have access to education and information.

From the library classification perspective, library collections should be classified by a system appropriate not for specific user groups but for most of the users to satisfy this second law. In this regard, libraries should arrange them by their inter-relatedness to help the users to search the related materials in the subjects which they have not perceived clearly the relations (Ranganathan, 1967a).

2.1.3 Third Law: Every Book Its Reader

According to the third law, every book in the library should be made available to at least one member of the community who will find it interesting. The second law is enhanced by this one. Ranganathan maintained that the library might come up with a variety of strategies to guarantee that every item finds the right reader. To put it another way, books must discover both their potential readers and the books that users require. Information is the focus of this third law. It places strong emphasis on how the library is set up for optimal use. To meet this third law, various tools should be used, such as book selection including acquisition on demand, improved shelf arrangement, open access, more access points to accommodate different user approaches, various information services, publicity, and outreach services, as well as giving users bibliographies at an information counter and newsletters. The basic problem of open access is also addressed by this law.

From the library classification perspective, library collections should be arranged by the system for all books to be found and easily accessible by the users who need them to satisfy this third law.

2.1.4 Fourth Law: Save the Time of the Reader

This law places a strong emphasis on using appropriate techniques to save readers' time. As a corollary, it may also be stated as saving not only the time of users but also the time of library employees. The personnel at the library will prioritize saving patrons' time. These days, time is valuable to both the library staff and the reader. There is a time lag or delay in supplying resources when offering library services because of things like language barriers and material availability. According to Lancaster (1993), under this situation, library services must be delivered as effectively and efficiently as feasible regarding user pleasure. The emphasis is placed on the quality and excellence of the information services that library staff should provide. At this point, Ranganathan recommended utilizing suitable

models to ensure and maintain quality in library management. He supports the idea of centralizing collections in one location, which offers numerous benefits and saves time for both readers and staff (Ramesh Babu, 1996a). This is also connected to the way we organize information. It poses the greatest challenge for library administrators. According to this law, the reference desk, circulation counter, and telephone service must have enough professional and semi-professional employees. Additionally, the implementation of online public access catalogs and the use of essential ICTs would help to save staff and user time. "Serve the patron and serve him or her well" is another way to rephrase this law (Leiter, 2003).

From the library classification perspective, libraries should arrange their collections by the helpful and systematic system for their users to save the time of them, such as subject arrangements of them.

2.1.5 Fifth Law: Library Is a Growing Organism

According to the fifth law, the library needs to be open to changing circumstances. This would include the flexibility to adjust to shifting societal norms and technological advancements. Ranganathan came to the realization that libraries must expand continuously to remain viable. In the twenty-first century, libraries are still evolving. A library's expansion in terms of its collection, personnel, services, and other infrastructure facilities is a biological phenomenon. As a result, it will be necessary to increase the staff's abilities and competencies. In addition to continuously adding new sources of knowledge to their collection, they need also continuously adjust to shifts in technology, interest, and culture.

This law has the consequence that the internal environment of the library needs to be changed. It informs us of the essential and enduring qualities of the library as an organization and mandates that we constantly modify our perspective when addressing it. It lays out a fundamental idea that ought to guide library structure and development. A library's complete collection, including its books, patrons, and employees, will increase as it expands. Future growth should be accommodated for. Lancaster (1988) asserts that the importance of adhering to the law's message increases with the quick adoption of information and communication technologies in libraries. At the same time, libraries and the librarianship profession can both be viewed as developing creatures.

From the library classification perspective, libraries should be prepared for this kind of future expansion and development introducing relative location systems for the shelving instead of fixed ones, because it makes possible the books on the shelves to be moved reflecting their relations. Of course, this fifth law should be expanded to be applied in an open access society to include online resources in addition to the traditional ones.

2.1.6 Relevance of Five Laws in Libraries of Today

Ranganathan's five laws, which guide our professional principles, are still relevant now as they were in 1931. These fundamental words succinctly capture the ideal service and organizational philosophy of libraries today, and they are still as true in content, if not in expression, as they were when they were first issued (Krishnamurthy, 2011). While the language might appear limited, it can continually be reinterpreted for future contexts due to the fundamental values it embodies. We have transitioned into the era of digital technology and AI, and the five Laws still apply in the information age we inhabit today, just as they did in traditional library environments. Although library functions and services have evolved in many ways and new modern technologies have enhanced them, Five Laws of Library Science remain pertinent in the present society. Despite the challenges posed by the digital divide and the need for information literacy, these laws will always be significant if human civilization and culture persist. If we adapt them to encompass digital resources, libraries of various types can still reference them and make a case for their relevance. Despite the significant transition to a digital landscape nearly a century later, there are still core principles that can be utilized in this manner, which is a reassuring thought.

The library functions as a living entity, as stated in the fifth law of library science. This law will remain relevant for future developments, particularly when we view the term "growing" as akin to biological growth, which represents a living organism that continually renews its internal systems and adapts to changing environments. In this context, the library refers to the various institutional forms created by society to manage information resources and deliver information to people, essentially institutionalizing information services.

Five Laws of Library Science should be adhered to by library and information science professionals today and in the future if they want to thrive in their careers and lead fulfilling lives. This set of principles can be seen as the cornerstone of library science. Therefore, these five laws need to be relevant to the continuously changing and dynamic context of libraries and librarianship within the developing realms of information, knowledge, and digital societies (Parekh, 2007).

Related to the implications of the laws, many LIS professionals appreciated them. Bhattacharya declares that "these five laws constitute a fundamental contribution to the development of library science, documentation and information science. They are fundamental because they are relevant in relation to the past of these disciplines; they are relevant in relation to the present-day developments, and they will continue to be so in relation to their future development" (Bhattacharya, 1984). Pauline Atherton (1973) would like the Hall of Fame Award to be given to Ranganathan for his Five Laws alone. These laws can be the best of Indian philosophy and Indian culture. These laws

are "the Grammar of the Library Science or Library Profession" (Ramesh Babu, 2011). These Laws "have remained a centrepiece of professional values" (Rubin, 2004). Lancaster (1993) says "these laws provided fundamental statements of goals that Information services should strive for, and they are as relevant today as they were years ago". Sayers (1957) regards these laws as "a work of great simplicity which conceals depths and yet reveals what may be called the spiritual but intensely practical springs of activity". They provide a paradigm of how libraries function, how they grow and develop and serve, how they live, and so provide for us a framework through which to examine our professional lives and our libraries (Leiter, 2003).

Interestingly, the Korean Library Association (KLA) of South Korea, in partnership with the Korean Society for Library and Information Science (KSLIS), the National Library of Korea (NLK), and the Korean Institute of Science and Technology Information (KISTI), held an international seminar to commemorate Ranganathan's "Five Laws of Library Science" on its 80th anniversary in 2011. In this context, it is likely the only international conference held. Speaking on this occasion, the then Chairman of the Korean Library Association Dr. Nam (2011) states that, "as a fundamental philosophy in the worldwide library community, the 'Five Laws of Library Science' has been a base for the activities of many libraries and librarians since its first publication since 1931. It has been so in Korea". Further the then Chairman of KSLIS, Dr. Kwack states that "the Five Laws of Library Science has become a basic philosophy of library management not only in Korea but also in all countries of the world and it is also an essential basis of the revitalization of the library and vocational ethics of librarians". Neelameghan (2011) in his congratulatory message on this occasion states that "perhaps yours is the first international conference marking the 80th anniversary of the publication".

Consequently, these laws must apply to libraries in the evolving society given their changing environment (Parekh, 2007). These succinct statements, which succinctly capture the ideal service and organizational philosophy of most libraries today, are still valid today (if not in style). These laws serve as a constant source of motivation for advice and services as well as for the subject's dynamic growth. They are largely regarded as the undisputed definition of the perfect library service.

The five laws of library science have influenced the organization of library resources, the provision of services, and the evolution of the library from a traditional to a modern one. The four new objectives of these laws are as follows: (1) information (concentrate on the content rather than the container); (2) user engagement; (3) quantitative analysis of information; and (4) common learning (both online and offline) (Safii, 2019).

2.2 Contributions Related to Library Classification and Knowledge Organization

Although there have been several significant turning points in the history of library classification, most of the schemes failed to meet the new challenges in the organization of information and knowledge organization (Gangadhara Rao and Ramesh Babu, 1990). When Ranganathan created the Colon Classification (CC) in 1933, he attempted to completely transform the way that people thought about classification. With a solid theoretical foundation grounded in normative principles, Five Laws of Library Science, canons, etc., he created the Colon Classification scheme. The fact that CC can be used for purposes other than storing and retrieving information is one of its key characteristics.

His research and interactions with the current schemes at that time inspired him to create a new library classification scheme based on analytic-synthetic theory. He stated that “many cases did not yield coextensive class numbers” under the current schemes. His methodical and unwavering approach to the main universal classification schemes has created new opportunities for the formation of a new classificatory scheme and way of thinking. He created a solid foundation for the theory of classification. The CC is regarded as a turning point in library knowledge organization and a cornerstone of contemporary classificatory theory. Since then, it has undergone six sporadic revisions to accommodate evolving scientific trends. “One important feature of CC is that its use is not confined to information storage and retrieval alone” (Satija, 1986).

Library of Congress classification and subject headings, Melvil Dewey’s Decimal Classification (DDC), Ranganathan’s Colon Classification, Bliss Bibliographic Classification (BC), etc., are some of the examples of Knowledge Organization systems developed by librarians (Ramesh Babu, 2017). Compared to DDC or Library of Congress Classification (LCC) schemes, CC truly is a radical change. Its scope is universal and it places no restrictions on the subject matter. This system works better when it comes to categorizing Indian philosophy and literature, in particular. It was the work of a single man, and regrettably, nobody has continued to update it since his passing. Nevertheless, Ranganathan provided the blueprint for the seventh edition as early as 1971. However, it took almost 20 years to partially release the 7th edition. When the full version of seventh edition will be released is unknown. Financial limitations or a lack of institutional support for the research could be the cause. A strong research body is necessary for any plan to succeed in producing updated versions, as the DDC case demonstrated. Since CC is a national program for India, it ought to be periodically reviewed and improved by a designated organization. Not every Indian library has embraced CC wholeheartedly. Sadly, it is evident that CC is not taught at all in certain schools and that its use is gradually declining in libraries. But “CC needs to be resuscitated, as it is a precious national heritage and still an important

force for the management of libraries” (Satija, 1997). With time, it is hoped that the CC will be widely acknowledged as the greatest scheme to date and used globally for bibliographic and documentation work. To quote Vickery (1965): “whether or not the solutions offered in the Colon Classification are suitable for a machine system, Ranganathan’s methodology is a model for all who work in this complex field. It is this—the scientific approach to classification, which is his most enduring contribution to librarianship”. Adopting CC in practically all libraries to fulfill the dreams of Ranganathan is the right way to acknowledge the profound debt and gratitude that the Indian library profession owes to him.

2.2.1 Analytico-Synthetic Idea and His Classificatory Theory

Analytical-synthetic techniques are used in colon classification. With every edition, there is a greater inclination towards an analytical and synthetic nature. The sixth edition is considerably more synthetic and analytical. Colon Classification has been moving more in the direction of the scientific approach since the 1950s. The Colon Classification schedules have been revised using the theory developed by combining a priori and practical research.

Classificatory theory backup the CC was well elaborated in *Prolegomena to Library Classification* (Ranganathan, 1967b). In this book, he explained the analytico-synthetic idea by the three phases of library classification: idea plane, verbal plane and notational plane. He thought that this kind of division of three planes is an effective method of “divide and rule” (Ranganathan, 1967b). In the idea plane, the classifier can “analyze” each subject into basic subject or isolate idea called “facet” and establish their general structure and decide their relationships and orders. In the verbal plane, ideas or subjects found out in the idea plane are expressed or transformed into natural language or technical terms. Of course, terminology should be standardized at this plane to decrease the confusion and mistakes happened by homonyms or synonyms. Related to this, Ranganathan suggested the needs of object language and metalanguage to standardize the terms (Ranganathan, 1967b). In the notational plane, ideas, concepts, or words for them are expressed or transcribed into notations. This notation should be artificial language of ordinal numbers to designate the order of classificatory arrangements. At this plane, the ideas and subject found out and analyzed at idea plane and transformed into artificial language will be transliterated into notations and “synthesized” and completed as classification numbers.

Ranganathan has been a trailblazer, according to Eric de Grolier (1962), his Colon Classification is the first essentially “multidimensional” bibliographic classification ever developed (Vora, 1986). Without a question, Ranganathan’s most notable contribution is CC. It has cleared the path for a great deal of research in library classification since the

first edition. Since CC is global in its application and does not impose any restrictions on the subject field, it truly represents a dramatic break from DDC or LCC. This method is especially more comprehensive when it comes to categorizing Indian philosophy and literature. Tauber (1960) claims that his Colon Classification was the work that had the biggest impact on Western libraries. Team research was always encouraged by Ranganathan (Satija, 1993). The Library Research Circle (Delhi), the men of the DRTC School, and Ranganathan's enthusiastic pupils have all contributed to the CC, but it has always been seen as one man's show. Due in large part to his towering personality and unmatched intelligence, many of his coworkers and students were obedient to him. He was viewed by most Indians as a tyrant or an elderly father who should not be challenged. Even some critics were viewed as adversaries (Satija, 1993).

A scholar of England had emphasized the scientific value of the CC and need for its perpetuation in a letter to the editor of the Library Association Record. He wrote: "Would it not, therefore, be a good idea if in full consultation with Dr. Ranganathan, a Permanent International Committee were established consisting of men and women well versed in either practical or theoretical classification (and preferably in both) with the purpose of revising and republishing the colon scheme, whenever the committee considered this desirable" (Jones, 1966).

What caused Ranganathan to leave CC a virtual orphan without a successor to take over and publish fresh editions after his passing is hard to pinpoint. CC was abandoned to its fate by Ranganathan. In the first edition (seventh edition) of the CC since Ranganathan's passing, late Prof. M. A. Gopinath, his professional heir and the former secretary of the Sarada Ranganathan Endowment, had been working on this enormous undertaking without any indication of group effort or outside assistance till he passed away in 2013. The collaboration and experience of people and organizations who genuinely want to see the CC flourish had not been available to Gopinath (Satija, 1993).

The CC has a very strong theoretical background that is founded on knowledge growth mechanisms as well as canons, postulates, and principles, well suggested in Prolegomena. It is said that Ranganathan established classification as an objective science. But sound theory alone is not sufficient. Dewey seems to know it very well when in 1931 he wrote that "the existence of the DDC depends on constant sales of new editions and we will ruin this scheme when we ignore the practical needs of the great body of users" (Curwen, 1978). It is debatable to what degree the CC meets informational and library needs. Some people find it very theoretical, while others find it to be highly useful. While many Indian librarians view it as a theoretical and experimental classification, many Westerners believe it was created specifically for Indian subjects, particularly the Indology classics (Satija, 2002).

As Mills suggested earlier, "once the basic rules and disciplines of colon are grasped (not a difficult matter), the scheme becomes extremely easy to apply—easier than Bliss (BC-1), because (being) more purely logical and leaving few decisions top the classifier" (Mills, 1951). Without a doubt, one of the greats of library science and categorization is Ranganathan (Garfield, 1984). International classification theory was revolutionized by him as well. His work has greatly influenced contemporary classification schemes, and he was the first to thoroughly explain aspect theory (Wellisch, 1980).

2.2.2 Colon Classification During Post-Ranganathan Period

New relationships between subjects and their combinations also require revisions. New research can also be incorporated into revisions when creating classification schedules. In this context, Mellwaine's (1995) remarks are highly pertinent and intriguing: "Whatever we do, we will get criticism. If you do not revise outdated parts of a classification, it is immediately decried as being out of touch with modern developments. If you do revise it, you immediately receive a welter of complaints from long established users who do not wish to change their classification practices".

Ranganathan (1965) already realized the issues and said as follows: "If the estimate of the potentiality and the versatility of the Colon Classification System is true, its future cannot be left to a singly private individual. It should be taken up by a national or an international body". A committee to investigate the idea of revising the CC was then raised by Kaula (1976). However, this initiative yielded no results. During the Indian International Society for Knowledge (ISKO) Chapter's January 1994 Seminar on Classification and Knowledge Organization, Kaula expressed his concern over the CC's change once more and asked for institutional support (Singh and Prasad, 1994).

No entity has offered it the same organizational assistance that the DDC receives from the Library of Congress (LC) and Online Computer Library Center (OCLC), International Federation for Information and Documentation (FID; now replaced by the Universal Decimal Classification (UDC) Consortium) provided to UDC, the British Standards Institution has been providing to the English UDC, and even Korean Decimal Classification (KDC) provided by Korean Library Association (Oh, 2021). There is nothing in the Documentation Research and Training Centre's (DRTC) constitution to encourage and support the CC. DRTC professors collaborated on the CC as a research team while Ranganathan was still living. The findings appeared in the magazine *Library Science with a Slant to Documentation* (1964+) and the proceedings of the DRTC Annual Seminars. Additionally, this effort persisted to some degree until Ranganathan's passing. However, DRTC has no moral or legal reason to support the CC (Satija, 2002). It has been discovered in recent months that there is ongoing work

by certain members of the Sarada Ranganathan Endowment for Library Science to update the CC. It is believed that the CC will eventually be widely acknowledged as the greatest system currently in use and will be used globally for documentation and bibliography tasks.

CC was created by a single individual, and regrettably, no one has continued to update it after his passing, despite Ranganathan providing the blueprint for the seventh version as early as 1971. However, it took almost 20 years to partially introduce the 7th edition. When the full version of the seventh edition will be available to the library community is unknown. Financial limitations or a lack of institutional support for conducting the research could be the cause. A strong research organization is necessary for any plan to succeed to provide updated editions, as was the case with DDC.

At every level, CC is taught in Indian library schools. Its theoretical underpinnings have been taught overseas, particularly in the United Kingdom, as an example of a multifaceted classification (Williamson, 1994). Since CC is a national program for India, there must be a body that periodically reviews and improves it (Ramesh Babu, 1996a).

2.2.3 Relevance of Colon Classification in Contemporary World of Librarianship

CC is comparatively new scheme in two aspects of the period of origin and its basic methods. The first edition of CC appeared in 1933, comparatively later than DDC, UDC and Bibliographic Classification. However, the scheme has influenced on the improvement of the other schemes (Dahlberg, 1977). CC has not received wholehearted reception from every Indian library. The numbers of libraries using CC is slowly decreasing, and sadly, it is not at all taught in some schools of northern India. “The main reason for dropping it was that DRTC Bangalore had not kept up with revisions of the Colon Classification” (Sharma, 1986). There are different and conflicting claims about its use by libraries in India and elsewhere (Kumar, 1979; Mills, 1960; Satija, 1986). However, CC continues still to be used in several libraries in India. To quote Foskett (1982), “although few libraries have adopted the scheme, yet it has been one of the most influential classifications, ever published, and the ideas incorporated in it have affected the whole classification theory”.

CC has been regarded as India’s national classification system, but there has been no substantial to promote its honor. No forum for the CC users has been held, and it is somewhat hard to find out somebody to turn to in case of difficulties. Books explaining the CC’s practical examples are also not enough for librarians. In-depth and wide range of studies about the use of CC in new information society and information retrieval system also has not been made, but an analytico-synthetic classification is eminently suitable for it. No exact and authentic figures are available on the extent of use of the CC in libraries (Satija, 2002).

CC “has a great deal of potential for specificity, and some of the more recent articles on the development of depth schedules have shown just how specific the class numbers can become” (Ramesh Babu, 2011). But such complicated class numbers are not suitable for the arrangement in shelves because much simpler and shorter notations will be more helpful for them. Ranganathan started by using the colon as the only facet indicator; the later introduced other symbols, but in recent years the trend has been towards the simplification of the facet indicators, so that the only one now used is the hyphen (Neelameghan et al., 1973). For most English-speaking countries other than India, CC can no longer be reckoned as a significant force in library classification (Foskett, 1982).

“Whether or not the solutions offered in the Colon Classification are suitable for a machine system, Ranganathan’s methodology is a model for all who work in this complex field. It is this—the scientific approach to classification which is his most enduring contribution to Librarianship” (Vickery, 1965). In that regard, “the right way of acknowledging the profound debt and gratitude that the library profession in India owes to Ranganathan is to adopt CC in almost all the libraries to fulfil the dreams of the departed soul” (Ramesh Babu, 2011). “No matter what our opinion of Colon may be, its influence cannot be ignored. Indeed, if one is not positively hostile towards the scheme, it could be regarded as the greatest step forward with regard to the principles of bibliographical classification in the twentieth century” (Maltby, 1976).

2.3 His Notable Contributions in Other LIS Areas

In addition to the contributions in library classification and knowledge organization areas, Ranganathan contributed to various areas including cataloging and three card system, library administration, and so on.

2.3.1 Library Cataloging

After publishing CC, Ranganathan drafted the Classified catalog code (CCC), the first in India for the cataloging industry. He was able to establish the theoretical underpinnings of library cataloging through his extensive conversations with students and colleagues. His contributions to cataloging have embellished many aspects and topics. CCC was created with a functional framework, is connected to CC, and depends on it for topic analysis. CCC is “essentially universal because it has drawn sustenance from its predecessors with Cutter being on top of the list” (Williamson, 1994). It is impressive how he developed the Normative Principles for cataloging, chain indexing, dictionary catalog codes, headings, canons, etc. Ranganathan’s attempt to create a symbiosis between cataloging and classification is another significant contribution to the field of cataloging. The long conflict between the alphabetical and the classifiers is resolved by the symbiosis (Satyanarayana, 2015).

The CCC has made a substantial contribution to cataloging by far. It was an unparalleled accomplishment in the history of librarianship. Up to the fifth edition of 1964, this wonderful code has undergone revisions. In 1969, he expanded the set of normative principles to include the “Canon of Recall Value”, which called for numerous revisions to the CCC regarding the selection and formatting of headings in the catalog entries. The challenge of cataloging corporate names has been approached in a different way thanks to this canon. Naturally, Ranganathan published a book titled “Cataloguing Practice” to implement the modifications made to the CCC 5th edition. Unfortunately, the book is hardly used in library schools these days, and the code hasn’t been updated since. It is regrettable that Indian libraries hardly ever adhere to the CCC.

Despite this, there’s no denying that CCC had a significant impact on how later catalog codes were created. “The influence of Classified Catalogue Code of Ranganathan on 1967 Anglo-American Cataloguing Rules was much greater and quite visible than 1949 ALA Cataloguing Rules for Author and Title entries” (Bhattacharya, 1984). Currently, many libraries are investigating the use of mechanical and electronic devices for extremely quick information retrieval. It is reasonable to assume, though, that the traditional, non-mechanized card catalog will remain the primary means of accessing library collections for many Indian libraries.

Certainly, CCC can be the most efficient and effective tool for retrieval through subject approach. To quote Wellisch, “we of the British National Bibliography are pleased to acknowledge our debt to India and in particular to Dr. Ranganathan by whose work and inspiring friendship we have progressed to a new conception of the classified catalogue” (Wellisch, 1980). One could argue that Ranganathan’s modified versions of the chain procedure are Postulate-based Permuterm Subject Indexing (POPSI). The British National Bibliography has included the same up until recently, demonstrating its effectiveness. CCC must be updated immediately to reflect current developments in the cataloging industry. The code also needs to be expanded to include the guidelines for cataloging materials that aren’t books.

2.3.2 Three Card System

Ranganathan (2006 reprint) has also made a substantial contribution to library administration with the development of the “three card system”. This is a scientifically based, methodical approach to keeping track of periodicals. This system is composed of (1) register card of essential details about an item or person being registered, (2) check card for tracking the status or location of an item, and (3) classified index card for classifying and indexing items.

As “sine qua non of good library management”, it is highly regarded. It is capable of being efficiently operated by one person. “Maximum turnover with minimum staff”

is what this system secures. During Ranganathan’s time, numerous libraries adopted this system due to its many positive attributes. However, many libraries have noticed a gradual decline in the use of such a good system in recent years. “Most of the big libraries in the country have long since switched over to Kardex System, finding it more compact and expedient system for the registration of periodicals” (Mittal, 1987). In certain universities where this method is popular, the administrators and inspecting authorities refuse to use it and insist on using the ledger system to record periodicals instead. The first author of this paper had a negative experience when the Directorate of Collegiate Education, Chennai audit party ordered him to convert from the three-card system to a ledger system during his tenure as a college librarian. There was no successful outcome from the attempts to persuade them of the same utility. There might be several such cases in India’s library system. The only solace in the current situation is that it is covered theoretically in the Library Administration course materials rather than applied in the spirit and substance of libraries.

2.3.3 Staff Formula and Others

In his seminal work “Library Administration”, Ranganathan demonstrated his deep-rooted approach to observation, experimentation, and demonstration, as well as his powerful investigation into the practices found in UK libraries. He “initiated work in manpower planning, in particular, his staff formula provided a procedure for estimating the staff needed for library work” (Ramesh Babu, 1996a). In 1948, he drafted the staff formula because of his scientific approach to library administration problems and mathematical background. For the first time in the annals of global librarianship, a library’s staffing needs based on workload volume were determined by mathematical computation. His staff formula would be very helpful in estimating the manpower requirements of libraries that are willing to offer true library services in an effective manner. This would represent a significant improvement for the library’s management. Ranganathan was the chairman of the University Grants Commission (UGC) Library Committee, which examined and approved the staff formula’s efficacy. In a practical manner, he has proposed this formula to determine the total number of different types of positions needed in a library. Both foreign libraries and the libraries of some international organizations have used this formula. To quote Ranganathan (2006 reprint), “once this formula is accepted, the alteration in the strength of the staff would become mechanical and impersonal”.

However, because of numerous reasons, this formula still exists today only as a theoretical administrative principle at best. Unfortunately, no matter how large a library is, there are very few instances of this formula being used. According to a survey, the city colleges and university libraries in Madras do not adhere to the recommendations

made by Ranganathan regarding staffing levels. The UGC Library Committee made recommendations regarding the staff structure almost seven decades ago. These recommendations are rarely implemented by the authorities. The staff formula was stated by Ranganathan more than 70 years ago, and given how quickly library operations are evolving, it is a topic of discussion among library professionals as to whether it still applies today. Others believe that because of a variety of reasons, it is merely a theoretical administrative principle that is not realistic. However, we believe that the spirit of the idea rather than its age determines whether it is relevant or not. In fact, this formula could be seen as the logical extension of the library administration concepts of division of labor and unity of command, if one is not overtly hostile to it (Ramesh Babu, 1996b). “The Staff Formula though still adhered to by the UGC, more out of frustration than fondness for it, for the allocation of staff to various libraries, has outlived its utility in the changed work atmosphere” (Sharma, 1986). Thus, it is sincerely requested that the UGC form a high-level committee to examine the academic library staff structure and offer workable solutions while adhering to his formula for the benefit of the library profession and services on the eve of his 133 years of birth anniversary. Additionally, the committee will create staff guidelines based on the type of education provided in the institution, the size of the clientele, reading preferences, and the range of services provided, among other considerations.

In addition to the contributions investigated above, Ranganathan was an energetic scholar and practitioner to do so many works not only in India but also in international organizations. His contribution to Indian Library Association (ILA) and many other regional library associations are worth mentioning. He had guided the activities of Madras Library Association since its start with his multifaceted professionalism, as the father of library movement in India. He was “responsible for inspiring innumerable followers all over the country to carry the mission forward” (Ramesh Babu, 2011).

He was also a brilliant thinker with many facets. His contributions to library science, library movements, and library advances in India and around the world are too numerous to be covered in detail in a single paper. He was far superior to his peers due to his towering personality, keen intellect, strong will, and unwavering work ethic. He received the Honorary of Literature from the University of Delhi at a Special Convocation shortly after the country’s independence in 1948. In 1956, the Government of India conferred on him the title, “Padmashree”. He received the membership of honor, a rare honor, from the International Federation of Documentation (FID) in 1957. He was given the position of Vice President for life by the London Library Association. He worked for international organizations as the Honorary Chairman of the International Federation for Documentation’s Classification Research Group (CRG) and a member of UNESCO’s International Advisory

Committee. He received the Honorary Doctor of Letters degree from the University of Pittsburgh in 1964. By designating him as a National Research Professor in Library Science in 1965, the Indian government also bestowed a significant honor on the field. In 1971, the American Library Association awarded him the Margaret Mann Citation in recognition of his exceptional contributions to the field of library science. He was named a “Grand Knight of Peace” by the Mark Twain Society of the United States the same year. On the eve of Ranganathan’s birth centennial in August 1992, the Indian government honored him by issuing a postal stamp. It is the first time in history that a librarian has received such a prestigious honor, and the entire library profession should undoubtedly take pride in this distinction.

3. Is Dr. Ranganathan Relevant in the AI Society?

Encyclopedia Britannica (online) defines AI as “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings”. They not only learn much faster than our human beings but also help to apply their knowledge to various areas and even try to infer by themselves. Even though AI society has been defined somewhat variously according to the disciplines and subjects, nobody will deny today that we can live without any helps and support from AI now in our daily life and even in research and development.

If somebody asks whether Dr. Ranganathan is relevant in the AI Society, then the reply will be without a doubt, yes. Information science experts and researchers actively reinterpret his timeless Five Laws of Library Science to build ethical, user-centric, and efficient AI systems. Because of their relevance, Ranganathan’s five laws of library science still apply to contemporary library developments including library classification and knowledge organization. These laws cover every aspect of library management, particularly since libraries are dynamic organizations that can adapt their fundamental organizational structure to meet the needs of their patrons. It can be said that the Five Laws’ conceptual framework has served as the foundation for many LIS-oriented technological innovations (Il-langarathne and Yingming, 2015). In today’s digitally connected world, five laws of Ranganathan and his other contributions remain pertinent. These laws are highly beneficial to librarians and the work they do to advance library development and societal welfare.

Ranganathan’s Five Laws were formulated in a pre-digital world, yet they continue to illuminate our path as we navigate the complex terrain of AI and digital transformation in the present day. His laws remain highly relevant in the current technological age. Their reinterpretation considering AI technologies not only affirms their adaptability but also provides a framework for ethical and functional deployment of AI. These Five laws, centered on access, personalization, efficiency, and adaptability, are not bound by

format or medium. Instead, they represent timeless principles that find new vitality in the digital library and AI worlds (Mallikarjun et al., 2025).

The reinterpretation of these laws in the context of AI enabled library circulation highlights how technology can strengthen the core principles of access, personalization, efficiency, and continuous growth. AI tools such as smart cataloging, predictive analytics, and recommendation engines, and chatbots not only enhance operational efficiency but also extend inclusivity and user-centered services. When guided by Ranganathan's Five Laws and implemented with ethical responsibility, AI can empower libraries to remain dynamic, user-centered, and socially relevant in an increasingly digital society (Dangar and Kanadiya, 2025).

A recent study uses S.R. Ranganathan's Colon Classification (CC-6th edition), a complex system with roots in ancient Indian knowledge systems, to investigate the use of machine learning (ML) techniques to automate subject classification. To forecast the main class of a text corpus based on Colon Classification 6th edition, the study combines the Colon Classification scheme with Annif, an open-source AI/ML-based subject indexing tool created by the National Library of Finland (Mukhopadhyay, 2025).

Ranganathan's contributions and Ranganathanism are extremely relevant in today's AI society and will always be so if librarianship is a profession. His theory is still applicable and acknowledged as a means of resolving issues pertaining to library users in today's digital, android, or cyber-physical society and AI society (Ramesh Babu, 2024). Since his theories are founded in science, it is possible to draw the comparison between his concepts and a lighthouse for users and libraries. Even with the advent of computers and other advancements in the field of telecommunication, which altered the course of library and information science, his theories are still applicable in the modern world. The new field of library and information studies will continue to draw inspiration and direction from Ranganathan's vision and legacy.

For example, Panigrahi and Prasad (2007) created Visvamitra for CC7, an AI-based classification system. Visvamitra is "an attempt to build an automatic classification using the tools and techniques of AI, especially Natural Language Processing (NLP) and Expert System (ES)". According to the frame-based knowledge representation approach, the system uses a variety of knowledge bases to depict the schedule of common isolates and special isolates. To facilitate the examination of document titles using natural language, a vast lexicon is created. An inference engine created in Prolog is largely responsible for implementing the canons, principles, postulates, and various directives indicated in schedules.

The following quote from Raghavan (2015) is appropriate about the relevance of Ranganathan's approaches to modern-day information world: "We even think that the theory of facet analysis implies ideas which are still to be

explored and fully utilized in the electronic environment. Ranganathan developed his CC faceted classification "Too Early". The time is still to come to benefit from it as a structured domain language used in AI and expert systems".

It is not a question of whether Ranganathan is still relevant today; rather, it is a matter of us studying and putting his ideas and methods to use in various facets of library administration. Although Ranganathan is physically no longer with us, his outstanding works, his concepts of service, his sense of devotion, and his dedication to the field of library science will continue to serve as a source of inspiration for future generations of librarians. In terms of Indian librarianship, Ranganathan's efforts have led to the current standing and respect they enjoy. He has covered almost every facet of librarianship, information work, and service. Libraries and academic institutions across India bear witness to his legacy. His concepts are still in demand since his methods and instruments are still useful and applicable in the digital world. Carr (2014) asserts that Ranganathan's principles, specifically the Five Laws, can still function as a valuable and efficacious "guide to navigate through a period of transformative change". This must be the reason why so many "benchmarked" or variant five laws in our areas have been continuously developed including "Five new laws of librarianship" by Gorman (1995).

Regretfully, Ranganathan lived in an era before computers existed, but his contributions to several fields show that he was far ahead of his time. As new library and information science professionals emerge and apply Ranganathan's ideas and practices to various facets of library management, his vision and legacy will serve as a source of inspiration and guidance. His theory of library and information science is not only pertinent to the study of library use, but it is the study of library use at its core because it gives us learners/students in this course a better understanding of the importance of the library, its functions, and how to use its resources.

4. Conclusion

Contributions of Ranganathan are so dynamic and incalculable, and the relevance of his works today has become even more imperative and important for the library world. Related to this, Sethi (1983) suggested that "we the Indian Librarians' to absolve our conscience of the feeling of guilty arising due to our failure to carry forward any task left behind by him now and then". As Radhakrishnan (1941) suggested, "growth is slow when roots are deep. But those who light a candle in the darkness will help to make the whole sky aflame". Ranganathan's contributions in various fields indicate that "he lived very much ahead of his time. The vision and legacy of Ranganathan will continue to be an inspiration and guiding spirit for the emergence of the new library and information profession" (Ramesh Babu, 2011).

This article tries basically to re-investigate Ranganathan's contributions on library and information science

with special regard to knowledge organization. As Hjørland (2016) well suggested in his detailed analysis on knowledge organization, “as a part of library and information science [it] can be considered a narrow sense”. So, Ranganathan’s insightful ideas and theories can be a good clue to try to investigate “broader sense” to it. This article also investigates his relevance to AI society which can be a clue for future studies. It is a kind of broad exploratory investigation in the relevance of him to AI society, more focusing on his achievements and their relationships with today’s knowledge organizations. So future research can investigate further the relevance of his contributions in our fields with special regard to AI society.

As one notable and important person in the field of library science, Ranganathan’s vision and legacy can continue to draw inspiration and direction for the new field of library and information studies. As Liu and Qin (2026) reasonably suggested that “classification theories serve as intellectual foundations for the practice of KO”, all the classical basic theories including those of Ranganathan can be a good starting point and foundations for the related areas both in knowledge organization and library and information science in general. In this regard, it would be meaningful to re-investigate further the great works and contributions of Ranganathan to our areas in this age of AI.

Availability of Data and Materials

This article does not use any statistical datasets because it is a historical research based on various former research literature.

Author Contributions

DGO and BRB designed the research study, and DGO performed the research on the general aspects and BRB on those areas especially related to Indian characteristics. Both authors contributed to editorial changes in the manuscript, and read and approved the final manuscript. Both authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

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Conflicts of Interest

The authors declare no conflicts of interest.

References

- Atherton PA. Putting knowledge to work: An American view of Ranganathan’s Five Laws of Library Science. Vikas: New Delhi. 1973.
- Bhattacharya G. Relevance of Ranganathan’s ideas in the context of modern development. In Rajan M (ed.) *New Trends in International Librarianship* (pp. 226–333). Allied: New Delhi. 1984.
- Carr PL. Reimagining the Library as a Technology: An Analysis of Ranganathan’s Five Laws of Library Science within the Social Construction of Technology Framework. *The Library Quarterly: Information, Community, Policy*. 2014; 84: 152–164. <https://doi.org/10.1086/675355>
- Curwen AG. Revision of Classification schemes: Policies and practices. *Journal of Librarianship*. 1978; 10: 19–38.
- Dahlberg I. Major developments in classification. *Advances in Librarianship*. V. 7. Academic Press: New York. 1977.
- Dangar DM, Kanadiya P. Reimagining Dr. S.R. Ranganathan’s Five Laws of Library Science with Artificial Intelligence for Library Circulation. *College Libraries*. 2025; 40: 76–81.
- de Grolier E. A study of general categories applicable to classification and coding in documentation. UNESCO: Paris. 1962.
- Foskett AC. Subject approach to information. 4th edn. Clive Bingley: London. 1982.
- Gangadhara Rao P, Ramesh Babu B. Trends in Dewey Decimal Classification. In service Training course for Librarians/edited by Indira Prithviraj (pp.10–15). Kendriya Vidyalaya Sangathan: New Delhi. 1990.
- Garfield E. A tribute to S. R. Ranganathan, the father of Indian library science: Part 1. Life and works. *Essays of an Information Scientist*. 1984; 7: 37–44.
- George S. Re-looking at S. R. Ranganathan’s five laws of library science. *International Journal of Librarianship*. 2022; 7: 155–161. <https://doi.org/10.23974/ijol.2022.vol7.2.258>
- Gopinath MA. Ranganathan, Shiyali Ramamrita. *Encyclopedia of Library and Information Science*. v.25 (pp. 58–86). Marcell Dekker: New York. 1972.
- Gorman M. Five new laws of librarianship. *American Libraries*. 1995; 26: 784–785.
- Hjørland B. Knowledge Organization. *Knowledge Organization*. 2016; 43: 475–484. <https://doi.org/10.5771/0943-7444-2016-6-475>
- Illangarathne SK, Yingming W. Ranganathan’s Five Laws and Its impact to the Technological Innovations of Library and Information Science. Paper presented at 12th International Conference on Innovation and Management (ICIM 2015) at Wuhan University of Technology, Wuhan, China during November 2015. 2015.
- Jones MF. Colon, revise or die. *Library Association Record*. 1966; 68: 186.
- Kaula PN. Contributions of Ranganathan and World Librarianship. In Rajagopalan TS (ed.) *Ranganathan’s Philosophy* (pp. 28–40). Vikas Publishing Home: New Delhi. 1986.
- Kaula PN. Editor’s Preface to Mr. M F Jones: Colon revise or die. *Herald of Library Science*. 1976; 15: 345–346.
- Krishnamurthy M. Philosophical and Theoretical Perspectives of Five Laws of Libraries and its Influence on the Library Pro-

- fession: Issues and Challenges. *Journal of the Korean Society for Library and Information Science*. 2011; 45: 271–286. <https://doi.org/10.4275/kslis.2011.45.4.271>
- Kumar K. Classification practice in Delhi University College Libraries. *Journal of Library and Information Science*. 1979; 4: 41–76.
- Kumar PSG. Ranganathan: a multi-faceted personality. D.K. Publishing Corporation: New Delhi. 1992.
- Lancaster FW. If you want to evaluate your library. 2nd edn. Library Association: London. 1993.
- Lancaster FW. Library as a growing organism. In Rajagopalan TS (ed.) *Ranganathan's Philosophy: Assessment, Impact and Relevance*. Vikas: New Delhi. 1988.
- Leiter RA. Reflections on Ranganathan's Five laws of library science. *Law Library Journal*. 2003; 95: 411–418.
- Liu Q, Qin J. Knowledge Organization in AI-Era Biological Sciences: A Thematic Review. *Knowledge Organization*. 2026; 53: 46546. <https://doi.org/10.31083/ko46546>
- Mallikarjun K, Mallikarjuna B, Hangaragi P, Jange S. The AI Librarian: Integrating Ranganathan's Vision with Digital Transformation. In Patil M, Hangaragi P (eds.) *AI Librarian: Ranganathan's Legacy in a Digital World* (pp. 18–26). BMS Publishing House: New Delhi. 2025.
- Maltby A. Classification in the 1970s: A Second Look. Rev. edn. Clive Bingley: London. 1976.
- Mellwaine LC. UDC Centenary: The present state and future prospects. *Knowledge Organization*. 1995; 22: 64–69.
- Mills J. Classification Schemes and Indian Libraries. Metropolitan: New Delhi. 1960.
- Mills J. The Bliss and Colon Classification. *Library Association Record*. 1951; 53: 153.
- Mittal RL. Library administration: theory and practice. Metropolitan Book: New Delhi. 1987.
- Mukhopadhyay P. Indigenous Knowledge Systems and Machine Learning: Evaluating the Suitability of Colon Classification. *Annals of Library and Information Studies*. 2025; 72: 434–445. <https://doi.org/10.56042/alis.v72i4.25677>
- Nam TW. Congratulatory Message. International Seminar Commemorating the 80th Anniversary of Ranganathan's "Five Laws of Library Science". Korean Library Association: Seoul. 2011.
- Neelameghan A. Congratulatory Message. International Seminar Commemorating the 80th Anniversary of Ranganathan's "Five Laws of Library Science". Korean Library Association: Seoul. 2011.
- Neelameghan A, Gopinath MA, Seetharama, S. Edition 7 schedule of basis subjects. *Library Science with a slant to Documentation*. 1973; 10: 222–260.
- Oh DG. Korean Decimal Classification (KDC): Its History, Development, Characteristics, and Future Prospect. *Knowledge Organization*. 2021; 48: 248–262. <https://doi.org/10.5771/0943-7444-2021-3-248>
- Oh DG, Ranganathan, Dewey, and Bong-Suk Park. *Journal of the Korean Society for Library and Information Science*. 2012; 46: 11–27. <https://doi.org/10.4275/KSLIS.2012.46.1.011>
- Panigrahi P, Prasad ARD. Facet sequence in analytico synthetic scheme: A study for developing an AI based automatic classification system. *Annals of Library and Information Studies*. 2007; 54: 37–43.
- Parekh H. Five Laws of Library Science: continuing foundations in an information society. *DLibCom*. 2007; 2: 7–9.
- Radhakrishnan S. *The Hindu View of Life*. 6th edn. Allen & Unwin: London. 1941.
- Raghavan KS. The Colon Classification: A few considerations on its future. *Annals of Library and Information Studies (ALIS)*. 2015; 62: 231–238.
- Ramesh Babu B. From Classification Systems to Knowledge Organisation Systems (KOS): Trends and Developments. *Knowledge Organisation Access and Management in the Digital Environment: Emerging Dimensions* (Festschrift in honour of Prof. K. Somasekhara Rao) (pp. 2–23). Academic Publishers: Hyderabad. 2017.
- Ramesh Babu B. Libraries in the Changing dynamics of the Society. *Tamilnadu Dr Ambedkar Law University Journal of the Department of Library Science*. 2024; 2: 1–16.
- Ramesh Babu B. Reflections on Ranganathan's staff formula. In Kaula PN and others (eds.) *International and comparative librarianship and information systems*. V.1, Section 30. B.R. Publishing Corporation: Delhi. 1996b.
- Ramesh Babu B. Relevance of Five Laws of Library Science in the Contemporary Library World. *Journal of the Korean Society for Library and Information Science*. 2011; 45: 253–269. <https://doi.org/10.4275/kslis.2011.45.4.253>
- Ramesh Babu B. Relevance of Ranganathan's concepts and ideas in the contemporary librarianship: an analysis. In Kaula PN (ed.) *International and Comparative Librarianship and Information Systems*. V. 1 (pp. 73–81). B.R. Publishing House: Delhi. 1996a.
- Ranganathan SR. *A Descriptive Account of Colon Classification*. Asia Publishing House: Bombay. 1967a.
- Ranganathan SR. *A Descriptive Account of the Colon Classification*. Graduate School of Library Science, Rutgers State University: New Brunswick, NJ. 1965.
- Ranganathan SR. *Classified Catalog Code*. Asia Publishing House: Bombay. 1934.
- Ranganathan SR. *Colon Classification*. The Madras Library Association: Madras. 1933.
- Ranganathan SR. *Five Laws of Library Science*. Asia Publishing House: Madras. 1931.
- Ranganathan SR. *Library Administration*. 2nd edn, reprint. Ess Publications: New Delhi. 2006.
- Ranganathan SR. *Prolegomena to library classification*. Asia Publishing House: New York. 1967b.
- Rubin RE. *Foundations of Library and Information Science*. 2nd

- edn. Neal-Schuman Publishers: New York. 2004.
- Safii M. Redefining the five laws of library science in the digital age. In 2nd International Conference on Culture and Language in Southeast Asia (ICCLAS 2018) (pp. 24–27). Atlantis Press. 2019. <https://doi.org/10.2991/icclas-18.2019.7>
- Satija MP, Gupta DK. SR Ranganathan: Making of the man and his method. *Annals of Library and Information Studies*. 2024; 71: 11–24. <https://doi.org/10.56042/alis.v71i1.8930>
- Satija MP. Ranganathan and team research. *Herald Library Science*. 1993; 32: 84–94.
- Satija MP. Revision and future of Colon Classification. In Sardana JL (ed.) *Libraries and Information Studies in Retrospect and Prospect: Essays in honour of Prof. D. R. Kalia* (pp. 73–84). Concept Publishing Company: New Delhi. 2002.
- Satija MP. The future and revision of Colon Classification. *Knowledge Organization*. 1997; 24: 18–23.
- Satija MP. Use of Colon Classification. *International Classification*. 1986; 13: 88–92. <https://doi.org/10.5771/0943-7444-1986-2-88>
- Satyanarayana NR. Library user introduction. In Satyanarayana NR (ed.) *User education in academic libraries*. Ess Ess Publications: New Delhi. 1988.
- Satyanarayana R. Library profession and Dr. Ranganathan. *Annals of Library and Information Studies*. 2015; 62: 203–207.
- Sayers WCB. Preface. In Ranganathan SR (ed.) *Prolegomena to Library Classification*. 2nd edn. Asia Publishing House: Bombay. 1957.
- Sethi AR. Legacy of Ranganathan. In Sharma CD, Vyas K (eds.) *Developing Horizons in Library and Information Science*. V.1. Printwell Publishers: Jaipur. 1983.
- Sharma RN. *Indian Academic Libraries and S.R. Ranganathan: A Critical Study*. Sterling: New Delhi. 1986.
- Singh S, Prasad KN. Indian ISKO Chapter: Seminar on Classification and Knowledge Representation. *Knowledge Organization*. 1994; 21: 37–38.
- Tauber MF. Cataloging and Classification, In Shaw, RR (ed.) *The State of the Library Art* (pp. 127–135). Rutgers Graduate School of Library Service, The State University, Rutgers University Press: New Brunswick, N.J. 1960.
- Vickery BC. Ranganathan's work on Classification. In Kaula PN (ed.) *Library Science Today*. V. 1. Asia Publishing House: Bombay. 1965.
- Vora R. Analytical Synthetic Scheme of Classification: Its impact and relevance to modern theories of Library Classification. In Rajagopalan TS (ed.) *Ranganathan's Philosophy: assessment, impact and relevance*. Vikas Publishing House Pvt. Ltd.: New Delhi. 1986.
- Wellisch HH. Classification. In Wedgeworth R (ed.) *ALA World Encyclopedia of Library and Information Services* (pp. 146–150). American Library Association: Chicago. 1980.
- Williamson N. Subject Analysis Systems. In Johnson P (ed.) *Guide to Technical Services Resources*. ALA: Chicago. 1994.