

Libraries in Modern Era: Physical to Digital transition or Co-existence?



The Role of the Physical Library in the Era of Internet
IMSc, Chennai, Dec-29, 2023

Shivakumar Jolad
FLAME University

Library for the New Generation

- **Generational shift**
- **Born Digital**
- **Changing reading habits**
- **Change in knowledge Accumulation modes**
- **Emphasis more on tools for knowledge assembly than creation**
- **AI tools- which eases information acquisition and analysis**



“internet can be wrong, books are more reliable! All information on the internet comes from people and people get that information from books. Basically, there is no digital without books.”- Suvid

Why physical library?

- Disseminate knowledge and information
- Universal Accessible - non discriminatory access
- Create new knowledge

“the services of the public libraries provided on the basis of equality of access for all, regardless of age, race, sex, religion, nationality, language or social status” (IFLA/UNESCO, 1994).

Accessibility of Books,

Magazines, Media resources

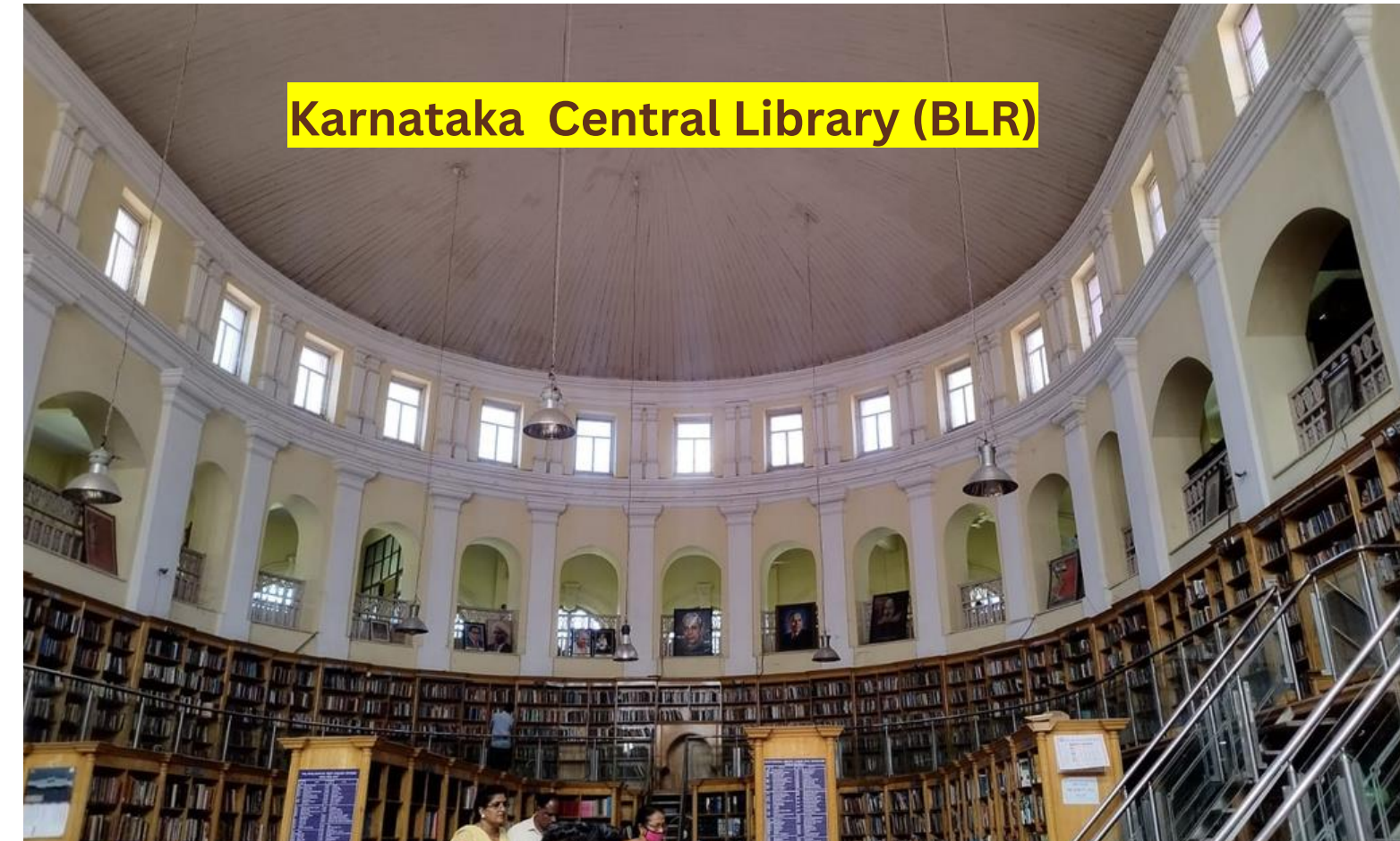
Community support

Promote reading and literacy

Art and Cultural Activities

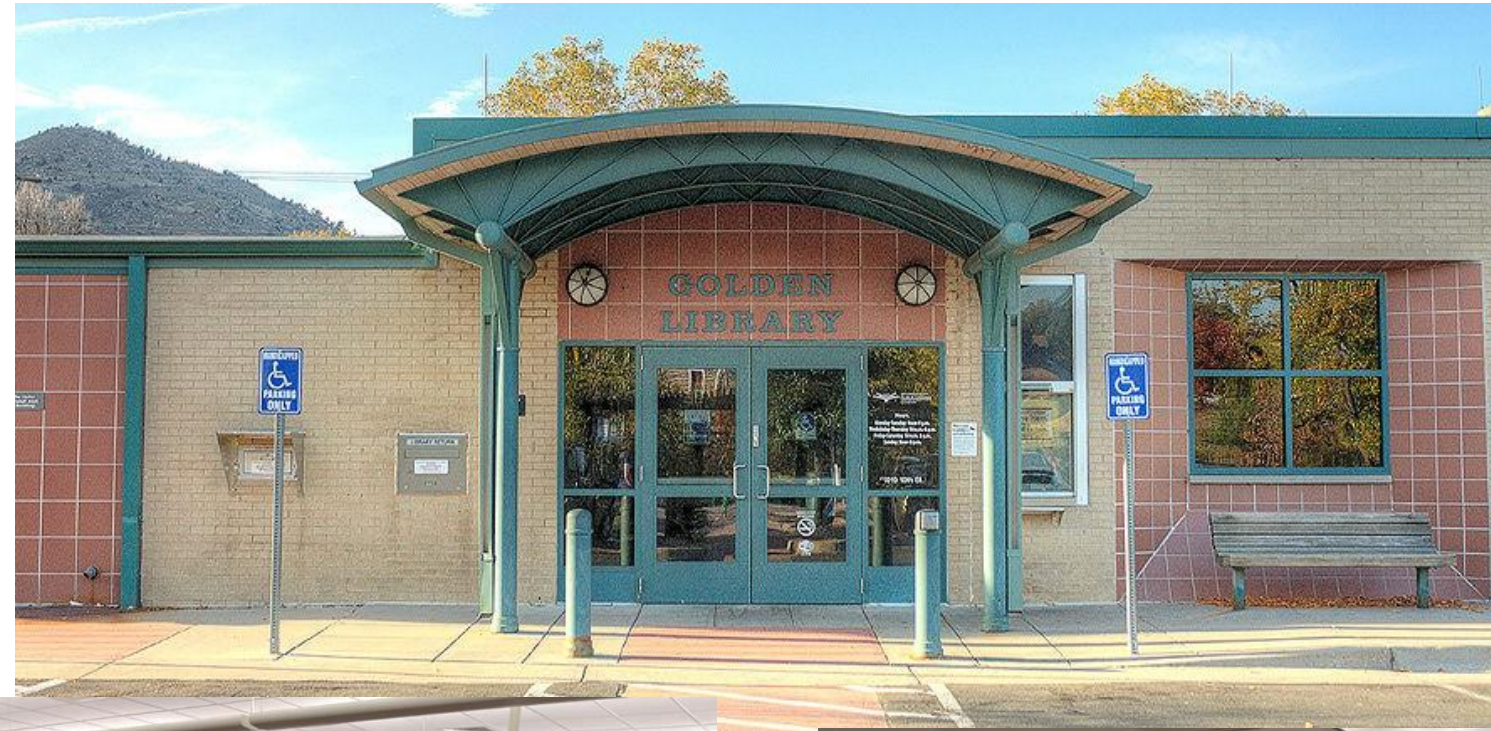
Digital Services

Online resources

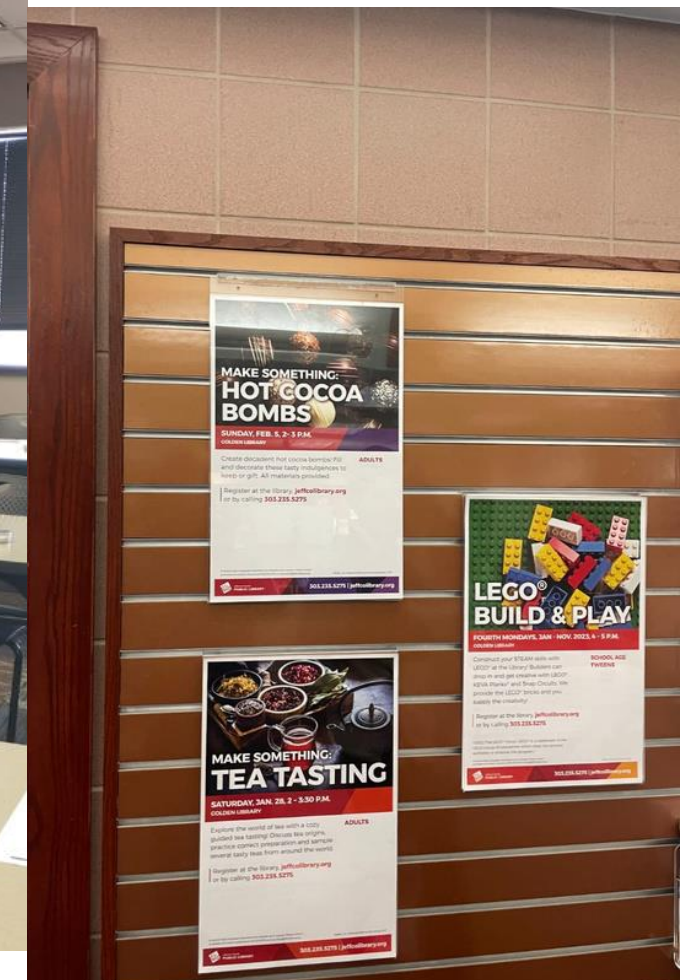
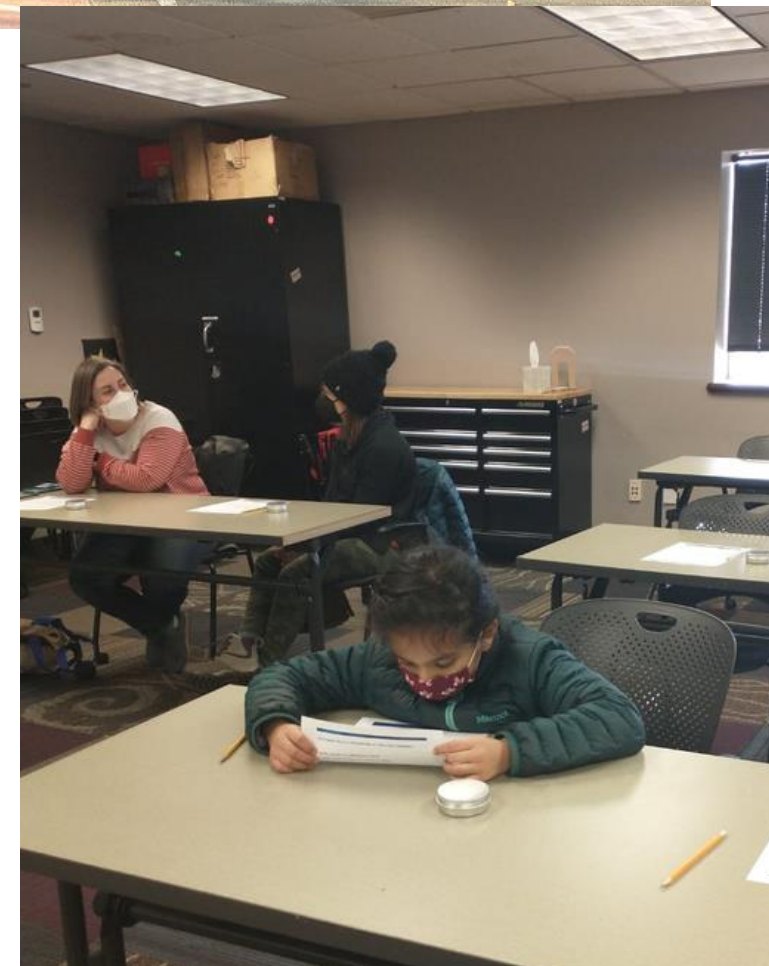


Public Libraries in US

- **Book a Librarian**
- **Culture Pass**
- **Home & Older Adult Communities Support**
- **Interlibrary Loan**
- **Express Library**
- **Bookmobile**
- **Community Resources**
- **Government Jobs & Careers**
- **Voting**
- **Curbside Service**
- **Accessibility**
- **Computers, Wi-Fi & Tech**
- **Office Center/Printing**
- **Meeting & Study Rooms**
- **Digital Media Studio**
- **Servicios en Español**



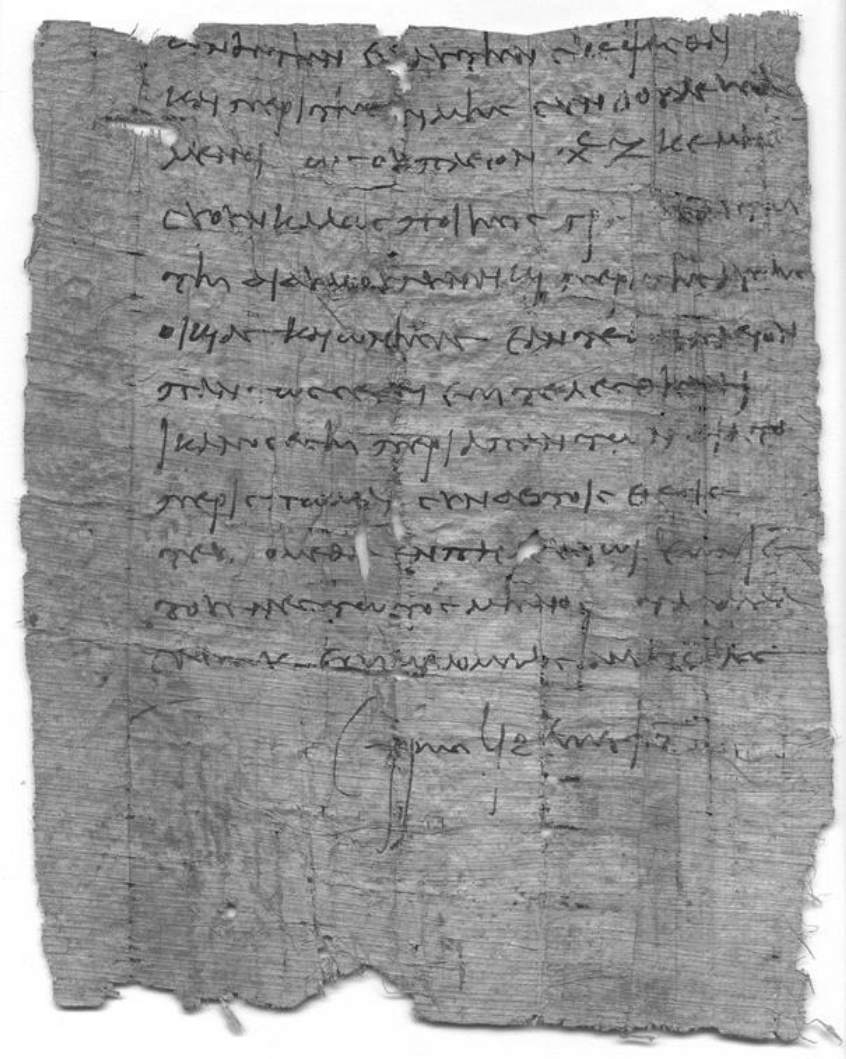
Jefferson County Public Library
CO, USA



History of Libraries- Ancient and medieval



BAKED CLAY TABLET IN AKKADIAN CUNEIFORM, EGYPT, CA. 1400 BC



Collection of Tablets/ Clay or stone,

Cloth/palm leaf/ Coupper

Manuscritps

Higher longevity

Need for human copiers

Restricted access

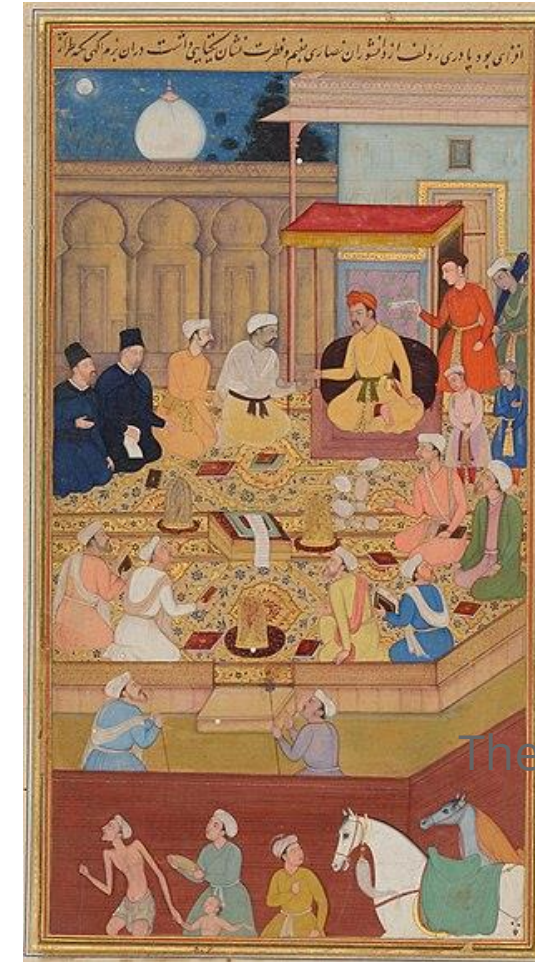
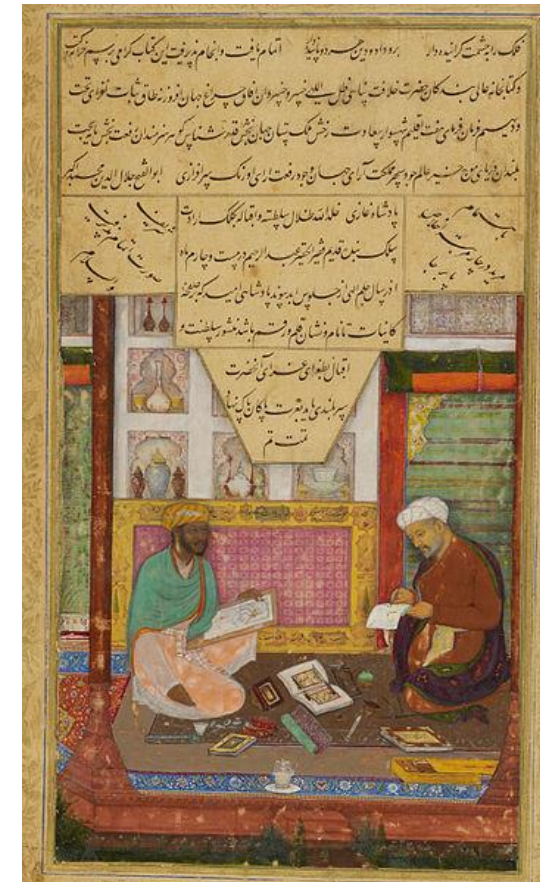


Auniati satra Majuli , Assam

Assam museum , Guwahati



MUHAL LIBRARIES



A picture of the Sher Mandal in Old Fort, Delhi that was converted in library by Humayun, Pic Source: Dr. Rehan Asad

Libraries during Mughal Era
by [Nabeel Ahmad](#) | Nov 15, 2020 | [Historical Narratives](#)

<https://tawarikhkhwani.com/libraries-during-mughal-era/>



Education of the King



Reciting Brahmin



Buddhist Student Practices
Handwriting



Girl engaged in
Self study



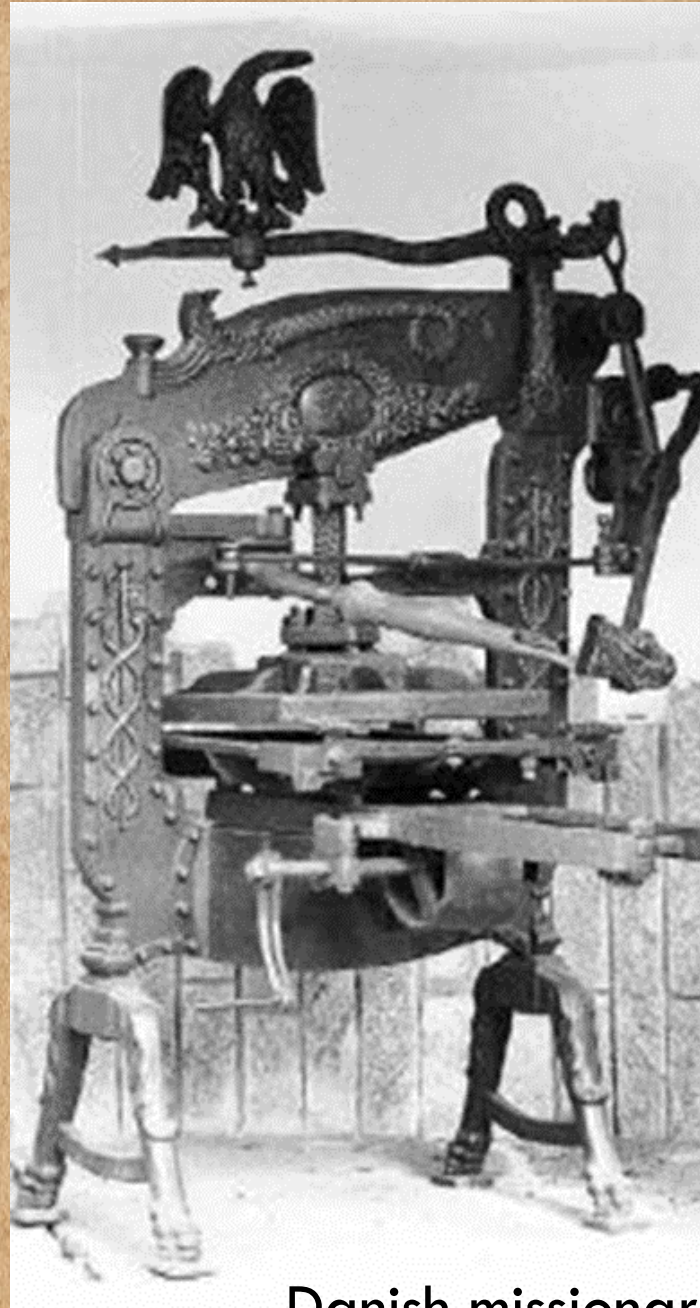
Boys at Madrassa



Education of Jain Sanyasins

History of Education in India
An Online Exhibition of Historical Artifacts
by Jyotsna Kamat and K. L. Kamat
<http://www.kamat.com/kalranga/edu/index.htm>

Modern Era: Printing, Books and Libraries



Danish missionaries- **Serampore trio (1793-1813)**

Dr. William Carey- (Baptist missionary society), **Wad**- Printer and missionary
Marshman – school teacher



Asiatic Society, Kolkata



Asiatic Society Bombay

LIBRARIES DURING THE BRITISH ERA

Noticeable public libraries which existed in pre-independence period

S. No.	Library Name	Year of established (A.D.)	Place
1.	Mughal Imperial Library	1526	Kabul (currently it is in Pakistan)
2.	Rampur Raza Library	1774	Uttar Pradesh
3.	Bengal Royal Asiatic Society	1784	Culcutta
4.	Saraswati Mahal Library	1798-1833	Thanjavur
5.	Bombay Royal Asiatic Society	1804	Mumbai
6.	State Central Library	1829	Travancore
7.	Krishnadas Shama Central Library	1832	Goa

8.	Asiatic society library of Bombay	1835	Maharashtra
9.	Calcutta Public Library	1836	Culcutta
10.	Romain Rolland Library	1837	Puducherry
11.	Native Library	1850	Ahmedabad
12.	Andrews Library	1850	Surat
13.	Indore General Library	1854	Indore
14.	Raichand Dipchand Library,	1855	Broach
15.	Lang Library	1856	Rajkot
16.	Institute Library at Delhi (Hardayal Municipal Public Library)	1862	Delhi
17.	Allahabad Public Library (Thornhill Mayne memorial library)	1864	Allahabad
18.	Stuart Library	1866	Godhra,
19.	Radha Krishnan Central Library	1866	Rajasthan
20.	Government Library	1867	Junagarh

Postmodern

Born Digital

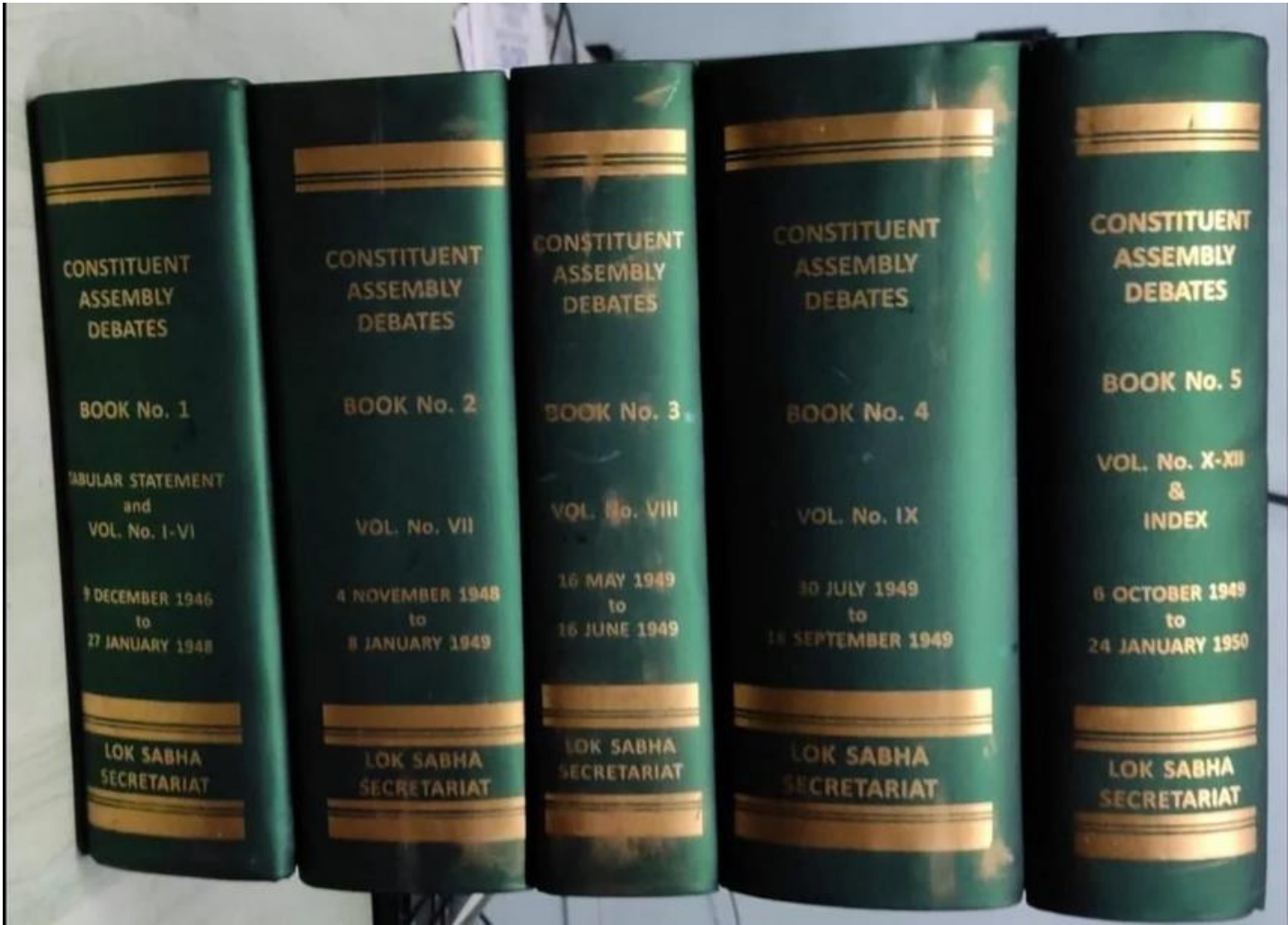
Digital Archives

**AI+ ML: Making
information
accessible**

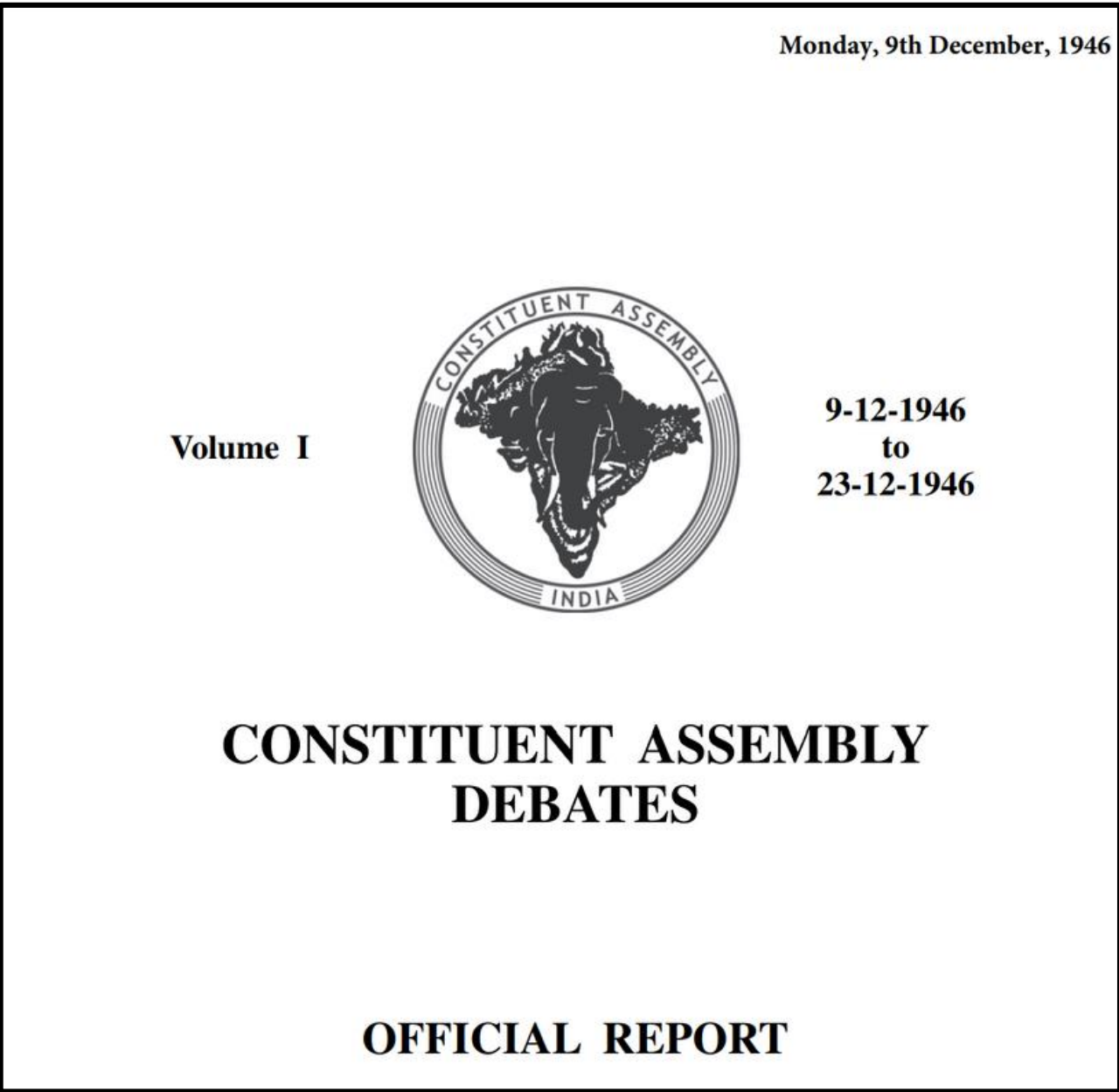


Digital Libraries for Knowledge Creation

Digitize, tag, catalogue, and make it accessible to all without paywall and other barriers.

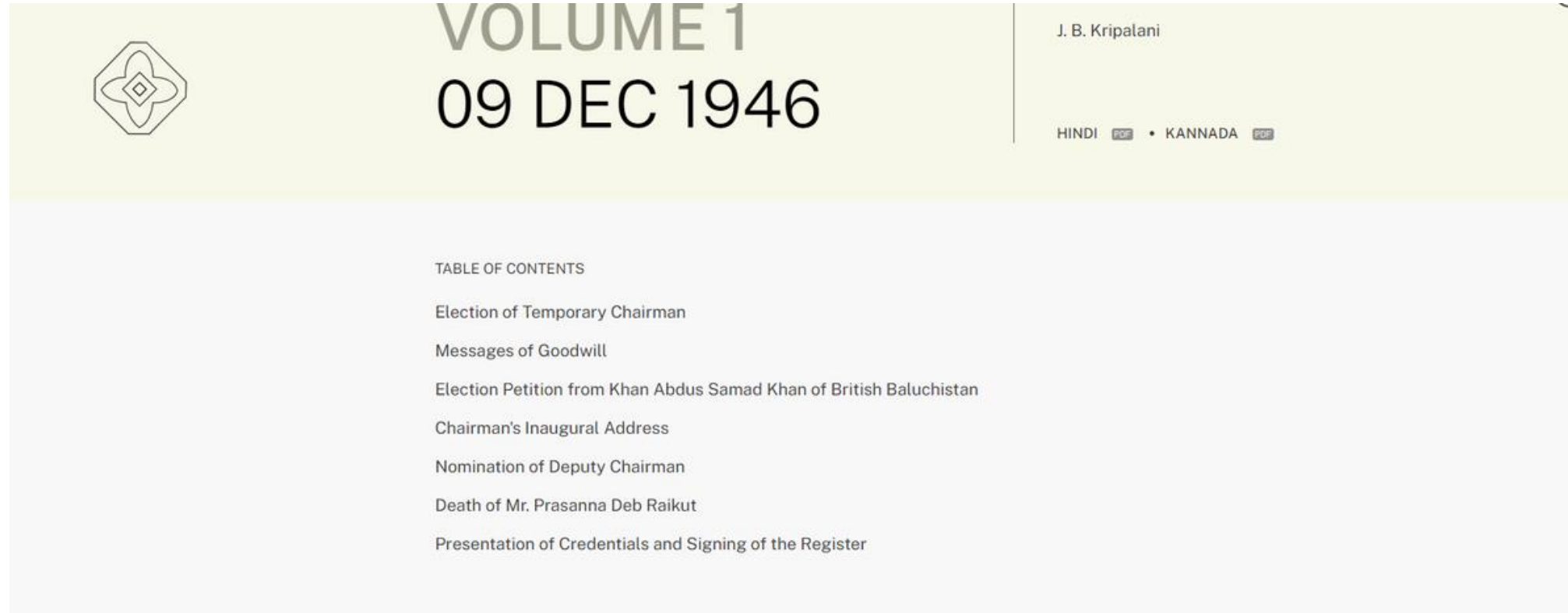


Constituent Assembly Debates– Physical Volumes



PhyGital Volumes

Digitization and dissemination in usable format



The image shows a digitized document header and table of contents. The header is light green and contains a logo on the left, the text "VOLUME 1" and "09 DEC 1946" in the center, and "J. B. Kripalani" and language options "HINDI" and "KANNADA" on the right. The table of contents is on a light blue background and lists several items.

VOLUME 1
09 DEC 1946

J. B. Kripalani

HINDI • KANNADA

TABLE OF CONTENTS

- Election of Temporary Chairman
- Messages of Goodwill
- Election Petition from Khan Abdus Samad Khan of British Baluchistan
- Chairman's Inaugural Address
- Nomination of Deputy Chairman
- Death of Mr. Prasanna Deb Raikut
- Presentation of Credentials and Signing of the Register

The first meeting of the Constituent Assembly of India took place in Constitution Hall, New Delhi, on Monday, the 9th December 1946, at Eleven of the Clock.

ELECTION OF TEMPORARY CHAIRMAN

1.1.1

J. B. Kripalani

(in requesting Dr. Sachchidananda Sinha to take the Chair as temporary Chairman, said)-



1.1.2

J. B. Kripalani

Friends, at this auspicious occasion of historical importance I invite, on your behalf, Dr. Sachchidananda Sinha to be the temporary Chairman of this Assembly. Dr. Sinha needs no introduction. You all know him. He is not only the oldest among us but also the oldest parliamentarian in India, having served, as you know, as a member of the Imperial Legislative Council from 1910 to 1920. He entered the Central Legislative Assembly in 1921 not only as one of its members, but its Deputy President also. He was then entrusted with the portfolio of an Executive Councillor and Finance Member of the Government of Bihar and Orissa. So far as I remember Dr. Sinha was the



Centre for Law and Policy Research, Bangalore.

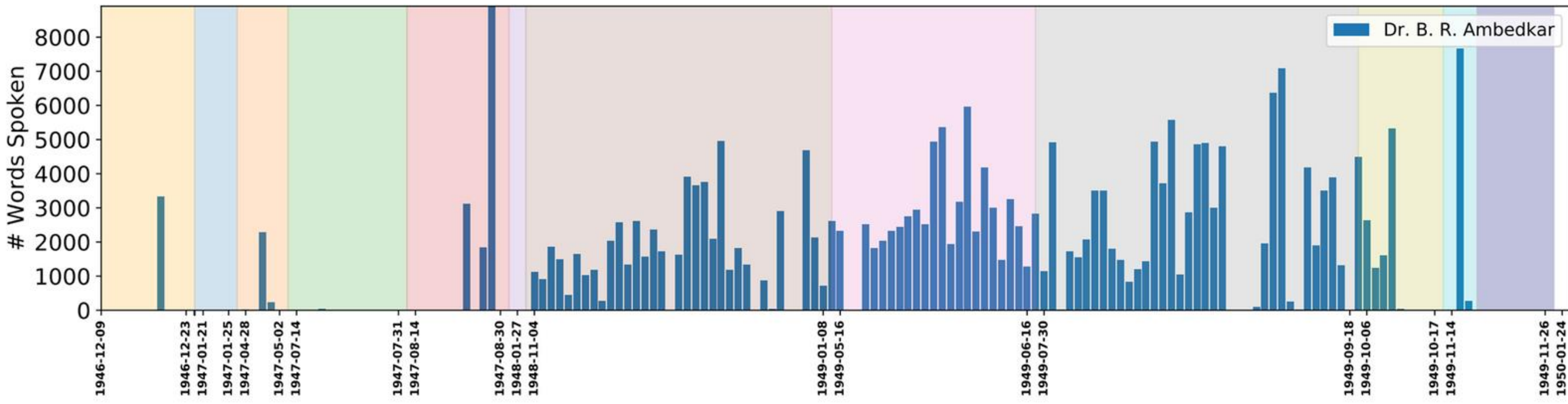
CLPR- <https://www.constitutionofindia.net/debates/09-dec-1946/>

Constituent Assembly Debates

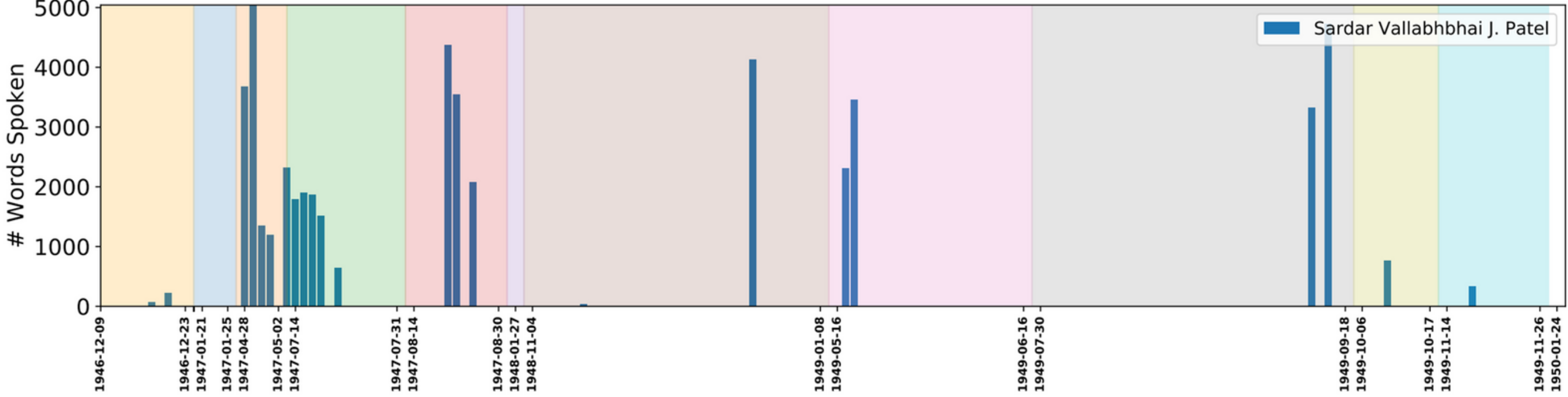
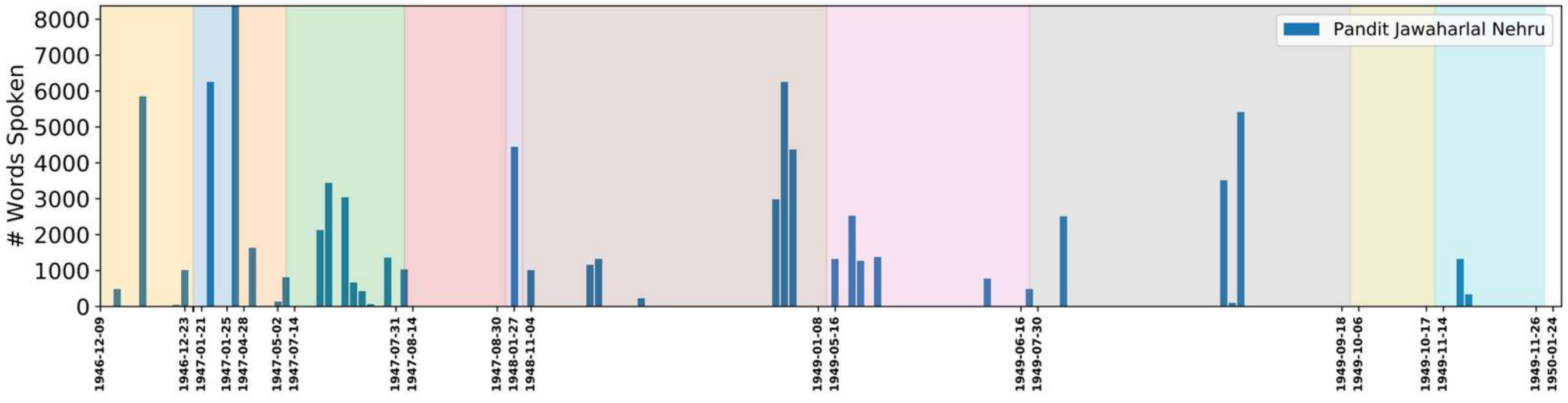
Session, number of days, and number of Words

Volume	Start Date	End Date	No of days	No of words
1	December 9, 1946	December 23, 1946	11	102,592
2	January 20, 1947	January 25, 1947	5	56,901
3	April 28, 1947	May 2, 1947	5	110,082
4	July 14, 1947	July 31, 1947	13	213,495
5	August 14, 1947	August 30, 1947	11	193,969
6	January 27, 1948	January 27, 1948	1	26,235
7	November 4, 1948	January 8, 1949	36	766,262
8	May 16, 1949	June 16, 1949	23	578,591
9	July 30, 1949	September 18, 1949	37	995,079
10	October 6, 1949	October 17, 1949	10	269,063
11	November 14, 1949	November 26, 1949	12	353,948
12	January 24, 1950	January 24, 1950	1	3,500

Text processing



NLP



Constituent Assembly Debates- Words Inequality

Percentile of words versus percentile of people who spoke

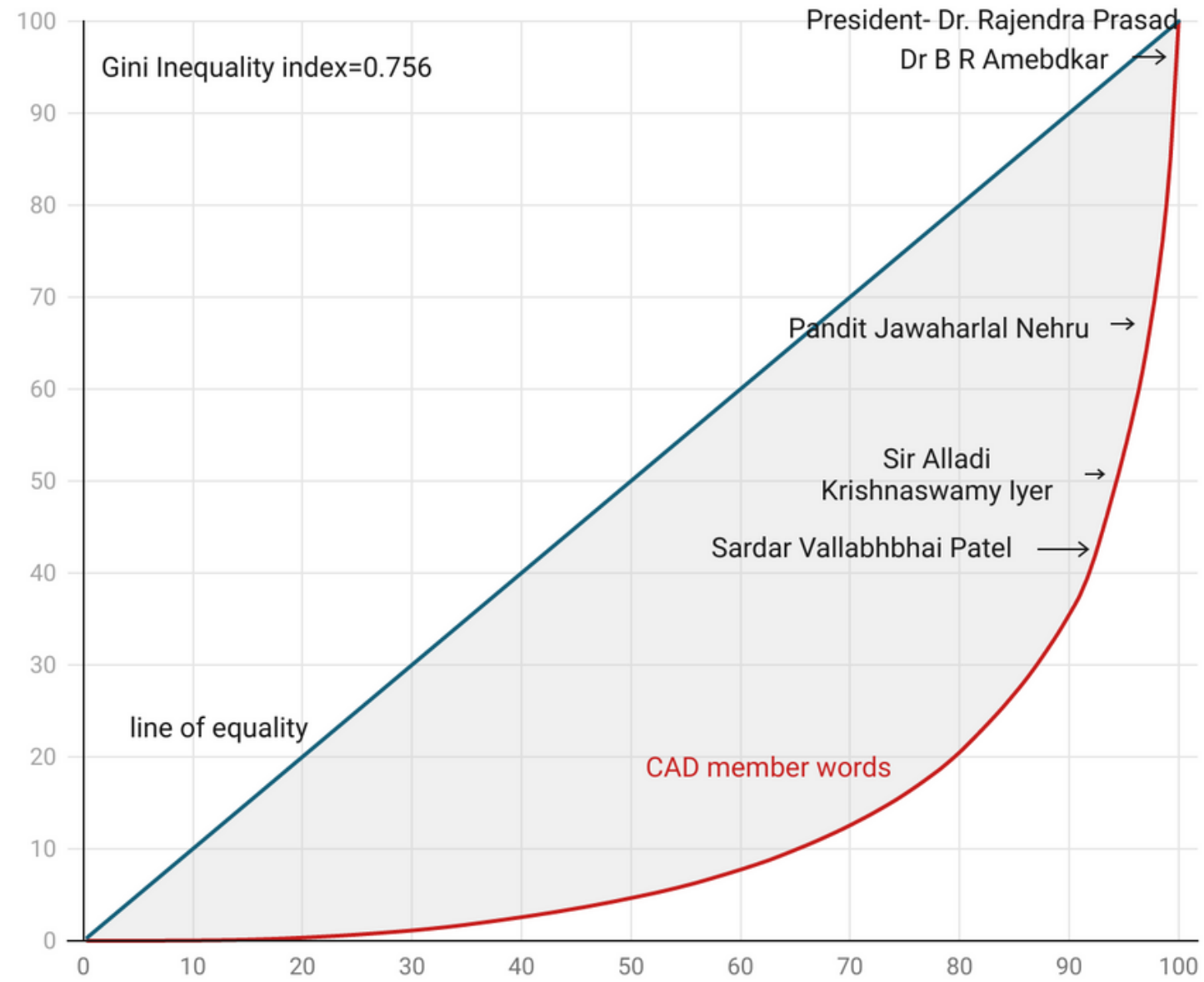
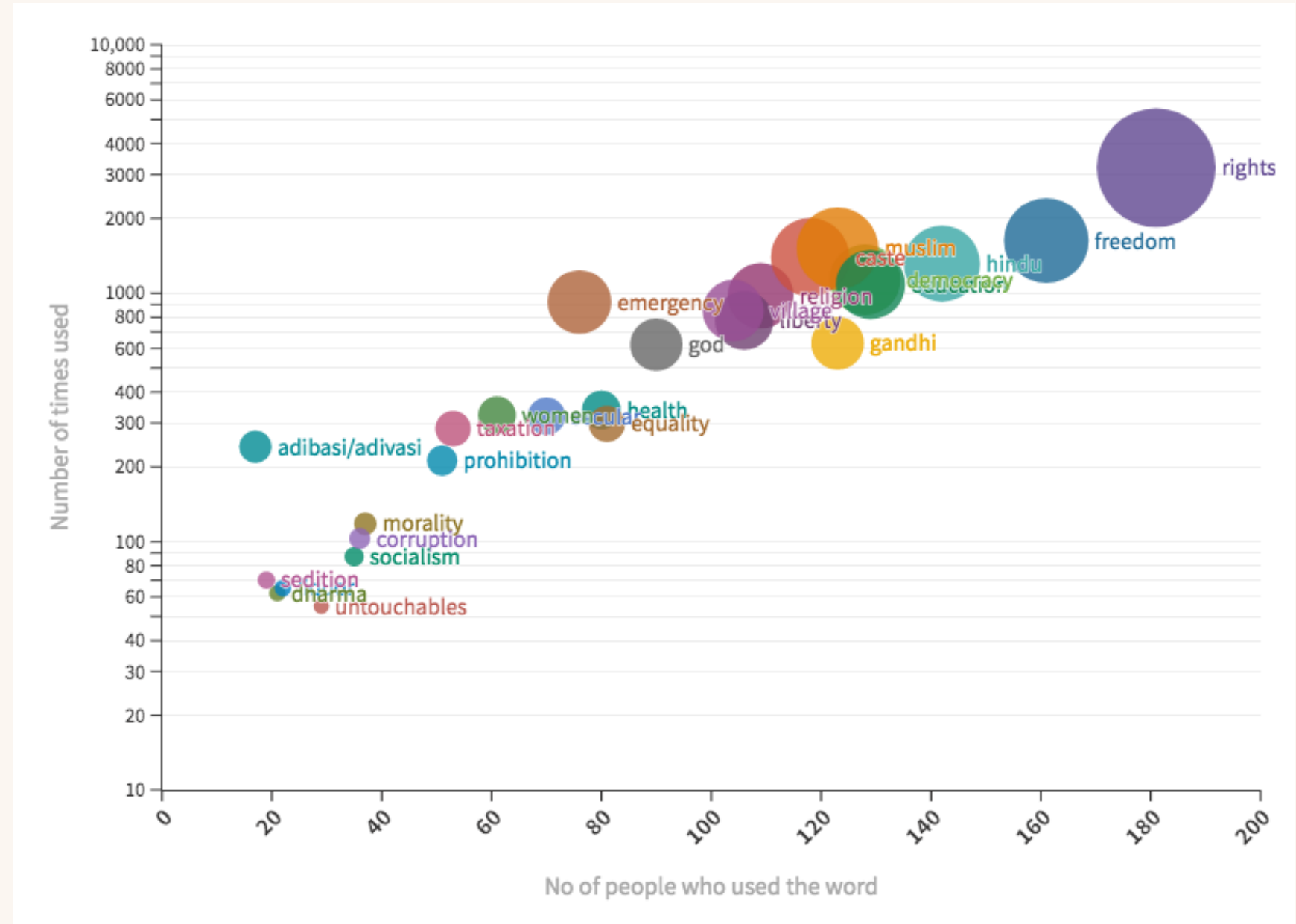


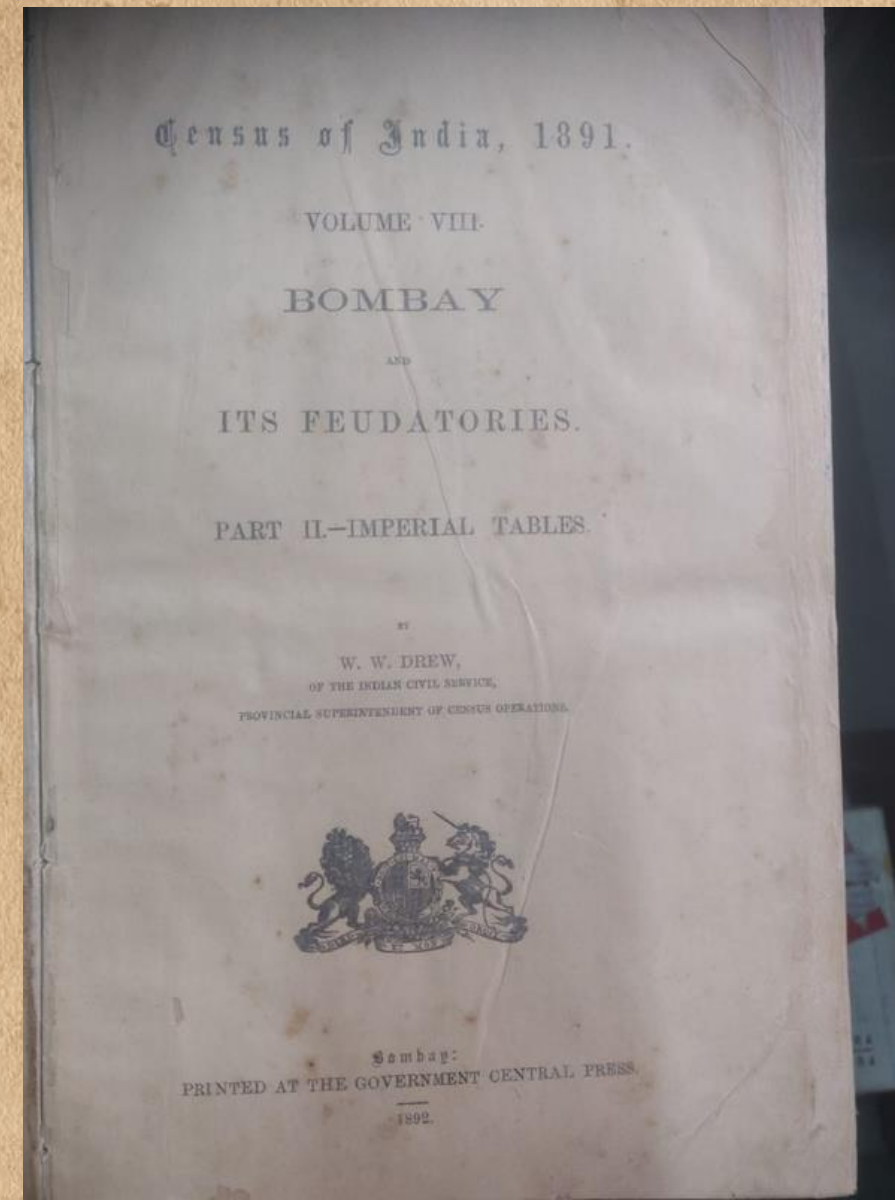
Chart: Shivakumar Jolad • Source: The Constitutional and Civic Citizenship Project- Centre for Law and Policy Research (CLPR) • Created with Datawrapper



Present information in a usable format

- **Go beyond keywords: Tagging, keywords,**
- **Present reader with quick access to information and insights.**
- **NLP and topics analysis**
- **Textual Data Analysis and Visualization**

Text and Data



District and State.	Total number of inhabited Towns and Villages.	Population.	Under 500.		500—1,000.	
			Num-ber.	Population.	Num-ber.	Population.
1	2	3	4	5	6	7
1 Bombay Presidency in-cluding Native States.	41,022	25,424,235	27,747	5,970,653	7,869	5,489,549
2 British Districts...	25,898	18,515,587	16,091	3,912,714	5,720	4,001,670
3 BOMBAY CITY ...	1	776,006
4 NORTHERN DIVISION ...	4,997	3,513,532	3,228	784,083	1,052	735,852
5 Ahmedabad...	874	795,967	499	129,167	221	153,958
6 Broach ...	410	291,763	248	65,645	106	72,538
7 Kaira ...	609	716,332	221	60,911	171	124,621
8 Panch Mahals ...	693	261,020	582	116,895	82	55,355
9 Surat ...	778	637,017	461	121,832	185	130,025
10 Thana ...	1,633	811,483	1,217	289,633	288	199,355
11 CENTRAL DIVISION ...	8,894	5,944,447	5,738	1,347,564	1,871	1,304,120
12 Ahmednagar ...	1,349	837,005	863	218,688	335	231,809
13 Khandesh ...	2,645	1,427,382	1,938	416,050	421	287,186
14 Nasik ...	1,649	816,504	1,205	266,087	302	207,763
15 Poona ...	1,189	995,330	710	187,175	267	186,126
16 Satara ...	1,313	1,146,659	677	163,931	332	235,093
17 Sholapur ...	719	720,977	345	96,638	214	156,053

GIPE Census Documents

BROWSE BY

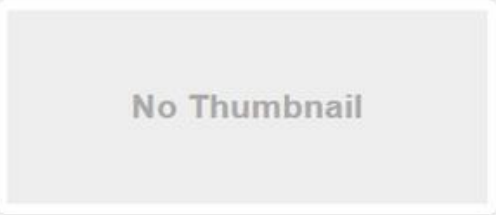
- By Issue Date
- Authors
- Titles
- Subjects

Search within this collection:

Search

Census 1901 Bombay

Now showing items 1-10 of 312



Census of India, 1901. Vol. IX A: **Bombay**. Part II: Imperial tables

Census of India, 1901; Enthoven, R E (Government Central Press, Bombay, India, 1902)



Census of India, 1901. Vol. XV A: Madras. Part II: Imperial Tables

Census of India, 1901; Francis, W (Superintendent of Census Operations, Madras, India, 1902)

Conversion of physical archive to digital Archive

Physical to digital

Digital - machine readable digital

OCR : Textual and Numerical Meta data,

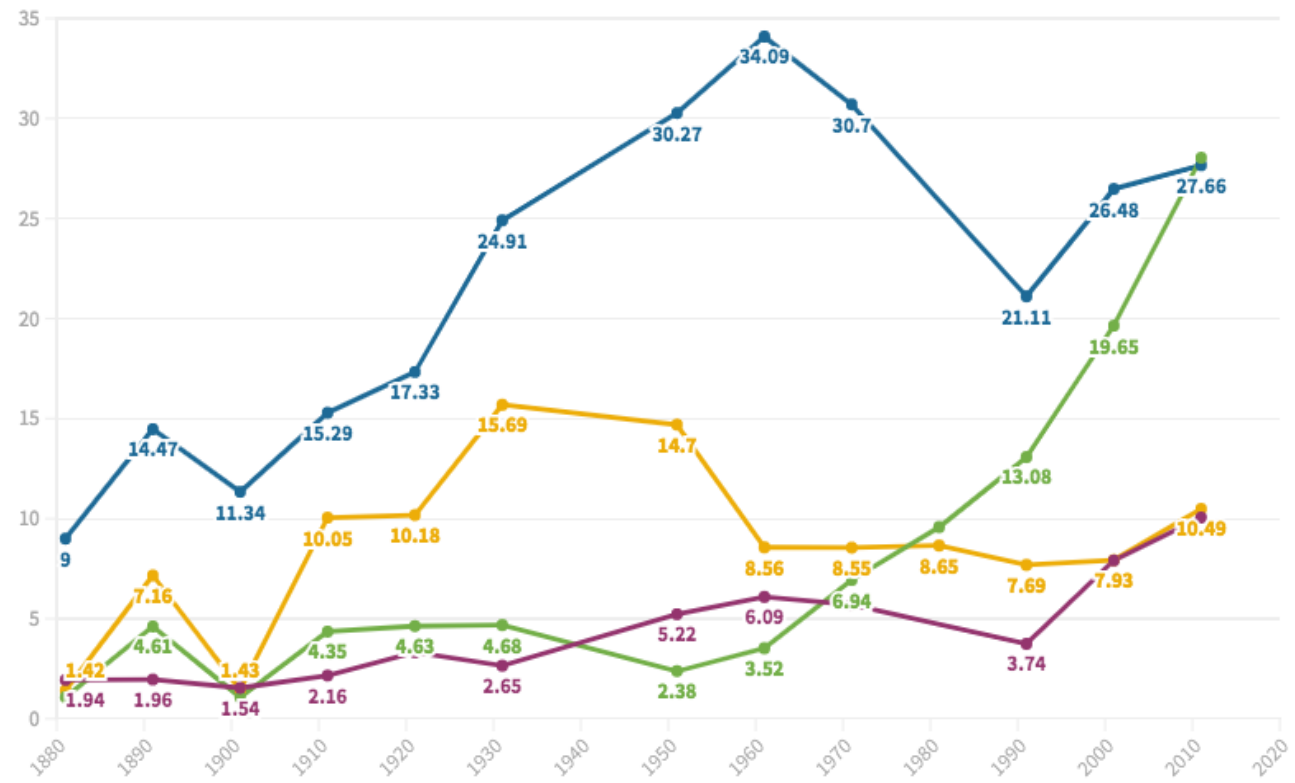
tagging

District and State.	Total number of Inhabited Towns and Villages.	Population.	Under 500.		500—1,000.	
			Num-ber.	Population.	Num-ber.	Population.
1	2	3	4	5	6	7
1 Bombay Presidency in-cluding Native States.	41,022	25,424,235	27,747	5,970,653	7,869	5,489,549
2 British Districts...	25,898	18,515,587	16,091	3,912,714	5,720	4,001,670
3 BOMBAY CITY ...	1	776,006
4 NORTHERN DIVISION ...	4,997	3,513,532	3,228	784,083	1,052	735,852
5 Ahmedabad...	874	796,967	499	129,167	221	153,958
6 Broach ...	410	291,763	248	65,645	106	72,538
7 Kaira ...	609	716,332	221	60,911	171	124,621
8 Panch Mahals ...	693	261,020	582	116,895	82	55,355
9 Surat ...	778	637,017	461	121,832	185	130,025
10 Thana ...	1,633	811,488	1,217	289,633	288	199,355

1881- 1931	Born in Same City				Total Migrants				Bombay
Year	Native_Bombay	Native_Ahmedaba	Native_Surat	Native_Poona	TotMigrants_Bom	TotMigrants_Ahme	TotMigrants_Sura	TotMigrants_Poon	Bombay
1881	214685	707023	506478	799381	558511	149301	107720	101240	456586
1891	235218	744599	603656	941119	586546	177113	46333	126681	450595
1901	181134	665708	585514	900846	594872	130259	51503	94484	485781
1911	191581	644069	510041	947057	787864	183740	144068	124455	623315
1921	187652	690102	608474	846907	988262	200809	65877	162126	764561
1931	285585	723086	639626	1021695	875798	200947	53987	148103	571104
Year	Born in Same City (%)				Total Migrants (%)				Bombay
Year	Native_Bombay	Native_Ahmedat	Native_Surat	Native_Poona	TotMigrants_Boi	TotMigrants_Ahi	TotMigrants_Sui	TotMigrants_Poc	Bombay
1881	27.77	82.56	82.46	88.76	72.23	17.44	17.54	16.48	59.05
1891	28.62	80.78	92.87	88.14	71.38	19.22	7.13	19.49	54.83
1901	23.34	83.64	91.91	90.51	76.66	16.36	8.09	14.83	62.60
1911	19.56	77.80	77.97	88.39	80.44	22.20	22.03	19.03	63.64
1921	15.96	77.46	90.23	83.93	84.04	22.54	9.77	24.04	65.02
1931	24.59	78.25	92.22	87.34	75.41	21.75	7.78	21.35	49.17

Inter state/province migration %

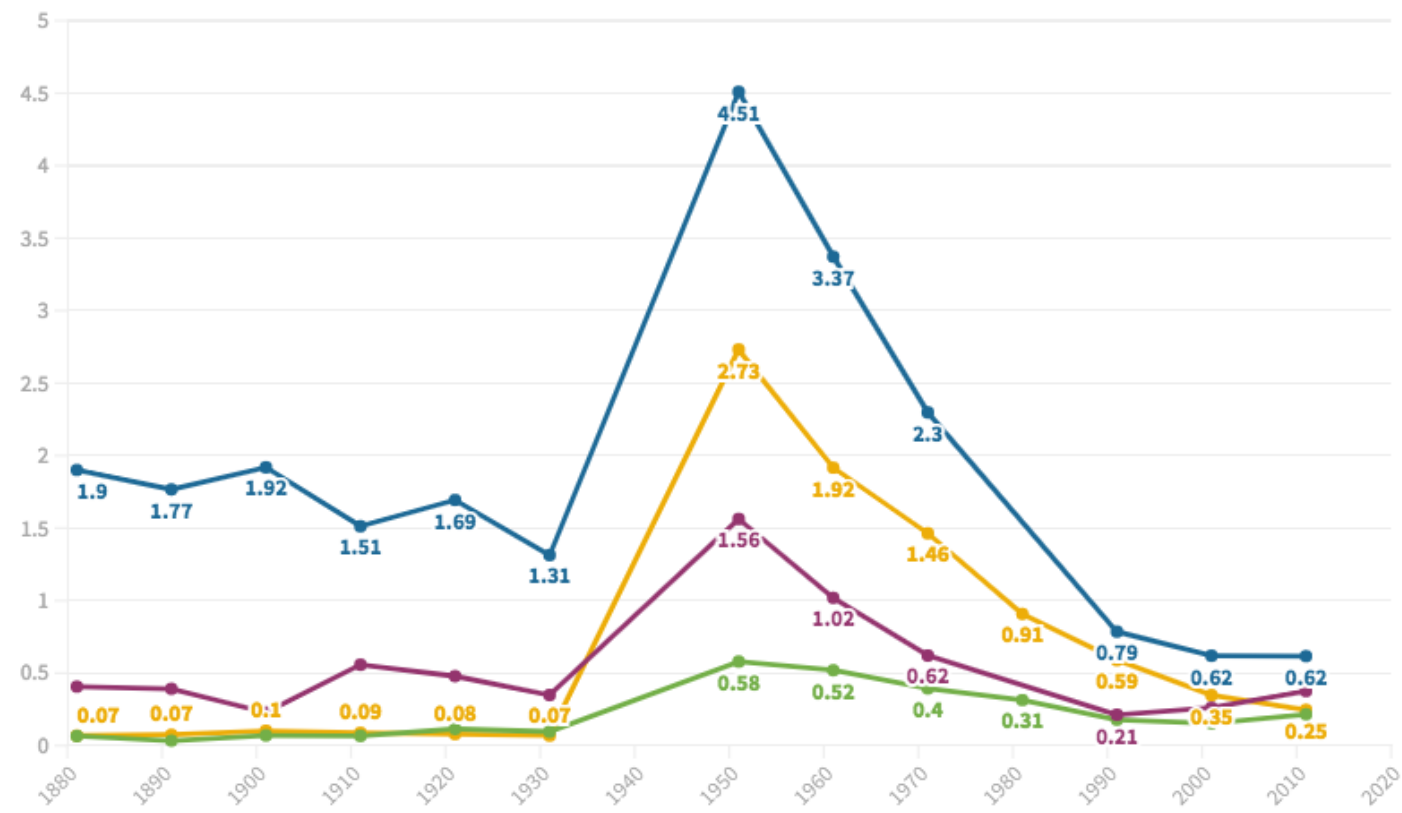
City (Bombay Presidency/ Maharashtra-Gujarat) ■ Bombay City ■ Ahmedabad ■ Surat ■ Poona



Source: Data - Census of India 1881 to 2011

International migration %

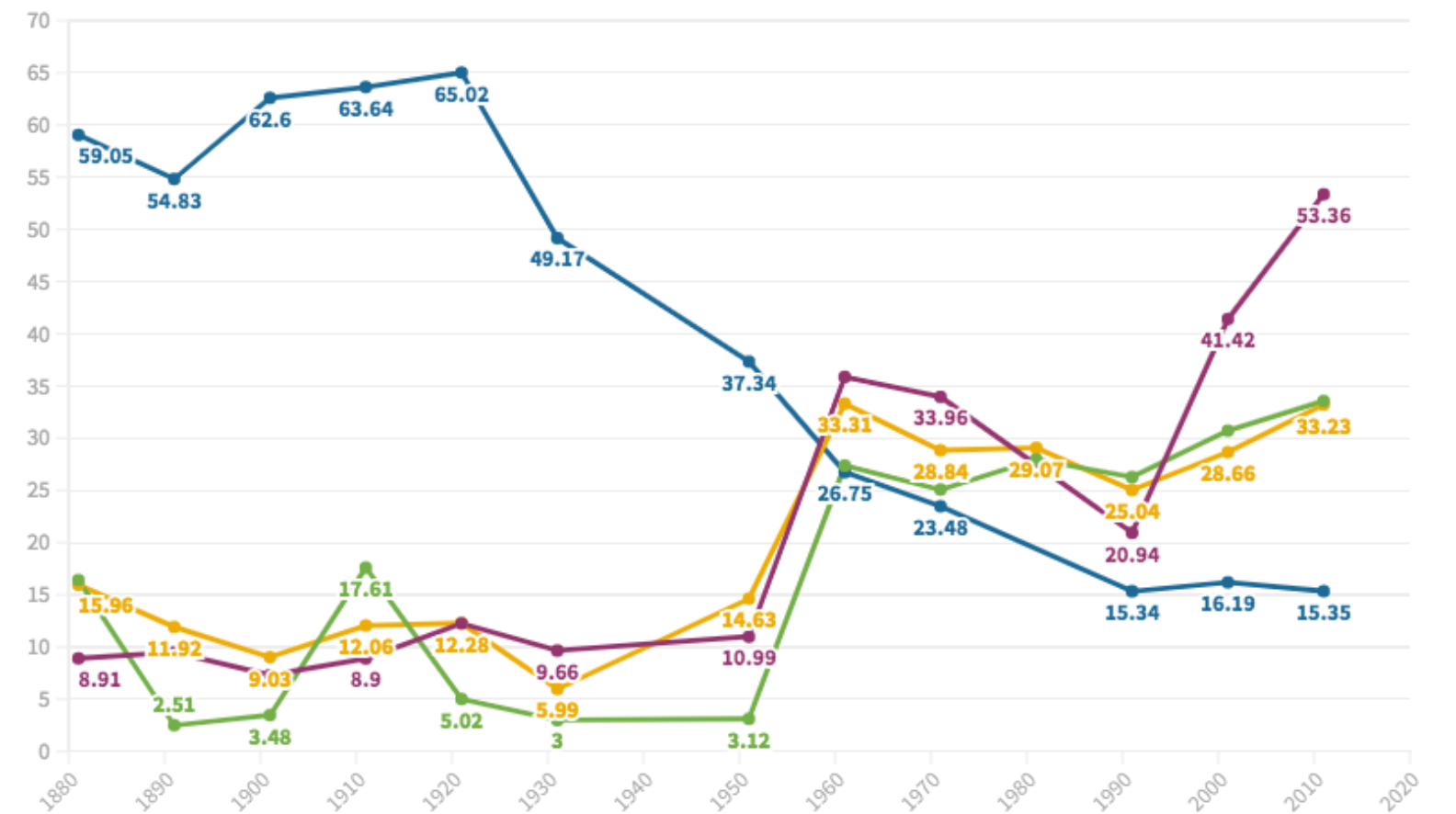
City (Bombay Presidency/ Maharashtra-Gujarat) ■ Bombay City ■ Ahmedabad ■ Surat ■ Poona



Source: Data - Census of India 1881 to 2011

Intra Province/ State migration %

City (Bombay Presidency/ Maharashtra-Gujarat) ■ Bombay City ■ Ahmedabad ■ Surat ■ Poona



Sex ratio (F/M per thousand) of Major Indian City UA from 1901-2011

City Population Urban Agglomeration (UA) by Census of India

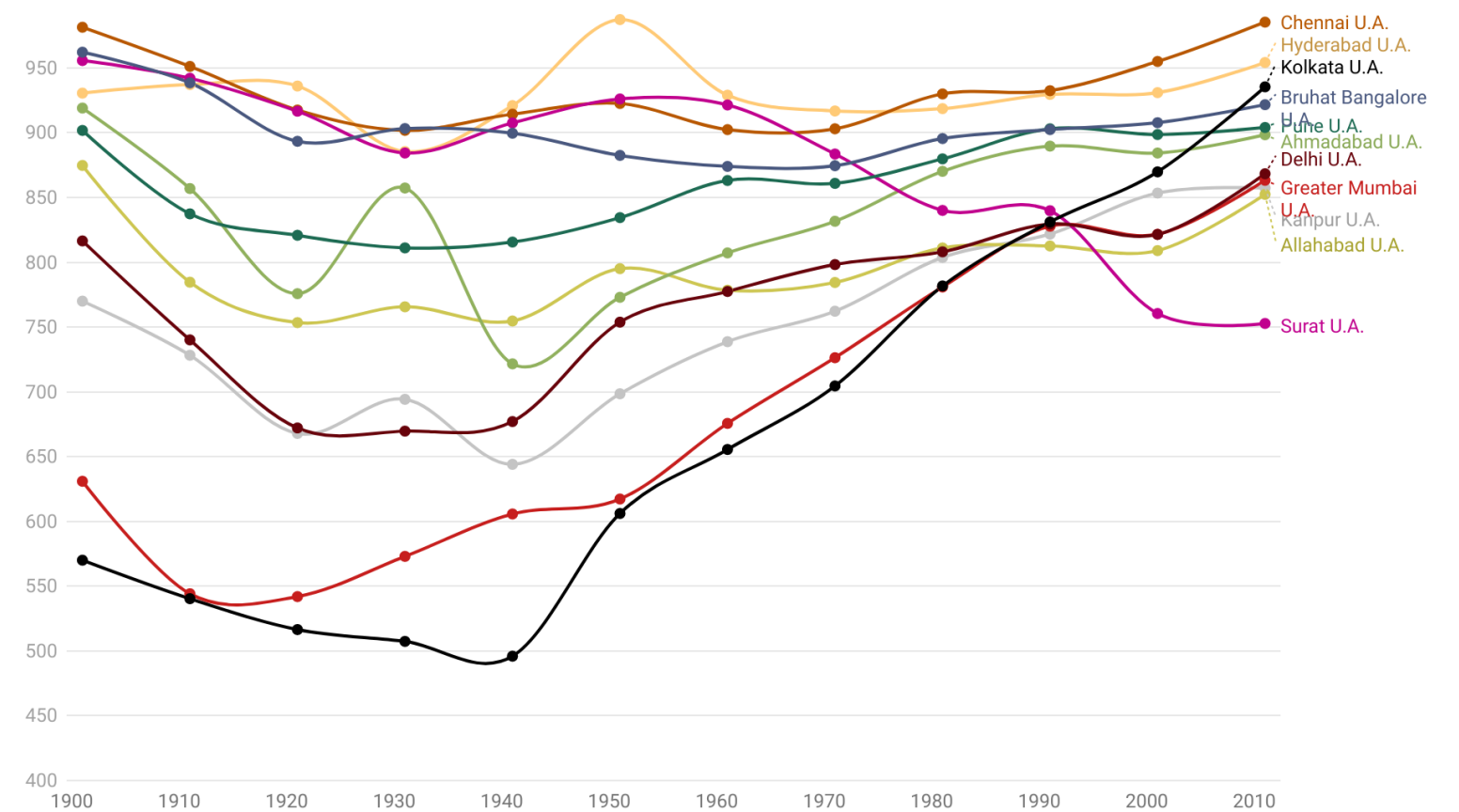


Chart: Shivakumar Jolad • Source: Census of India • Created with Datawrapper

BOOKS AND BOOK CHAPTERS- DIGITIZING

Textbooks, QR codes

Chapters - Integrated to

Interactive material

Automated book summaries;

Chapters summaries



७. भिंग भिंग भिंगरी

एका. म्हणा.

एक होती भिंगरी
भिंग भिंग भिंगरी,
तिचं नाव झिंगरी
झिंग झिंग झिंगरी ॥ १ ॥

तिला आहे
एक पाय,
पायावरती
गिरकी खाय ॥ २ ॥

सारखी सारखी
फिरते गोल,
फिरता फिरता
जातो तोल ॥ ३ ॥

गिरकी खाऊन
आली चक्कर,
भिंतीवरती
मारली टक्कर ॥ ४ ॥

— कमला पवार

शिक्षकांसाठी : गाने तालासुराज, साधिनय म्हणून दाखवावे. नंतर विद्यार्थ्यांना या गटाने, समूहाने, वैयक्तिक सराव घ्यावा. भिंगरी - झिंगरी, चक्कर - टक्कर, फिर लक्ष वेधणे. अशा शब्दांची उदाहरणे देण्यास प्रोत्साहन द्यावे व मोलसवात रचणे

Download
DIKSHA app
& scan QR codes in
your textbooks for
easy access to
lessons

Co-existence of physical and digital

Physical space: for scholarly and leisurely reading and writing.

Digital : for access, ease of Information, ease of research and analysis

