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Vṛddhagarga Vāstuvidya: Study of an unpublished manuscript from Nepal

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Throwing light for the first time on a hitherto unknown Vāstuvidyā text by Garga

This is a snapshot presentation based on the research work on Vṛddhagarga Vāstuvidyā by **Prof. R. N. Iyengar** & **Warija Adiga** over the past ~4 years.

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Center for Ancient History and Culture

Jain (Deemed-to-be) University

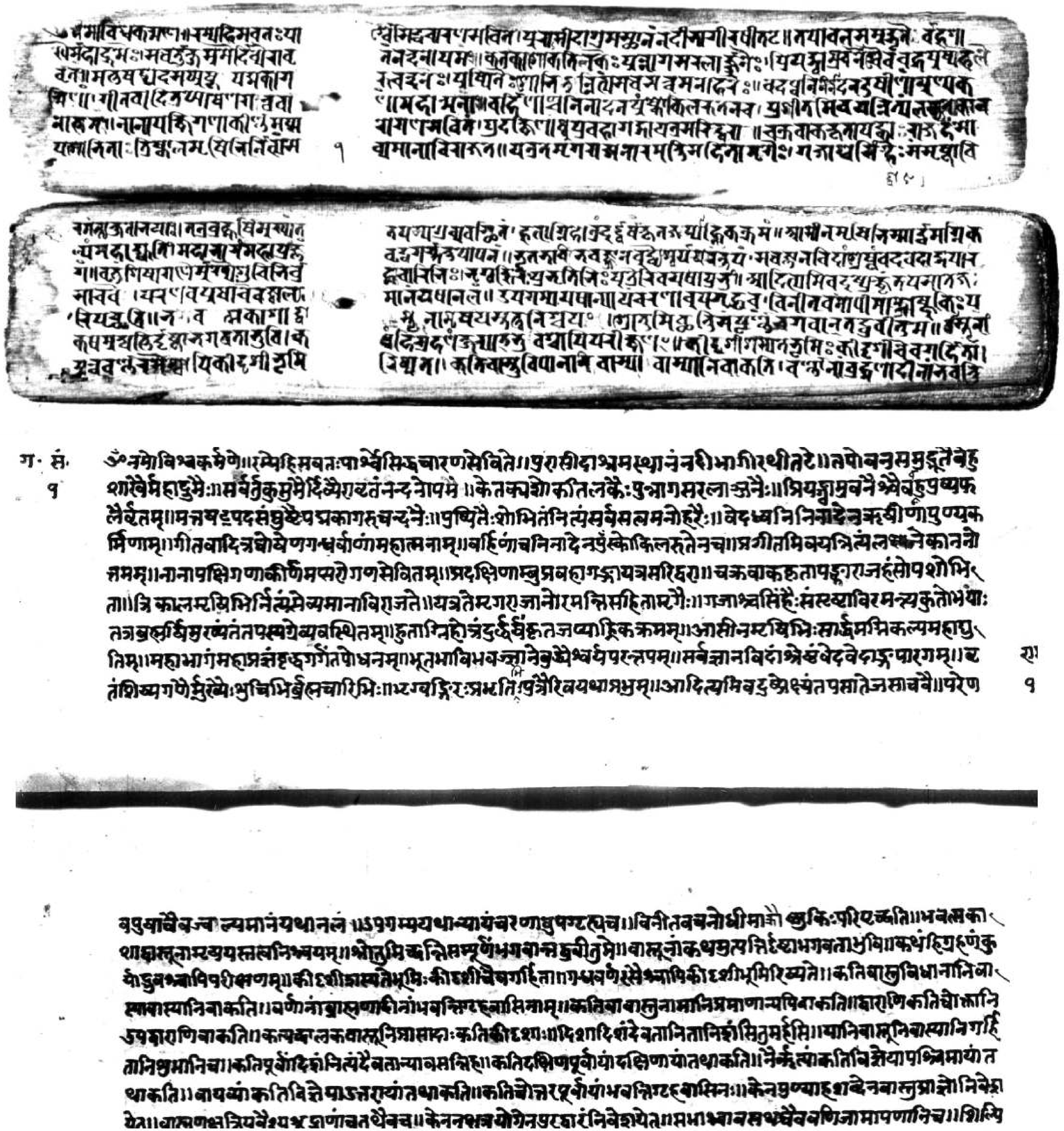
Bengaluru

Discovery of *Vṛddhagarga's Vāstuvidya*

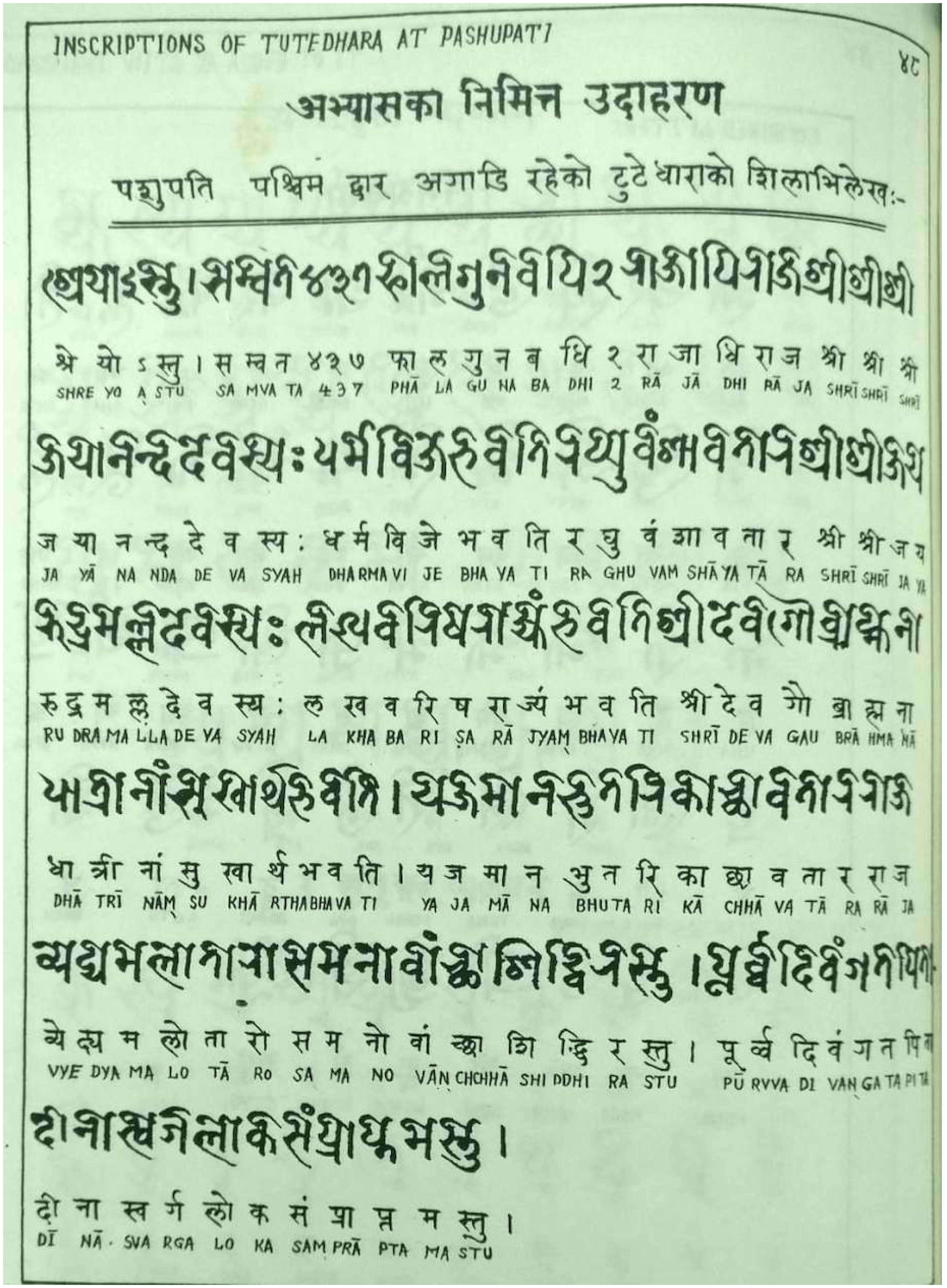
- The Manuscripts (Source)
- What is Vāstuvidya?
- Who is Vṛddhagarga?
- An overview of Vṛddhagarga's Vāstuvidya
- Conclusion

वास्तुविद्यायां भूमिपरीक्षा द्वितीयोऽध्याय:

(Ch 2nd - colophon)



Snippets from Bhujinmol and Devanagari manuscripts



An inscription found at Sri Pashupatinath Teample, Kathmandu

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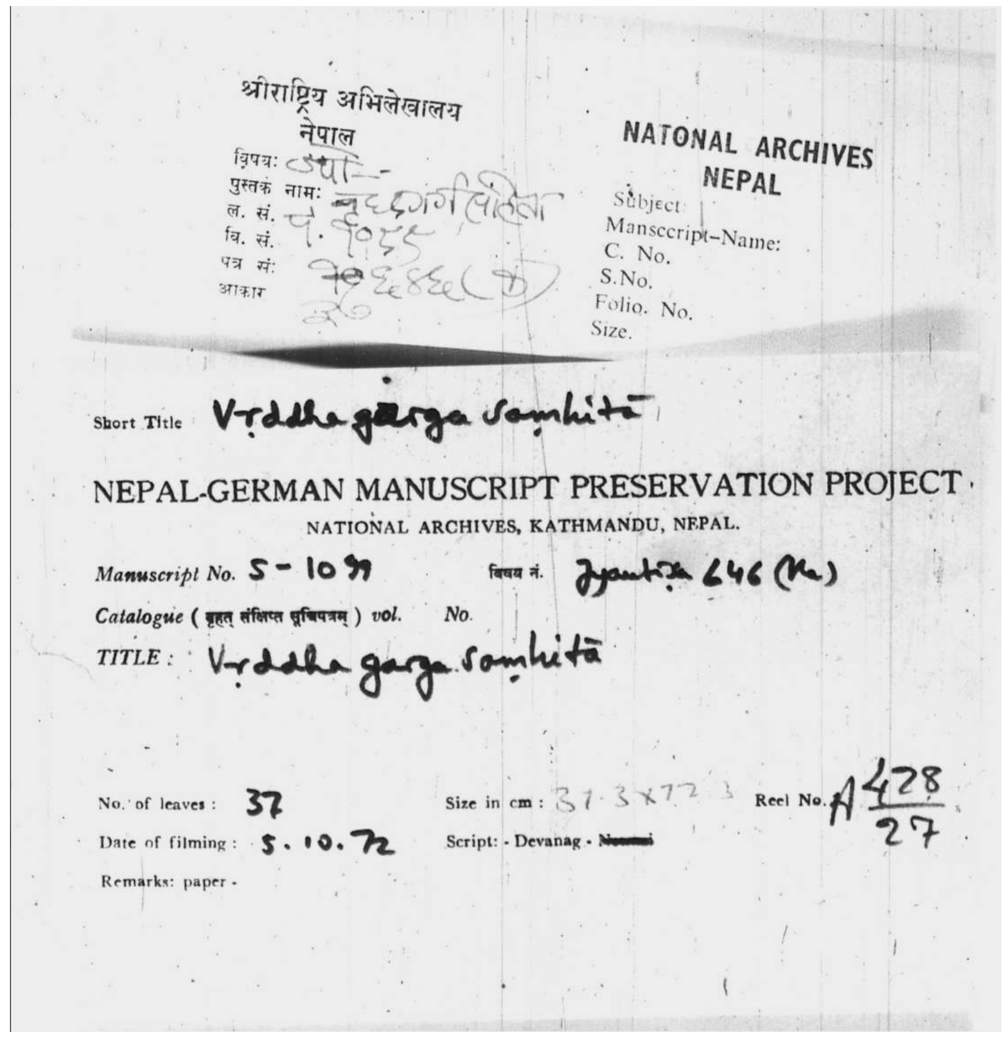
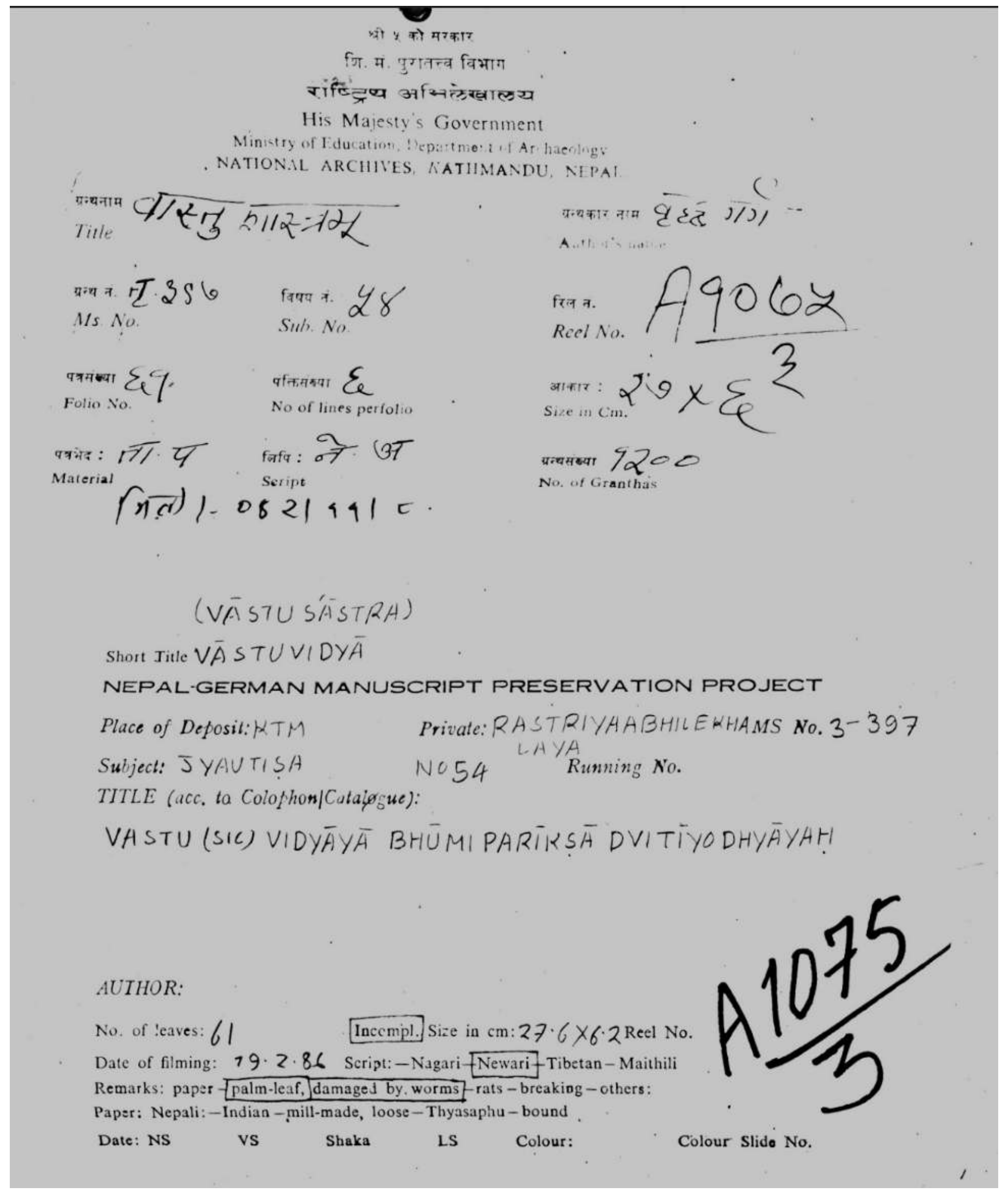
Manuscripts' Information


श्रीराष्ट्रिय अभिलेखालय
नेपाल
विषय:
पुस्तक नाम:
ल. सं.
वि. सं.
पत्र सं:
आकार
NATONAL ARCHIVES NEPAL
Subject
Manscript–Name:
C. No.
S.No.
Folio. No.
Size.
Short Title Vṛddhagārga samhitā
NEPAL-GERMAN MANUSCRIPT PRESERVATION PROJECT
NATIONAL ARCHIVES, KATHMANDU, NEPAL.
Manuscript No. S-1099 विषय नं. Jyautiṣa 646 (Ka)
Catalogue (बृहत् संक्षिप्त सूचिपत्रम्) vol. No.
TITLE : Vṛddha garga samhitā
No. of leaves : 37 Size in cm : 31.3 x 7.3 Reel No. A 428/27
Date of filming : 5.10.72 Script: - Devanag -
Remarks: paper -

35	**Num of folios**	61
Devanagari	**Script**	Bhujimol
S-1099 (Reel A 428/27)	**Reel num**	1075/3
Sanskrit	**Language**	Sanskrit
ज्योतिषम् Jyotiṣa	**Filed as**	वास्तुशास्त्रम् Vāstuśastram
वृद्धगर्गसंहिता Vṛddhagargasaṁhitā	**Title**	वास्तुविद्या Vāstuvidyā


श्री ५ को सरकार
शि. मं. पुरातत्त्व विभाग
राष्ट्रिय अभिलेखालय
His Majesty's Government
Ministry of Education, Department of Archaeology
NATIONAL ARCHIVES, KATHMANDU, NEPAL
ग्रन्थनाम Title वास्तु शास्त्रम्
ग्रन्थकार नाम Author's name
ग्रन्थ नं. Ms. No.
विषय नं. Sub. No. 48
रिल नं. Reel No. A 9062
पत्रसंख्या Folio No.
पंक्तिसंख्या No of lines perfolio
आकार : Size in Cm.
पत्रभेद : Material
लिपि : Script
ग्रन्थसंख्या No. of Granthas 1200
(VĀSTU ŚĀSTRA)
Short Title VĀSTU VIDYĀ
NEPAL-GERMAN MANUSCRIPT PRESERVATION PROJECT
Place of Deposit: KTM Private: RASTRIYA ABHILEKHALAYA No. 3-397
Subject: JYAUTIṢA NO 54 Running No.
TITLE (acc. to Colophon/Catalogue):
VASTU (SIC) VIDYĀYĀ BHŪMI PARĪKṢĀ DVITĪYODHYĀYAḤ
AUTHOR:
No. of leaves: 61 Incompl. Size in cm: 27.6 X 6.2 Reel No. A 1075/3
Date of filming: 19.2.86 Script: —Nagari—Newari—Tibetan—Maithili
Remarks: paper —palm-leaf, damaged by worms—rats—breaking—others:
Paper: Nepali:—Indian—mill-made, loose—Thyasaphu—bound
Date: NS VS Shaka LS Colour: Colour Slide No.

वास्तुविद्या
Vāstuvidyā

- The word Vāstu can be construed in 2 different ways -
  - "to dwell" as derived from the verb वस्
  - something comprising of five materials mediums - the earth, water, fire, air and space, when derived from the noun वस्तु
- Vāstuvidyā - science or knowledge for natural habitats, dwellings and other paraphernalia associated with them
  - Providing safe havens for humans and animals for peaceful co-existence
  - Planning and implementations - from city-planning to building houses, dams, wells, temples et al
  - Residential quarters to conveyances & furniture
  - Transportation - building roads to building vehicles

वास्तुशास्त्रोपदेशकाः Vāstuvidya Authors

भृगुरत्रिर्वशिष्ठश्च विश्वकर्मा मयस्तथा । नारदो नग्नजिच्चैव विशालाक्षः पुरन्दरः ॥

ब्रह्माकुमारो नन्दीशः शौनको **गर्ग** एव च।वासुदेवोऽनिरुद्धश्च तथा शुक्रबृहस्पती ॥

अष्टादशैते विख्याता वास्तुशास्त्रोपदेशकाः।सङ्क्षेपेणोपदिष्टन्तु मनवे मत्स्यरूपिणा॥

ಭೃಗುರತ್ರಿರ್ವಶಿಷ್ಠಶ್ಚ ವಿಶ್ವಕರ್ಮಾ ಮಯಸ್ತಥಾ . ನಾರದೋ ನಗ್ನಜಿಚ್ಚೈವ ವಿಶಾಲಾಕ್ಷಃ ಪುರಂದರಃ ..
ಬ್ರಹ್ಮಾಕುಮಾರೋ ನಂದೀಶಃ ಶೌನಕೋ ಗರ್ಗ ಏವ ಚ.ವಾಸುದೇವೋಽನಿರುದ್ಧಶ್ಚ ತಥಾ ಶುಕ್ರಬೃಹಸ್ಪತೀ ..
ಅಷ್ಟಾದಶೈತೇ ವಿಖ್ಯಾತಾ ವಾಸ್ತುಶಾಸ್ತ್ರೋಪದೇಶಕಾಃ.ಸಂಕ್ಷೇಪೇಣೋಪದಿಷ್ಟಂತು ಮನವೇ ಮತ್ಸ್ಯರೂಪಿಣಾ..

(Matsyapurāṇa Ch.252 v. 2,3,4)

Finding Garga..

Quoted By

1. Atharva-Parisishta (~400 BCE)
2. Mīnarāja (200 CE)
3. Varāhamihira (500 CE.)
4. Somākara (700 CE?)
5. Bhaṭṭotpala (1000 CE)
6. Ballālasena (1100 CE)
7. Bhāskarayogi (1300 CE)
8. Nīlakaṇṭha (1500 CE.).

- Garga Ṛshi - A well known composer of Vedic hymns, Bharadvāj/ Aṅgirasa
- One of the eighteen preceptors of Vāstuvidyā
- Gargācārya -the family priest of Nandagopa and Yaśodā, the foster parents of Kṛṣṇa in Gokula
- Vṛddhagarga - as a famous astronomer in Mahabhārata

Works of Garga

1. Garga Samhita
2. Garga Manorama
3. Vṛddhagarga Jyotiṣa
4. Vṛddhagarga Vāstuvidyā

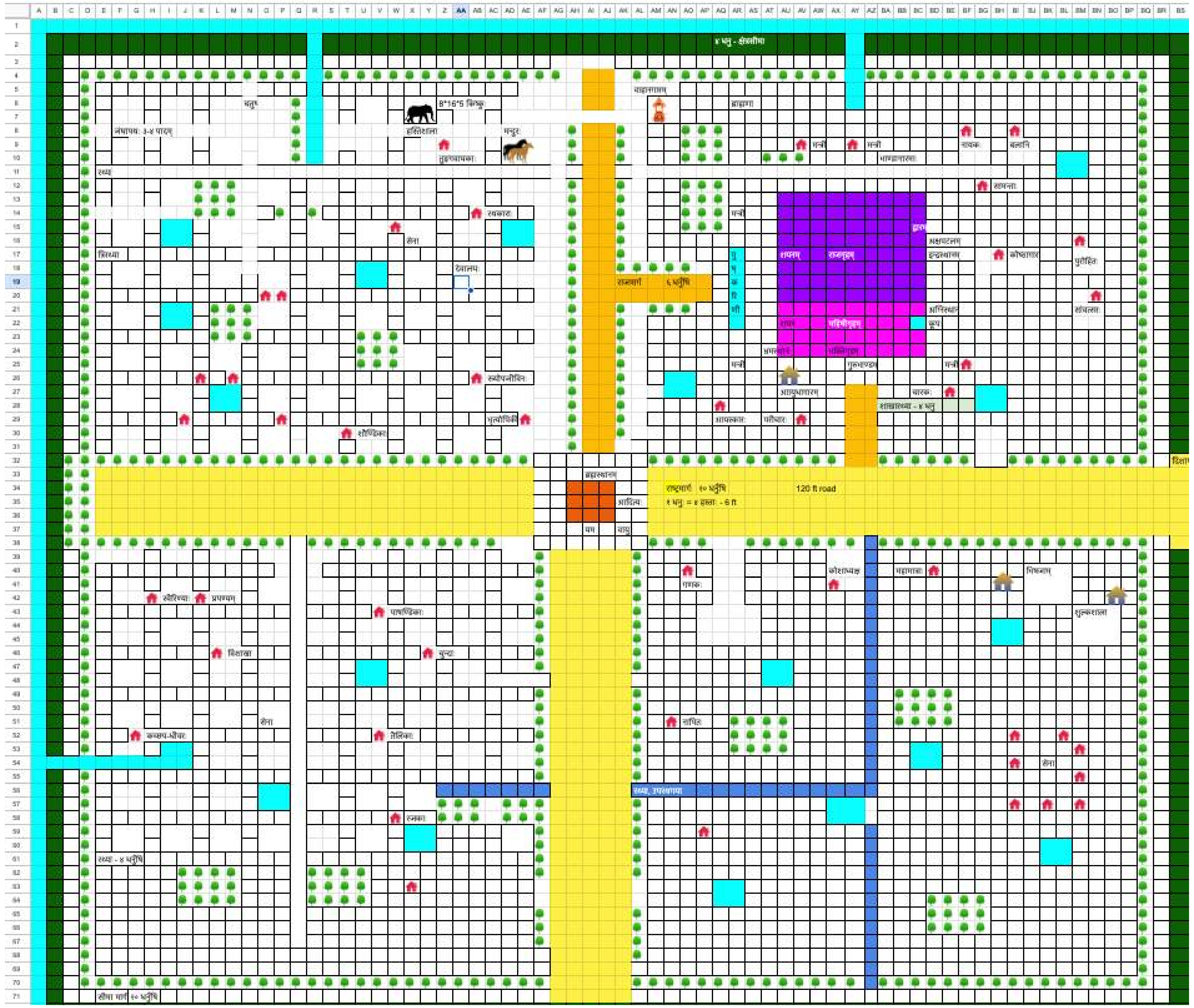
Vṛddhagarga Vāstuvidyā

- Vāstuvidya as proposed by Vṛddhagarga or Senior Garga
- Comprises of 34 chapters, 930+ shloka
- Written mostly in Anustub metre (vṛta), Upajāti in some chapters (19th chapter).
- Dialogues between Vṛddhagarga and Kroṣṭukiḥ, Gautamaḥ
- First 28 chapters directly attributed to Vṛddhagarga, but 29th and 33rd show conversations between Gautama and Viśwakarma. These chapters are on Prasāda, Forts and Pratoli, which have more technical details than the earlier chapters.

Two distinct narrations

1. Initial part -

    - Reconnaissance , methods to determine directions, quality of land for setting up dwellings
    - Nagar Sannivesha - City planning (for zonal divisions) and Rajanivas
    - Associated measurement scales and drawing of grids for layouts - padanyāsa
    - Doors and their placements and respective deities
    - Houses, Śālā
    - Portents, Gṛha Pravesha, Śāntimantra



2. Pratoli, Kanyapura (forts) and Godhamukha Prasadas (Palaces), Torana, Steps

Praśnādhyāyaḥ

As a "Table of Content"

- The first chapter, Praśnādhyāyaḥ of 56 verses acts as the ancient table of content
- After introducing Vṛddhagarga as the learned muni, a proponent of many shastras, the narrator gives the context, through ~35 questions.
- However, there is no information on the narrator or the scribe in any part of the document.
- The text is a narration by a third person, documenting dialogues between a guru and *shishyas* on the subject Vāstuvidyā

Prologue…

ॐ नमो विश्वकर्मणे

रम्ये हिमवतः पार्श्वे सिद्धचारणसेविते ॥ पुरासीदाश्रमस्थानं नदीभागीरथीतटे ॥ १ ॥

तपोवनसमुद्भूतैर्बहुशाखैर्महाद्रुमैः ॥ सर्वर्तु कुसुमैर्दिव्यैरावृतं नन्दनोपमैः ॥ २ ॥

केतक्यशोकतिलकैः पुन्नागसरलाञ्जनैः ॥ प्रियङ्ग्वाम्रवनैश्चैव बहुपुष्पफलैर्वृतम् ॥ ३ ॥

मत्तषट्पदसंघुष्टैः पद्मकागरुचन्दनैः ॥ पुष्पितैः शोभितं नित्यं सर्वसत्वमनोहरैः ॥ ४ ॥

वेदध्वनिनिनादेन ऋषीणां पुण्यकर्मिणाम् ॥ गीतवादित्रघोषेण गन्धर्वाणां महात्मनाम् ॥ ५ ॥

बर्हिणां च निनादेन पुँस्कोकिलरुतेन च ॥ प्रगीतमिव यन्नित्यं लक्ष्यते काननोत्तमम् ॥ ६ ॥

नानापक्षिगणाकीर्णमप्सरो गणसेवितम्॥ प्रदक्षिणाम्बुप्रवहा गङ्गा यत्र सरिद्वरा॥ ७॥

चक्रवाकवृतापङ्का राजहंसोपशोभिता॥ त्रिकालमृषिभिर्नित्यं सेव्यमाना विराजते॥ ८॥

यत्र ते मृगराजानो रमन्ति सहिता मृगैः॥ गजाश्च सिंहैः संसृष्टा विरमन्त्यकुतो भयाः॥ ९॥

तत्र ब्रह्मर्षिं मुख्यं तं तपस्यग्रे व्यवस्थितम्॥ हुताग्निहोत्रं दुर्द्धर्षं कृतजप्याह्निकक्रमम्॥ १०॥

Introducing Vṛddhagarga

आसीनमृषिभिः सार्द्धमग्निकल्पमहाद्युतिम्।। महाभागं महाप्रज्ञं वृद्धगर्गं तपोधनम्।।११।।

भूतभाविभवज्ज्ञाने बुद्धैश्वर्यपरन्तपम्।। सर्वज्ञानविदां श्रेष्ठं वेदवेदाङ्गपारगम्।। १२।।

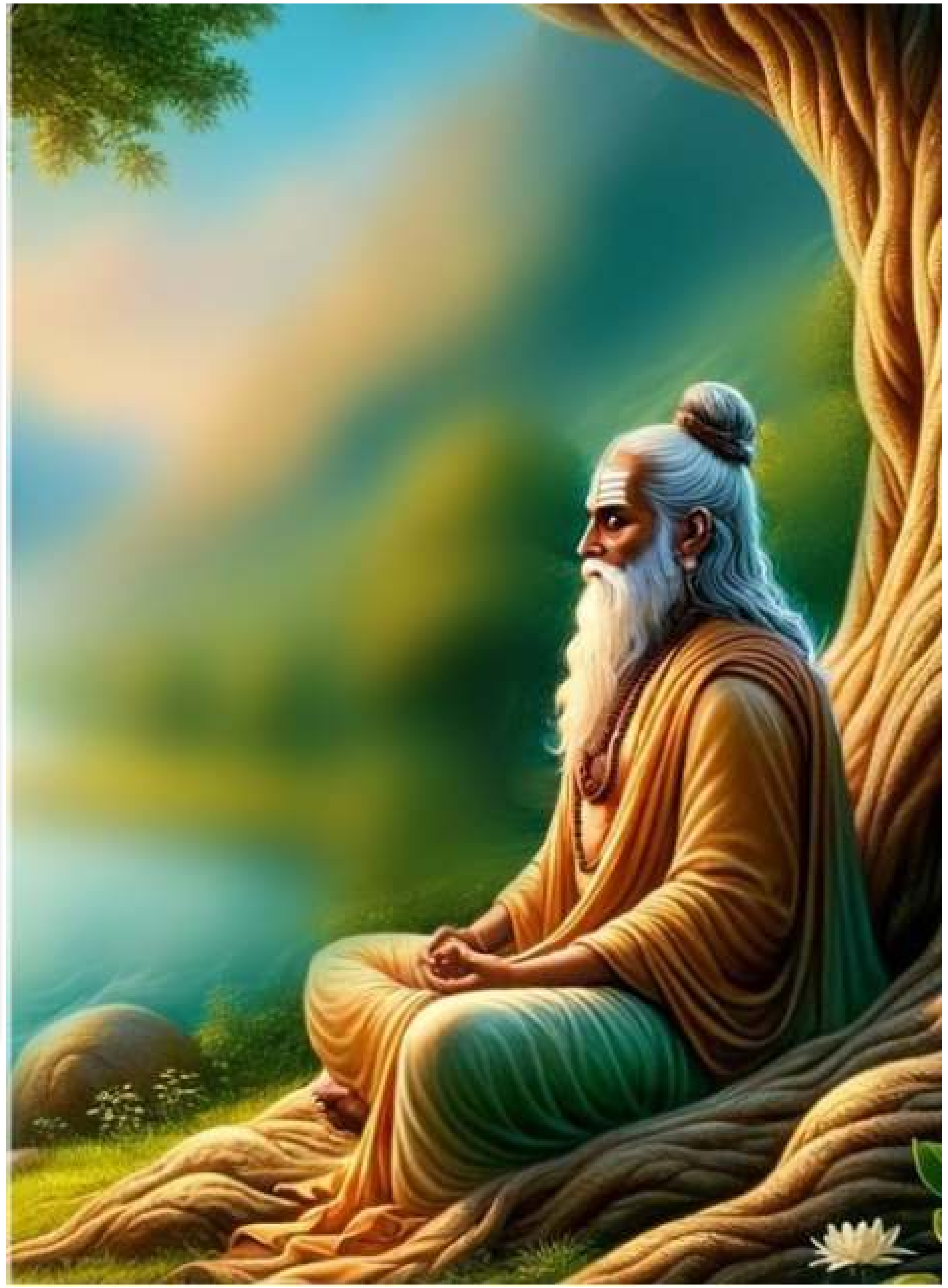
वृतं शिष्यगणैर्मुख्यैः शुचिभिर्ब्रह्मचारिभिः।।भृग्वङ्गिरः प्रभृतिभिः पुत्रैरिव यथा प्रभुम्।।१३।।

आदित्यमिव दुष्प्रेक्ष्यं तपसा तेजसा च वै।। परेण वपुषा चैव ज्वाल्यमानं यथानलं।। १४।।

उपगम्य यथा न्यायं चरणावुपगृह्य च।। विनीतवचनो धीमान् क्रोष्टुकिः परिपृच्छति।।१५।।

भवत्सकाशाद् वास्तूनामृषयस्तत्वनिश्चयम्।।श्रोतुमिच्छन्ति सम्पूर्णं भगवान् तद् ब्रवीतु मे ।।१६।।

प्रश्नाध्याये प्रथमोऽध्यायः



भवत्सकाशाद्वास्तूनामृषयस्तत्वनिश्चयम्।।श्रोतुमिच्छन्ति सम्पूर्णं भगवान् तद् ब्रवीतु मे।।१६।।

वास्तूनां कथमुत्पत्तिर्दृष्टा भगवता भुवि।। कथं हि ग्रहणं कुर्याद् भुवश्चापि परीक्षणम्।।१७।।

Need for Vāstu -

to rebuild, when the world was submerged in flood.

(A common theme across Vāstu and purana texts).

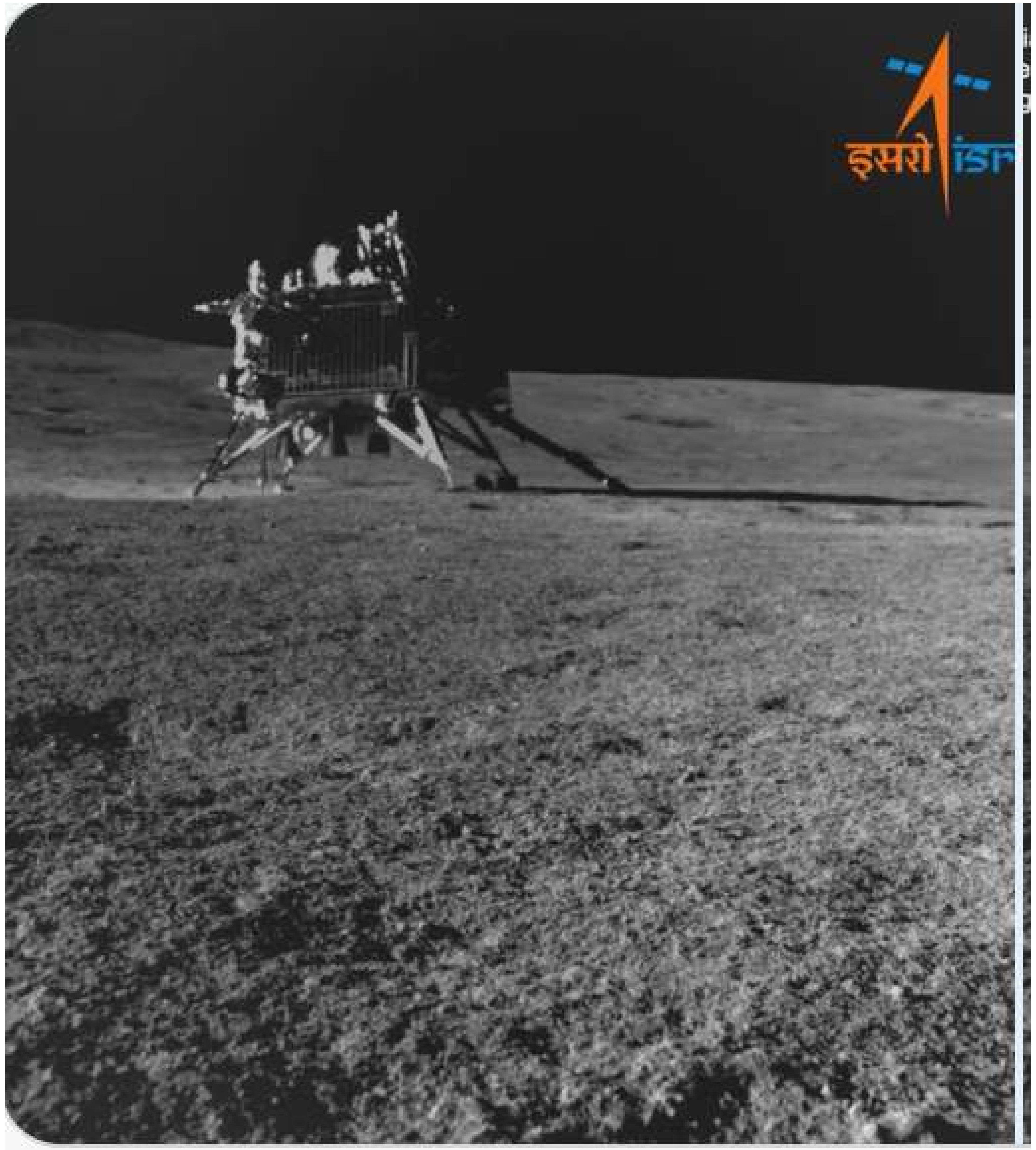
एकार्णवे पुरालोके प्रनष्टग्रहभास्करे।। जघान तौ महादैत्यौ हरिर्नारायणः प्रभुः।।३५।।

तयोस्तन्मेदसाच्छन्नं सर्वमम्भः समन्ततः।। येन नाम्ना वसुमती मेदिनीत्युच्यते बुधैः।।३६।।

ततः स भगवान् देवो महात्मा परमव्ययः।।प्रजासर्गार्थ संसृज्य लोकत्रयमरिन्दमः।।३७।।

सृष्ट्वा लोकत्रयं पुण्यं वेदाँश्चैव सनातनान्।।यज्ञानुत्पादयामास विविधान् स्वर्गसंक्रमाम्।।३८।।

ततो यज्ञप्रसूत्यर्थमसृज(त) वस्तु निश्चयम्।।लोकानां ....लोके स्वयम्भुवि।। ३९।।



How to get started?

Start with Bhoomi-Parikṣa

पशवोपि परीक्षान्ति पृथिव्यास्तु गुणागुणान्॥
गन्धरूपरसस्पर्शान्परीक्ष्य निवसन्ति च॥१-४६
यस्मात्तस्मात्तु यत्नेन विद्वान्पश्येद्गुणागुणान्॥
धनधान्यविवृद्ध्यर्थमायुः सन्तानवृद्धये॥१-४७॥

Have a qualified Sthapati

कल्याकल्यविभागज्ञः प्रगल्भो धार्मिकः शुचिः॥प्रासादकर्मकुशलो गृहकर्मविशारदः॥ ५०॥

यन्त्रकर्मविभागज्ञः शुल्बे दुर्गे च पारगः॥ चित्रकर्मणि निस्णातो देशच्छन्दविधानवित्॥५१॥

निमित्तोत्पातकुशलः शास्त्रवित्प्रणिधानवान्॥ मेधावी मतिमाँश्चैव वयसाच समन्वितः॥५२॥

अरोगश्च कुलीनश्च प्रशान्तः स्थपतिर्यतः॥ अल्पकोपः प्रशान्तश्च यश्चार्यपतिता भवेत्॥५३

चतुर्गुणे तथाष्टा से द्विवीजे त्रिगुणे तथा॥ स्थपत्ये परमार्थज्ञो राज्ञः स्थपतिरुच्यते॥५४॥

अल्पे बहु बहु ज्ञेतु अल्पं ज्ञानं विवर्द्धते॥ शास्त्रार्था चास्य वर्द्धन्ते वह्नीन्धन इवानले॥५५॥

ईदृशं सर्वसंपन्नं स्थपतिं शास्त्रपारगम्॥ प्रासादाट्टालकद्वारवेश्मकर्म सुयोजयेदिति॥५६॥

नगरसंनिवेशो (४) , राजनिवेशो (५)

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“महानदीनां कूलेषु नगराणि निवेशयेत्॥”

People and Places

कोष्ठागाराणि
आयुधागारम्
शुल्कशालम्
भाण्डागारम्
शयनगृहम्
भक्तिगृहम्
आवासगृहम्
महिषीगृहम्

कोशाध्यक्षः
महामात्रः
कुमाराः
सांवत्सरः
चारकः
भिषजः
अयस्कारः
परीचारः

स्त्रियोपजीविनः
भृत्योपजीविनः
सेना
नापितः
पाषण्डिकः
विशाखाः

गणकः
चुन्दाः
तैलिकाः
रथकाराः
रजकाः
कच्छप-धीवरः
तुङ्गवायकाः
स्वैरीण्यः

Metric System

1 Angula	0.75 inch
1 Aratnika	21 angula
1 Hasta	24 angula = 18 inches = 1.5 ft
1 Kiṣku	42 angula
1 Dhanu	4 hasta = 6 ft
1 Yojana	8000 dhanu
1 Gavyuti	1 /4 yojana = 2000 dhanu

अष्टौ धनुः सहस्त्राणि योजनं परमुच्यते।।२६।।

गव्यूति द्विसहस्त्राणि द्विगुणं चार्द्धयोजनमम्।।

द्विचत्वारिंशाङ्गुलः किष्कु अरत्निश्चैक विंशतिः।।

चतुर्विंशाङ्गुलो हस्तश्चतुर्हस्तं धनुः स्मृतम्।।

Roads

Raṣtramārga	20 Dhanu
Seemāmārga	20 Dhanu
Rajamārga	6 Dhanu
Śākhārathi	6 Dhanu
Diśamārga	30 Dhanu

विशंती राष्ट्रमार्गं च सीमामार्गस्तथैव च।।

धनूंषि षट् च विस्तीर्णो राजमार्गो विधीयते।। २९।।

धनूँषि चापि चत्वारि शाखारथ्यां प्रयोजयेत्।।

त्रिका रथ्योपकारस्युर्द्धिकाश्चाप्युपरथ्यिका।।३०।।

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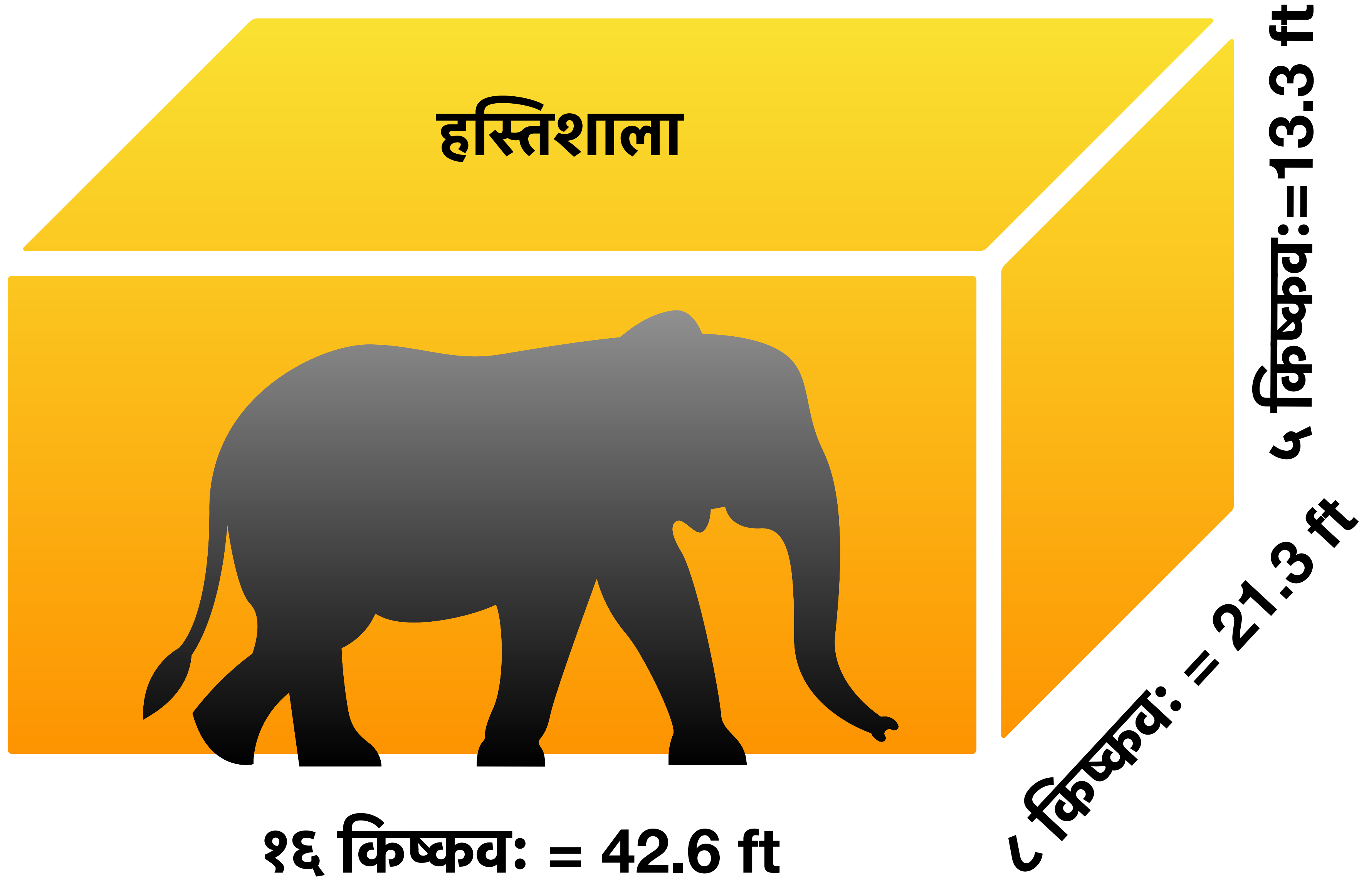
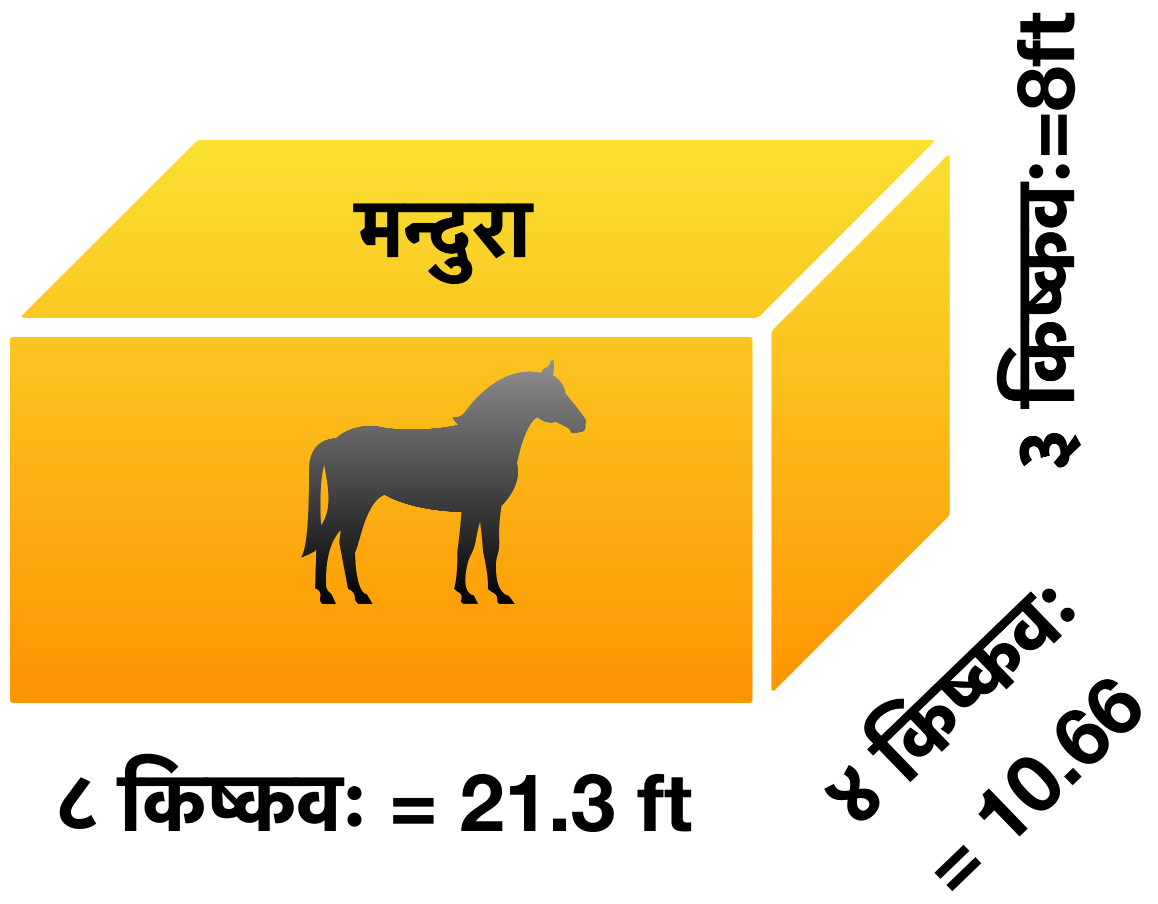

हस्तिशाला
१६ किष्कवः = 42.6 ft
८ किष्कवः = 21.3 ft
५ किष्कवः=13.3 ft


मन्दुरा
८ किष्कवः = 21.3 ft
४ किष्कवः = 10.66
३ किष्कवः=8ft

Chapters/ Adhyāyāh

प्रश्नाध्याये प्रथमोऽध्यायः (56)	गृहप्रवेशकर्मनाम त्रयोदशमः(14)	उच्छ्रयनिकोनाम षड्विंशतिम अध्यायः (25)
वास्तुविद्यायां भूमिपरीक्षा द्वितीयोऽध्यायः (28½),	नवकर्मिको नाम चतुर्दर्शमः(17 ½)	सर्ववर्णानां सप्तविंशतिम (48 ½)
दिग्ग्रहणं तृतीयः (28½)	वास्तुवैकृतिको नाम पञ्चदशमः(21)	प्रासादविभागो नाम अष्टाविंशोऽध्यायः (32 ½)
नगरसंनिवेशे चतुर्थः (47	वास्तुमध्ये निर्देशो नाम षोडशोऽध्यायः(35 ½)	प्रासादसूत्र ऊनत्रिंशतिमोऽध्यायः (100)
राजकुलनिवेशः पञ्चमोऽध्यायः (22)	कूपभ्रमस्थान सप्तदशमः(13)	नक्षत्रयोगं नाम त्रिंशतिमः (28)
द्वारदेवतः सप्तमः (16 ½)	ब्रह्मस्थापितो नाम अष्टादशमः (14)	बलिकर्म नाम एकत्रिंशतिम अध्यायः (17)
द्वारदैवतको नाम अष्टमः (17)	वस्तुच्छेदिको नाम एकोनविंशतिमः (21)	बलिकर्मिको नाम द्वात्रिंशतिमोऽध्यायः (10 ½)
द्वारगुणदोषोनाम नवमः (17)	वस्तुच्छेदिको नाम विंशतिमः (24)	प्रतोलीसूत्र-त्रयस्त्रिंशतिमोऽध्यायः (68)
द्वारदोषो नाम दशमः (17)	स्वानिवेशो नाम द्वाविंशतिमः (31)	द्वारनिर्देशिको नामचतुर्त्रिंशतमः (31)
मापने नैमित्तिको नामैकादशमः (16)	छायालक्षणं नाम चतुर्विंशतिमः (34)	
वास्तुशान्तिक द्वादशमः (8)	नवगृहविकर्म पञ्चविंशतिमः (41)	

Key Findings

1. Of evident **historical interest** in tracing the growth of habitat planning, architecture and civil engineering in Bharata Desha

2. **Date estimated is 500 BC or before** - the nakṣatra list starting from kṛttikā as in the Vedic period and attribution of auspiciousness to the day and time for starting a new work.

3. Auspiciousness of time in a day in terms of **nakṣatra, tithi and muhūrta**. Even the fourth tithi related karaṇa is not referred, unlike in VGJ the Jyotiṣa text of Vṛddhagarga

4. Materials used for construction limited to **bamboo**, **wood and mud**

5. Toraṇa, kanyāpura and godhāmukha architectural features for palaces, forts need deeper study

“Thank You!”

Jyotiṣa works attributed to VG and Garga have existed in the country since a long time. Usually these works are broadly denoted as *Vṛddha-Garga Samhitā* (VGS) and *Garga/Gargya/Gargiya Samhitā* (GS) in the literature. Garga's works were known to Atharva-Parisishta (~400 BCE) Mīnarāja (2nd cent.), Varāhamihira (6th cent.), Somākara (7th cent.?), Bhaṭṭotpala (10th cent.), Ballālasena (11th cent.), Bhāskarayogi (13th cent.) and Nīlakaṇṭha (15th cent.).
These authors have cited or reproduced verses from either VG or Garga or both. The Mahābhārata (MB) in the *śalya-parvan* (36.15) & Anu.Parvan refers to the Senior Garga as a specialist in interpreting celestial anomalies.

यत्र गर्गेण वृद्धेन तपसा भावितात्मना कालज्ञानगतिश्चैव ज्योतिषां च व्यतिक्रमः॥
चतुःषष्ट्यङ्गमदत् कालज्ञानं ममाद्भुतम् ।सरस्वत्यास्तटे तुष्टो मनोयज्ञेन पाण्डव

It is important to survey several different manuscripts related to Garga, for filtering out later astronomy and astrology and to pin point ancient concepts of the VG school of *vedāṅga-jyotiṣa*.

*EACH OF THE ANGA OR SECTION CONSIST OF ONE OR MORE CHAPTERS. SOME CHAPTERS ARE LONG WHILE SOME ARE VERY SHORT. IN ALL THERE ARE 164 CHAPTERS WITH END COLOPHONS INDICATING THE SUBJECT MATTER.

*THE TEXT IN LARGE PARTS OCCURS AS A CONVERSATION BETWEEN GARGA/VRDDHAGARAGA AND HIS SON KROSHTUKI

*EXCEPT FOR THE CHAPTERS IN PROSE, THE CONTENTS APPEAR TO HAVE BEEN EDITED OVER A PERIOD OF TIME. FOR EXAMPLE "KARMAGUNA" ORIGINALLY DEALT WITH ***NAKSHATRA, TITHI, KARANA AND MUHURTA;*** BUT THE Mss COMBINE KARANA & MUHURTA AND ADD A CHAPTER ON GRAHA-KARMA, THAT LISTS THE WEEKDAYS AS IN THE CURRENTLY PUBLISHED VERSIONS OF THE BRHATSAMHITA.

VARAHA MIHIRA DISCRIMINATES BETWEEN *VRDDHAGARGA* & *GARGA*; SIMILARLY BHATTOTPALA, BALLALASENA QUOTE DIFFERENT VERSES ON THE SAME TOPIC ASCRIBED TO **VG** & **GARGA.**

PV KANE ARGUES THAT BEFORE VARAHAMIHIRA THERE WERE ***THREE GARGA-S*** ALL OF THE SAME FAMILY CONTRIBUTING TO ASTRAL SCIENCES. THE EARLIEST SHOULD BE TAKEN AS VRDDHA-GARGA. SINCE GARGA IS A FAMILY IT IS BETTER TO TALK OF THE SCHOOL OR TRADITIION OF VRDDHAGARGA INSTEAD OF THE PERSON OR THE TEXT AUTHORED BY HIM.

ANY CHRONOLOGY WOULD ALSO BE APPLICABLE TO THE STARTING OF THE TRADITION AND NOT STRICTLY TO THE PERSON OR THE TEXT