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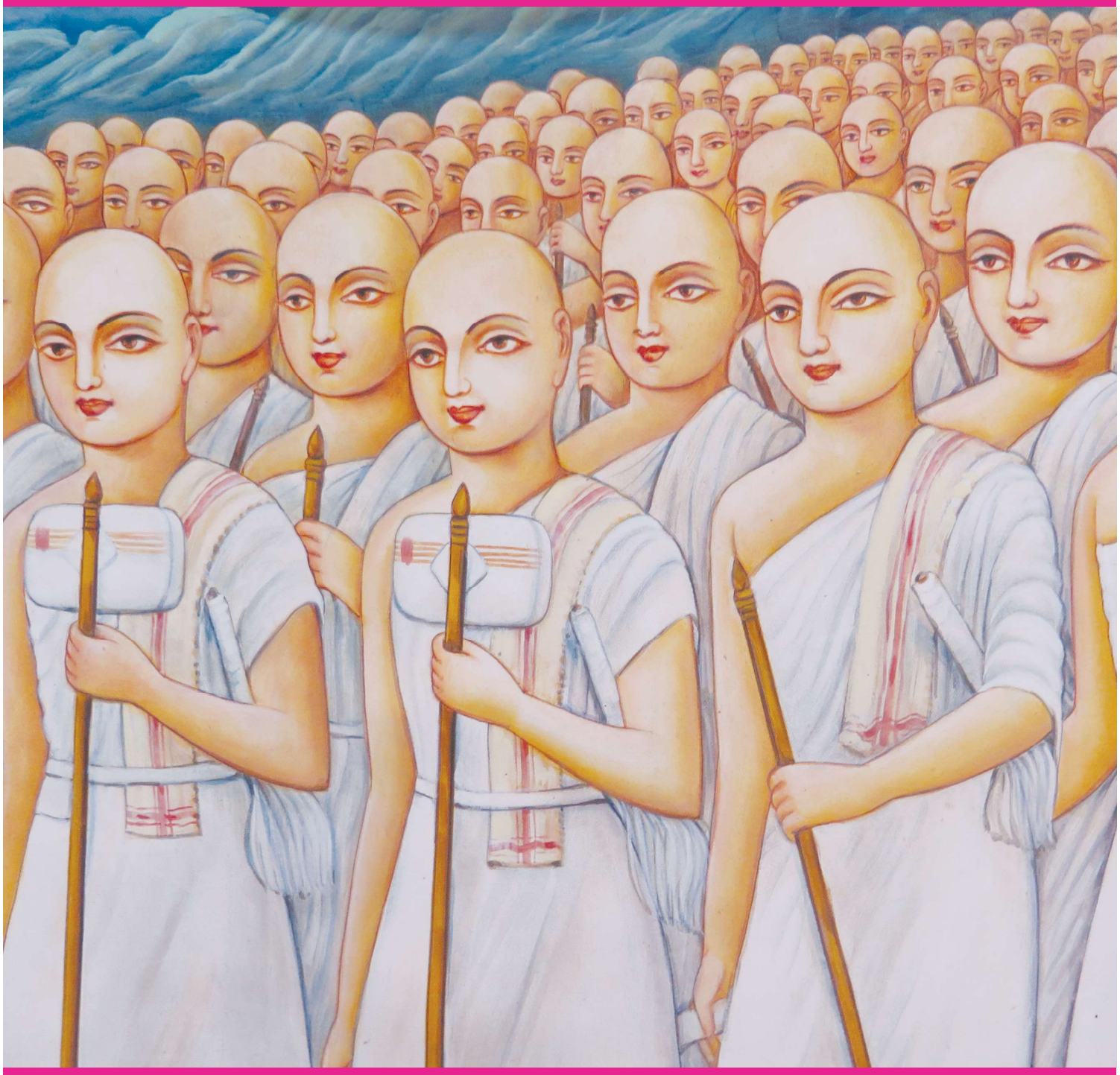
NEWSLETTER OF THE CENTRE OF JAINA STUDIES



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Jaina Studies

NEWSLETTER OF THE CENTRE OF JAINA STUDIES

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On the Cover

Detail of a painted blueprint for a relief image of *sādhu*s of the Tapāgaccha following Vijayavallabhasūri at the office of the Vallabha Smāraka Jaina Mandira in Alipore (Photo: P. Flügel 9.12.2019)

Letter from the Chair

Dear Friends,

Jaina Studies celebrates its 15th year of publication in 2020, and I am pleased to report that it has new sponsor: Arham Dhyan Yog Social Welfare Foundation. Without sponsorship the *Newsletter* could not be produced, and we are very grateful for the financial support we have received over the years that has enabled our information circular to expand into the journal that it is today.

Cutting edge research in India currently centres on Jaina mathematics, where important new discoveries are made year on year, as the article of Anil Kumar Jain shows. Important contributions to this highly specialised subfield are also made in Europe and Japan. Alessandra Petrocchi's research report too testifies to the exemplary quality of the work in this area.

Two further trends are reflected in this issue of Jaina Studies: The growing body of work on the historical interface of Sanskrit and Persian literary cultures, as reflected in Jean Arzoumanov's article, and the increasing impact of information technology on Jaina Studies. The latter development is exemplified by the reports on digitisation projects at the LD Institute, at the National Library of France, and the article by Julie Hanlon on her statistical work on Jaina inscriptions in Tamil Nadu.

This volume also features several field reports. One by the present writer on Jaina "non-*tīrtha*s" in Madhya Pradesh, includes a new Yoga inscription, deciphered in collaboration with Dániel Balogh, J.C. Wright and James Mallinson. Tillo Detige reports on the former status of Digambara *bhaṭṭāraka*s as renouncers and Shivani Bothra on aspects of her research on contemporary changes in Jaina religious education.

Christopher Chapple reviews the history of sponsorship of Jaina Studies positions in the United States of America, evincing how this field is rapidly becoming a worldwide field of study. Another remarkable new development is the growing interest in comparative Jaina and Buddhist Studies in China. This is illustrated by Haiyan Hu-von Hinüber's conference report. Additional reports conference reports from SOAS, the USA and Japan demonstrate that interdisciplinary international research collaborations are now well established, and expanding.

Last but not least, this volume offers reports on the new *Catalogue* of the Tessitori manuscript collection in Udine by Nalini Balbir and on the recent exhibition of Jaina miniature paintings at the Rautenstrauch-Joest Museum Cologne by Patrick Krüger.

With best wishes,
Peter Flügel

13th-century Digambara image-canopy (*pratimā-vitāna*) from Hiṅgalājagaṛh (Maṇḍasaur), Central Museum Indore (Photo: Ingrid Schoon 23.12.2020).

The *Siribhūvalaya*: An Unexplored Treasure Trove of Knowledge and Creativity

Anil Kumar Jain

The *Siribhūvalaya* was scripted by Muni Kumudendu during the 9th century CE in the state of Karnataka. It remained obscure to *ācārya*s and scholars because of its indecipherable content. Muni Kumudendu worked out an exclusive writing system which was based on a code of numbers independent of any language-specific script. But as contents and uniqueness of this scripture are being revealed from the past seventy years, readers are wonder-struck not only by the multiplicity and profundity of knowledge contained in the text, but also by the unique and innovative styles of presentation and rendition. That is why Dr Rajendra Prasad, the first president of India, commented that the *Siribhūvalaya* should be regarded as the tenth wonder of world. Still there remains lot to be discovered as what is available now in the public domain is only a small fraction of the *Siribhūvalaya*.

Muni Kumudendu was a contemporary to King Nṛṛpatuṅga (Amoghavarṣa I) (800-878 CE) of the Rāṣṭṛakūṭa Dynasty. Mallikābbe, the wife of one of Nṛṛpatuṅga's army officers, recognised the importance of Kumudendu's *Siribhūvalaya* and had copies of this great epic made, which were distributed among the Jain *ācārya*s of her time. One of these handwritten copies on *kori* paper survived untill the twentieth century and was in the possession of a Jain scholar named Dharaṇendra Paṇḍit, who was resident of a village called Doddabele near Bengaluru in Karnataka. Yellappā Śāstrī, an Āyurvedic practitioner and scholar, was very curious to learn its contents, but was not allowed to do so. In his efforts to get access to this work, Yellappā Śāstrī married a niece of Dharaṇendra Paṇḍit and finally was able to acquire it in 1920 after the demise of the former.

Yellappā Śāstrī spent thirty years trying to unravel the mysteries of the *Siribhūvalaya*. At last, his dedication and hard work paid off. One day in 1950, he suddenly found that he had made a breakthrough in deciphering the verses. Three years later, in 1953, together with co-editors Karlamaṅgala Śrikanṭhaiāh (a freedom fighter with an abiding interest in history and inscriptions, who had been working on the text with Yellappā Śāstrī since 1935) and Ananta Subbāraō (inventor of the Kannada typewriter), Yellappā Śāstrī released the first volume containing a compilation of their findings. A second volume was released two years later, in 1955. In these two publications, *adhyāya*s (chapters) 1 to 34 were decoded and detailed explanations of the contents were made available in Kannada . In 1956, Yellappā Śāstrī brought transcripts of all *cakra*s (pages) along with few original manuscripts of the first *khaṇḍa* to the National Archives of India, New Delhi, for preservation and open access to all interested persons. Archived transcripts also included decoded texts of the remaining *adhyāya*s 34 to 59 in Kannada script. In April 1957 Yellappā Śāstrī moved to New Delhi to work closely with Ācārya Deśabhūṣaṇa for a Hindi translation and deliberations on this scripture. Unfortunately, he met with sudden death on 23 October 1957. Before his abrupt demise only fourteen chapters were ready and these were later published by the Bhūvalaya Prakāśana Samīti (Jain Mitra Maṇḍal) in Dharampura, Delhi.

In the *Siribhūvalaya*, one *cakra* contained only integer numbers arranged in a square matrix of 27 dimensions. The integer (in the range of 1 to 64) in each of the cells of the matrix represented one of the 64 *mūla varṇa*s or phonetic alphabets as enumerated in texts of earlier *ācārya*s in the lineage to which Muni Kumudendu belonged: 27 *swara*s (vowels), 33 *vaynjana*s (consonants) and four *yogavāha*s (special phonetic alphabets) comprised of these 64 *mūla varṇa*s. (Table 1)

In order to decipher a *cakra* one is required to traverse these 729 cells of the 27 x 27 matrix in a distinct manner for each of the *adhyāya*s. The steps to deciphering are called *bandha*. Deciphered *cakra*s reveal poetry in Kannada. It is claimed that multilingual poetry and verses, which are derived from the base Kannada text, comprise 718 dialects, including Prākṛta, Saṃskṛta, Telugu, Tāmil, Apabhṛaṁśa, and Pāli. The subject matter covers many topics of Indian philosophies and ancient sciences, including canonical scriptures of Jainism and other prevalent religions at that period. It also includes extensive deliberations on mathematics and Āyurveda (specifically Puṣpāyurveda or Lalitāyurveda). The entire contents of the *Siribhūvalaya* are segmented into nine volumes called *khaṇḍa*s and each of *khaṇḍa*s is further divided into *adhyāya*s. Each *adhyāya* is constituted with a number of related *cakra*s. These *khaṇḍa*s have been named by Muni Kumudendu as:

1. Maṅgala Prābhṛta
2. Śrutāvatāra
3. Sūtravatāra
4. Prāṇāvaya Pūrva
5. Dhavala
6. Jaya Dhavala
7. Vijaya Dhavala
8. Mahā Dhavala
9. Atiśaya Dhavala

In the first volume of the scripture there are 59 chapters with a total of 1, 263 *cakra*s dispersed among these. Decoding of these *cakra*s results in about 600,000 verses, while the remaining eight volumes are not yet in the public domain. It is likely that these are either held privately, or have been lost forever.

A distinctive feature of this epic is that text is not presented in a linear fashion (one dimension), i.e. following a sequence of alphabets starting from left to right or from top to bottom or similar order. Instead, encrypted *mūla varṇa*s in form of numbers are arranged in two dimensions of a 27 x 27 matrix (termed as "*cakra*"). To decode verses, one needs to traverse the *cakra* as per a specified non-linear sequence (in two dimensions of rows

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
अ	आ	आा	इ	ई	ईी	उ	ऊ	ऊू	ऋ	ॠ	ऋा	ऌ	ॡ	ॡ	ए
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
एा	एाा	ऐ	ऐा	ऐाा	ओ	ओा	ओाा	औ	औा	औाा	क्	ख्	ग्	घ्	ङ्
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
च्	छ्	ज्	झ्	ञ्	ट्	ठ्	ड्	ढ्	ण्	त्	थ्	द्	ध्	न्	प्
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
फ्	ब्	भ्	म्	य्	र्	ल्	व्	श्	ष्	स्	ह्	ं	ः	...	::

Table 1. *Mūla varṇa* table in Devanāgari script

and columns). Again, the manner of extracting content for decoding is termed *bandha*. Muni Kumudendu has enumerated many *bandha*s, which are deployed in the encryption of the *Siribhūvalaya*. The *śreṇī bandha*, with its two variants, namely *cakra-bandha* and *navamāṅka-bandha*, is deployed in the first *khaṇḍa*, i.e. *Maṅgala Prābhṛta*. *Śreṇī bandha* is primarily applied to decode all the *cakra*s to extract base Kannada verses from all the *adhyāya*s of the *Maṅgala Prābhṛta khaṇḍa* in the *Siribhūvalaya*. When the *śreṇī bandha* is applied over a whole *cakra*, i.e. one 27 x 27 matrix, it is called *cakra-bandha*; and when the *śreṇī bandha* is applied to sub-matrix of the *cakra* of 9 x 9 elements, it is called *navamāṅk-bandha*. It is noteworthy that the traversal pattern of the *śreṇī bandha* results in magic squares of 27 x 27 (sum 9, 855) or 9 x 9 (sum 369). A magic square is a square matrix of integers wherein the sum of integers in any of the rows is equal to the sum of the integers in any of the columns or sum of integers in any of the diagonals. (Table 2)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	380	409	438	467	496	525	554	583	612	641	670	699	728	1	30	59	88	117	146	175	204	233	262	291	320	349	378
2	408	437	466	495	524	553	582	611	640	669	698	727	27	29	58	87	116	145	174	203	232	261	290	319	348	377	379
3	436	465	494	523	552	581	610	639	668	697	726	26	28	57	86	115	144	173	202	231	260	289	318	347	376	405	407
4	464	493	522	551	580	609	638	667	696	725	25	54	56	85	114	143	172	201	230	259	288	317	346	375	404	406	435
5	492	521	550	579	608	637	666	695	724	24	53	55	84	113	142	171	200	229	258	287	316	345	374	403	432	434	463
6	520	549	578	607	636	665	694	723	23	52	81	83	112	141	170	199	228	257	286	315	344	373	402	431	433	462	491
7	548	577	606	635	664	693	722	22	51	80	82	111	140	169	198	227	256	285	314	343	372	401	430	459	461	490	519
8	576	605	634	663	692	721	21	50	79	108	110	139	168	197	226	255	284	313	342	371	400	429	458	460	489	518	547
9	604	633	662	691	720	20	49	78	107	109	138	167	196	225	254	283	312	341	370	399	428	457	486	488	517	546	575
10	632	661	690	719	19	48	77	106	135	137	166	195	224	253	282	311	340	369	398	427	456	485	487	516	545	574	603
11	660	689	718	18	47	76	105	134	136	165	194	223	252	281	310	339	368	397	426	455	484	513	515	544	573	602	631
12	688	717	17	46	75	104	133	162	164	193	222	251	280	309	338	367	396	425	454	483	512	514	543	572	601	630	659
13	716	16	45	74	103	132	161	163	192	221	250	279	308	337	366	395	424	453	482	511	540	542	571	600	629	658	687
14	15	44	73	102	131	160	189	191	220	249	278	307	336	365	394	423	452	481	510	539	541	570	599	628	657	686	715
15	43	72	101	130	159	188	190	219	248	277	306	335	364	393	422	451	480	509	538	567	569	598	627	656	685	714	14
16	71	100	129	158	187	216	218	247	276	305	334	363	392	421	450	479	508	537	566	568	597	626	655	684	713	13	42
17	99	128	157	186	215	217	246	275	304	333	362	391	420	449	478	507	536	565	594	596	625	654	683	712	12	41	70
18	127	156	185	214	243	245	274	303	332	361	390	419	448	477	506	535	564	593	595	624	653	682	711	11	40	69	98
19	155	184	213	242	244	273	302	331	360	389	418	447	476	505	534	563	592	621	623	652	681	710	10	39	68	97	126
20	183	212	241	270	272	301	330	359	388	417	446	475	504	533	562	591	620	622	651	680	709	9	38	67	96	125	154
21	211	240	269	271	300	329	358	387	416	445	474	503	532	561	590	619	648	650	679	708	8	37	66	95	124	153	182
22	239	268	297	299	328	357	386	415	444	473	502	531	560	589	618	647	649	678	707	7	36	65	94	123	152	181	210
23	267	296	298	327	356	385	414	443	472	501	530	559	588	617	646	675	677	706	6	35	64	93	122	151	180	209	238
24	295	324	326	355	384	413	442	471	500	529	558	587	616	645	674	676	705	5	34	63	92	121	150	179	208	237	266
25	323	325	354	383	412	441	470	499	528	557	586	615	644	673	702	704	4	33	62	91	120	149	178	207	236	265	294
26	351	353	382	411	440	469	498	527	556	585	614	643	672	701	703	3	32	61	90	119	148	177	206	235	264	293	322
27	352	381	410	439	468	497	526	555	584	613	642	671	700	729	2	31	60	89	118	147	176	205	234	263	292	321	350

Table 2. *Cakra-Bandha* Matrix (Traversal Sequence for decoding *cakra*) Table 2 illustrates the traversal sequence of cells in a 27x27 matrix for *cakra-bandha*. The integer in each cell represents the position of a corresponding element (at same row and column) in the *cakra* matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	59	23	1	16	1	28	28	1	1	56	59	4	56	1	1	47	16	34	1	7	16	1	1	7	56	1	60
2	53	54	47	28	1	47	45	28	7	4	59	41	4	45	1	30	47	47	45	42	53	28	51	1	52	1	1
3	1	22	1	30	2	1	2	55	30	1	7	45	47	52	1	4	1	47	1	1	1	1	53	1	52	59	52
4	59	30	2	55	55	13	16	2	53	60	1	4	16	47	48	45	16	56	56	43	45	1	56	1	4	1	13
5	47	45	1	1	22	30	51	1	2	56	38	30	4	1	1	56	1	1	16	1	57	7	56	56	1	22	1
6	54	52	52	45	1	7	55	48	1	58	52	35	28	55	1	38	45	30	55	4	47	7	45	38	45	38	1
7	1	1	1	28	13	56	55	51	54	1	1	1	1	42	2	4	4	1	43	16	47	7	1	13	4	51	4
8	28	53	47	22	8	1	53	59	38	7	43	40	1	52	59	54	30	1	45	16	1	28	23	50	7	43	43
9	1	2	45	51	30	1	52	58	48	59	47	54	4	4	1	47	45	47	56	28	1	45	1	13	7	7	7
10	55	1	53	47	56	1	1	7	1	1	2	60	48	56	1	1	16	1	1	54	1	52	17	30	54	45	45
11	59	56	52	1	45	1	55	28	52	28	1	2	1	52	54	4	43	60	48	28	1	16	23	8	53	7	1
12	2	1	53	52	43	23	2	4	16	52	44	54	1	2	42	7	1	7	47	30	28	48	47	1	54	52	16
13	45	54	23	4	28	45	45	30	1	59	1	56	28	2	54	53	38	2	2	1	28	55	40	60	4	50	28
14	2	13	47	1	1	4	17	45	1	56	1	52	56	51	1	47	55	55	45	7	2	54	1	56	7	1	1
15	23	4	53	54	59	48	13	56	1	47	23	1	2	55	16	1	1	47	40	54	16	52	1	47	60	43	60
16	45	16	43	1	7	47	1	7	1	4	54	54	1	43	28	28	7	1	2	7	52	30	1	4	47	4	13
17	42	1	54	13	1	28	1	45	42	5	48	56	1	1	1	52	54	7	1	1	2	56	56	2	43	1	1
18	56	43	22	45	56	43	2	2	56	1	8	48	59	59	7	16	53	55	53	48	1	1	46	2	30	53	1
19	47	45	1	2	54	56	56	2	55	51	4	16	7	13	30	16	1	1	4	52	52	4	54	47	2	38	1
20	1	54	60	56	54	1	60	1	1	16	40	38	17	1	47	56	33	55	1	1	59	48	1	53	7	1	1
21	1	52	16	1	60	1	30	53	30	7	47	13	13	22	8	13	45	59	54	1	2	42	54	47	53	52	53
22	16	30	1	4	52	47	56	1	28	16	1	22	59	51	1	1	7	28	53	60	7	1	16	16	1	1	58
23	4	53	56	1	52	2	13	52	38	30	45	7	1	30	56	16	1	1	1	30	48	56	54	54	55	28	45
24	1	47	47	1	28	22	1	47	1	1	45	46	1	1	47	53	55	52	1	1	7	43	2	1	1	1	43
25	1	4	53	1	45	43	16	55	52	4	47	55	45	22	51	56	1	38	13	30	2	28	56	13	56	28	55
26	4	16	46	1	1	16	1	1	1	1	1	47	59	4	8	38	58	1	1	48	1	7	22	1	1	1	60
27	52	4	30	56	53	52	54	1	30	52	1	16	54	7	58	1	30	54	1	56	51	53	56	57	56	4	60

Table 3. Transcript of the first *cakra* of the *Siribhūvalaya*. Decoding steps are further illustrated for the same *cakra* in accordance with *cakra-bandha* as shown in Table 2.

Below are the steps to decode this *cakra* in Table 3 in accordance with the traversal sequence as indicated in the *Cakra-Bandha* Matrix in Table 2. The result of each step is shown in Table 4.

Step 1: Locate sequence number 1 in the *Cakra-Bandha* Matrix (Table 2) in terms of rows and columns. For example, cell at row 1: column 14 contains sequence number 1 and cell at row 27: column 15 contains sequence number 2 and so on.

Step 2: Find the integer at the same location (row & column) in the *Cakra* Matrix (Table 3). For example, cell at row 1: column 14 contains integer 1 and cell at row 27: column 15 contains integer 58 and so on.

Step 3: Substitute this *cakra* integer with corresponding *mūla varṇa* from Table 1. For example, integer 1 represents *mūla varṇa* '*a*' and integer 58 represents *mūla varṇa* '*ṣ*' etc.

Step 4: Repeat steps 1 to 3 with the next sequence number untill sequence number 729 is reached. Note down the result of each step as shown in Table 4.

The decoded text results in a string of *mūla varṇa*s. Joining *mūla varṇa*s into words and words into verses or *śloka* has to be done with a good knowledge of the Kannada language. *Mūla varṇa*s which result into the first *śloka* are shown in Figure 1.

Sequence Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Row, Column as in Figure-2	1,14	27,15	26,16	25,17	24,18	23,19	22,20	21,21	20,22	19,23	18,24	17,25	16,26	15,27	14,1	13,2	12,3	11,4	10,5	9,6
Integer in same Row, Column as in Figure-3	1	58	38	1	52	1	60	2	48	54	2	43	4	60	2	54	53	1	56	1
Substitution of Integer with Mūla Varṇa in Figure - 1	अ	ष्	ट्	अ	म्	अ	ह्	आ	प्	र्	आ	त्	इ	ह्	आ	र्	य्	अ	व्	अ

Table 4. Result of steps in decoding procedure

अ ष् ट अ म् अ ह् आ प् र् आ त् इ ह् आ र् य् अ व् अ य् भ् अ व् अ द् इ न् द् अ अ ष् ट अ ग् उ ण् अ न्

ग् अ ळ ओ ळ ओ म् द् अ म् स् र् ष् ट् इ ग् ए म् अ न् ग् अ ळ अ प् अ र् य् आ य् अ द् इ न् इ त् अ अ

ष् ट् अ म् अ ज् इ न् अ ग् ए र् अ ग् उ व् ए न् उ ||1||

Figure 1. This string of *mūla varṇa*s constitutes the first *śloka* of the *Siribhūvalaya*.

In the *Siribhūvalaya* Muni Kumudendu expressed his sincere gratitude to Ācārya Vīrasena and identified himself as his disciple. Ācārya Vīrasena commenced his *dhavala* by offering prayers to Lord Candra Prabhu or Candra Nātha. In the same spirit, the Maṅgala Caraṇa invocation by Muni Kumudendu in the first *śloka* of the *Siribhūvalaya* is dedicated to the eighth Jina.

The following is a transcription of the decoded first *śloka* in Roman script along with its rendition in English.

aṣṭa mahāprātihārya vaybhavadinda | aṣṭaguṇangaḷōḷ aumdaṃ ||
srṣṭige maṅgaḷa paryāyadinita | aṣṭama jinagera guvenu ||1||

Overwhelmed with immense external grandeur of the eight *mahāprātihārya*s, which are attributed to the *Arihanta Parameṣṭhin*, Muni Kumudendu further envisages the internal majesty of the manifestation of the *aṣṭaguṇa*, i.e. the eight infinite qualities which are derivatives of *oṃ* and are attributed to the *siddha parameṣṭhin*. He pronounces that these two forms, i.e. *arihanta* and *siddha*, are hugely beneficial for the well-being of the whole of the universe. Thus, Muni Kumudendu commences *maṅgala prābhṛata* by bowing down to pay humble homage to the eighth Jina Lord Candra Prabhu or Candra Nātha.

Comprehensive reflections on multiple facets of the *Siribhūvalaya* divulge inimitable qualities of its creator. As a master mathematician Muni Kumudendu shone with brilliance in creating not only the intricate framework of *cakra*s and *bandha*s, but also expressed mathematical interpretations on a variety of topics. It is very remarkable and noteworthy that his methods of encryption were reinvented recently, about fifty years ago, for use in modern cryptography. In contemporary terminology these are termed Block Cipher, Steganography and Visual Cryptography. The multiplicity of contents in the *Siribhūvalaya* reveal that Kumudendu was an eminent scholar of religious foundations, scriptures, practices and ancient sciences of diverse domains. By interweaving multilingual literature within base Kannada he has demonstrated that he was a highly competent linguist with proficiency in languages prevalent in India at that time. Compositions of verses in the *sāṅgatya* style (verses that can be recited musically) demonstrate Muni Kumudendu's deep understanding of rhythm and melody, too.

An obvious question arises: Why did Muni Kumudendu choose to encrypt the *Siribhūvalaya*? There are no clear answers available so far. But there are a few plausible ones as described herewith. In that window of history, Jainism was under attack and there were incidences of largescale killings, demolition of temples and religious scriptures. Perhaps in anticipation of such Muni Kumudendu rendered the *Siribhūvalaya* manuscripts unintelligible so these might escape destruction. Another plausible explanation is that since Muni Kumudendu was a proficient mathematician and a linguist, besides being a great poet with multifaceted creativity, he chose to exhibit an innovative medium for poetry hidden inside a maze of numbers arranged as *cakra*s. A third plausible reason may be an amalgamation of the above two: As a safeguard from destruction he used his creativity to craft this scripture in numerals.

There remain many undiscovered aspects of the *Siribhūvalaya*, which need further exploration by respective domain specialists. Ideally, these subject matter experts should form a team which should at least include scholars in Halle Kannada (Old Kannada), Prākṛta, Saṃskṛta, Jainology, mathematicians, computer scientists, etc.

All tables are by the author.

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