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Phase 8
VALUES (Axioms & Postulates)
OF VEDIC GANITA SUTRAS

Phase 8.9
Ganita Upsutra 7

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Abstract

Ganita Upsutras are 13. These are of 2 phases: Upsutra 1 to Upsutra 7 and Upsutra 8 to Upsutra 13. Upsutra 1 to 7 are of placements 2, 4, 6, 8, 10, 12 & 14 of integrated format of 16 Ganita Sutras and 13 Ganita Upsutras. Ganita Upsutra 7 is of placement 14 in integrated format. Formulation सप्त Sapt / Seven is of TCV (सप्त Sapt / Seven) = 14. Value 14 is parallel with summation value of four fold (2, 3, 4, 5) of Hyper Cube 4. Further value 14 is parallel with 14 components of self referral (6-space) boundary of 7-space. The domain boundary ratio of Hyper Cube 7 is $A^7:14B^6$. Four-space is a spatial order space. Both वर्ग Varg / square and घन Ghan / Cube manifestations as formulations Varg and Ghan are of equal TCV value 14. The text of Ganita Sutras and Upsutras have specific word formulation वर्गं Vargam in Ganita Upsutra 7.

1. **Text Ganita Upsutra 7**   'यावदूनं तावदूनीकृत्य वर्गं च योजयेत्।'
   Yavadunam Tavadunikritya Vargam cha Yojayet

Text is a composition of five words (1) 'यावदूनं **Yavadunam** (2) तावदूनीकृत्य **Tavadunikritya** (3) वर्गं **Vargam** (4) च **cha** (5) योजयेत् **Yojayet**

Text makes 16 syllables : (1) Ya (2) Va (3) du (4) nam (5) Ta (6) va (7) du (8) ni (9) kri (10) Triya (11) va (12) gram (13) cha (14) yo (15) ja (16) yeth.

Text avails 37 letters.

(1) य (2) आ (3) व (4) अ (5) द (6) ऊ (7) न् (8) अ (9) ॱ

(10) त (11) आ (12) व (13) अ (14) द् (15) ऊ (16) न् (17) ई (18) कृ (19) ऋ (20) त्(21) य् (22) अ

(23) व् (24) अ (25) ॱ (26) ग् (27) अ (28) ॱ

(29) च् (30) अ

(31) य् (32) ओ (33) ज् (34) अ (35) य् (36) ए (37) त्

TCV value of text letters is 41 + 49 + 22 + 3 + 24 = 139

(1) 1 (2) 2 (3) 7 (4) 1 (5) 6 (6) 6 (7) 8 (8) 1 (9) 9 summation value = 41

(10) 4 (11) 2 (12) 7 (13) 1 (14) 6 (15) 6 (16) 8 (17) 4 (18) 1 (19) 4 (20) 4 (21) 1 (22) 1

summation value = 49

(23) 7 (24) 1 (25) 2 (26) 3 (27) 1 (28) 9 summation value = 23

(29) 2 (30) 1   summation value = 3

(31) 1 (32) 7 (33) 4 (34) 1 (35) 1 (36) 6 (37) 4 summation value = 24

2. Cyclic phases चक्र चक्रैषी Chakra Chakreshi

Word formulation '**यावदूनं**' **Yavadunam**

Four syllables (1) Ya (2) Va (3) du (4) nam

TCV Values of syllables 3, 8, 12, 18

First phase   3   8   12   18

Table 1 Cyclic Phases

Of formulation '**यावदूनं**' **Yavadunam**

C0 = Cyclic phase, C1= First Syllable value,
C2 = Second Syllable value C3 = Third Syllable
value, C4 = Fourth Syllable value, C5 = Phase
summation value

C0	C1	C2	C3	C4	C5
1	3	8	12	18	41
2	5	4	6	15	30
3	1	2	11	10	24
4	1	9	1	9	20
5	8	8	8	8	32
6	0	0	0	0	GTV 147

At sixth phase acquires zero state.

Word formulation '**तावदूनीकृत्य**' **Tavadunikritya**

Five syllables 6, 8, 12, 12, 5, 6

TCV Values of syllables 6, 8, 12, 12, 5, 6

First phase   6, 8, 12, 12, 5, 6

Table 2 Cyclic Phases

Of formulation 'तावदूनीकृत्य' Tavadunikritya

C0 = Cyclic phase, C1= First Syllable value,
C2 = Second Syllable value C3 = Third Syllable
value, C4 = Fourth Syllable value, C5 = Fifth
syllable, C6 = Sixth Syllable, C7= Phase
summation value, C8 = Summation cyclic uptill the
sequential phase

C0	C1	C2	C3	C4	C5	C6	C7	C8
1	0	8	12	12	5	6	49	49
2	2	4	0	7	1	0	63	63
3	2	4	7	6	1	2	85	85
4	2	3	1	5	1	0	97	97
5	1	2	4	4	1	2	111	111
6	1	2	0	3	1	1	119	119
7	1	2	3	2	0	0	127	127
8	1	1	1	2	0	1	133	133
9	0	0	1	2	1	0	137	137
10	0	1	1	1	1	0	141	141
11	1	0	0	0	1	0	143	143
12	1	0	0	1	1	1	147	147
13	1	0	1	0	0	0	149	149
14	**1**	**1**	**1**	**0**	**0**	**1**	153	153
15	0	0	1	0	1	0	155	155
16	0	1	1	1	1	0	159	159
17	1	0	0	0	1	0	161	161
18	1	0	0	1	1	1	165	165
19	1	0	1	0	0	0	167	167
20	**1**	**1**	**1**	**0**	**0**	**1**	171	171

Total cyclic phases twenty. Its repeating cycles frequency is six
from fifteen to twenty.

Word formulation वर्ग **Vargam**

Two syllables 8, 15

TCV Values of syllables 8, 15

First phase   8, 15,

Table 3 Cyclic Phases

Of formulation वर्गं Vargam

C0 = Cyclic phase, C1= First Syllable value,
C2 = Second Syllable value C3 = Phase
summation value,

C0	C1	C2	C3
1	8	12	20
2	4	4	8
3	0	0	GTV 28

At third phase acquires zero state.

Word formulation च cha

syllable   1

TCV Values of syllable 3

First phase   3

Table 4 Cyclic Phases

Of formulation च cha

C0 = Cyclic phase, C1= First Syllable value,
C2 = Phase summation value,

C0	C1	C2
1	3	3

It is a single phase set up. Being single
phase set up, it repeats itself

Word formulation योजयेत् Yojayet

Three syllables 8, 5, 11

TCV Values of syllables 8, 5, 11

First phase   8, 5, 11

Table 5 Cyclic Phases

Of formulation योजयेत् Yojayet

C0 = Cyclic phase, C1= First Syllable value,
C2 = Second Syllable value C3 = Third Syllable
value, C4 = Phase summation value,

C0	C1	C2	C3	C4
1	8	5	11	24
2	3	6	3	12
3	3	3	0	6
4	0	3	3	6
5	3	0	3	6
6	3	3	0	6

At third phase acquires zero state.

Total cyclic phases six. Its repeating cycles frequency is three from four to six.

Table 6

Consolidated Table
Repeated cyclic phases frequency

C0 = Word formulation, C1= Cyclic phases frequency,
C2 = Cycle length, C3 = Full Cycle and sub cycles

C0	C1	C2	C3
1	6	6 x 1	Full cycle 1
2	6	6 x 1	Full cycle 1
3	3	3 x 2	Sub cycles 2
4	1	1 x 6	Sub cycles 6
5	3	3 x 2	Sub cycles 2

3. ब्रह्मवन Brahamvan / Creation forest

ब्रह्मवन Braham is of 2000 units length and 100 units breadth. It is of 1000 x 100 unitsrea. It is of two halves of 1000 x 100 units area.

ब्रह्मवन **Brahamvan / Creation forest**

100 yojen

1000 yojen   1000 yojen

4. ब्रह्मवनखण्ड Brahamvankhand

ब्रह्मवनखण्ड Brahamvankhand is of 100 units length and 10 units breadth. It is of 100 x 10 unitsarea. Two set ups, (i) of 1000 squares (ii) of 1000 cubes, of organization of 10 layers of 100 cubes each.

ब्रह्मवनखण्ड **Brahamvankhand**

100 Units

10 units

ब्रह्मवन Braham / Creation forest

100 units

ब्रह्मवनखण्ड Brahamvankhand

100 Units

10 units

I   II   X

ब्रह्मवनखण्ड Brahamvankhand

100 units

10 units

ब्रह्मवनखण्ड Brahamvankhand

100 Units

10 units

1000 spatial units / 1000 solid units
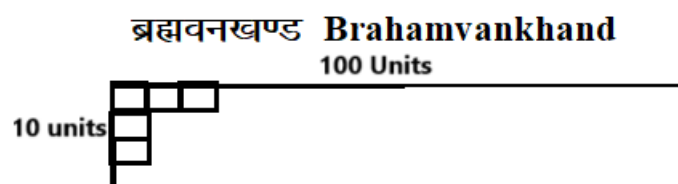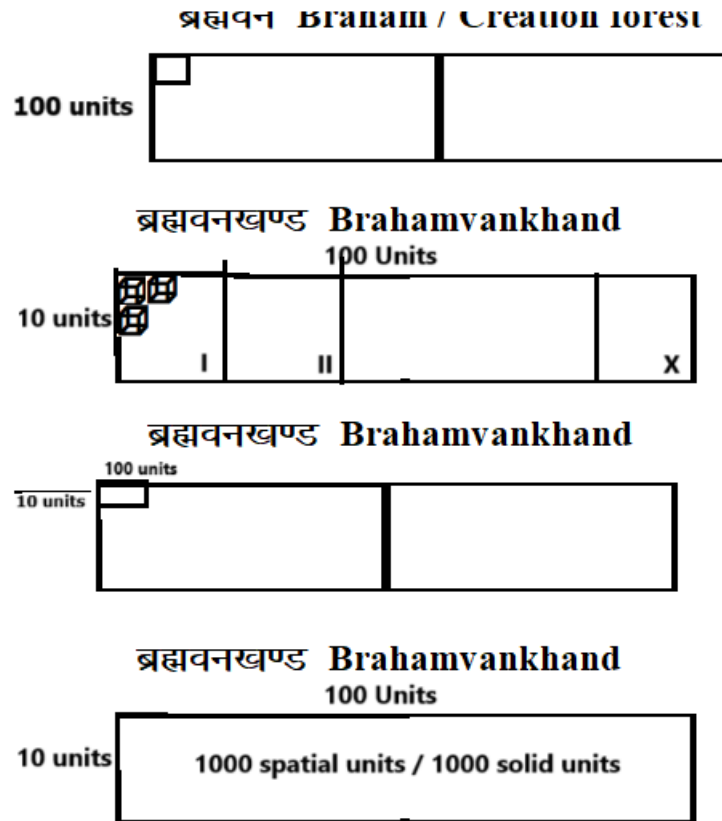
5. Structural components of 1000 cubes

(i)   First layer set up components

First row $27 + 99 \times 18 = 9 + 18 + 99 \times 18 = 9 + 100 \times 18 = 1809$

Second and ninth row, each of $18 + 99$ components.

Total structural components of first layer.

$27 + 99 \times 18 + 18 + 12 \times 99$.

(ii)   Second layer set up components

First row $18 + 12 \times 99 = 6 + 12 + 12 \times 99 = 6 + 12 \times 100 = 1206$

Second to tenth row, each of $12 + 8 \times 99$.

(iii)   Third to tenth layer set up components

Second layer to tenth layer, each is of components as are of second layer.

$9 \times 1206 = 54 + 10800 = 10854$

$1809 + 10854 = 12663 = 3 \times 4221$

Total structural components of 1000 cubes is summation value of (i) and (iii)

6. Structural components of 1000 cubes

i.   First row 9 + 6 x 99.

$= 3 + 6 + 6 \times 99$

$= 3 + 6 \times 100 = 603$

Structural components 9

4 Corner points
4 sides
1 surface

Structural components 6

2 Corner points
3 sides
1 surface

Square 1   Square 2

Square 1   Square 2

9 components | 6 Components

6 components

Square 2

Square 1   Square 2

9 components | 6 Components

6 components | 4 Components

Square 2

1 corner point

1 corner points
2 sides
1 surface
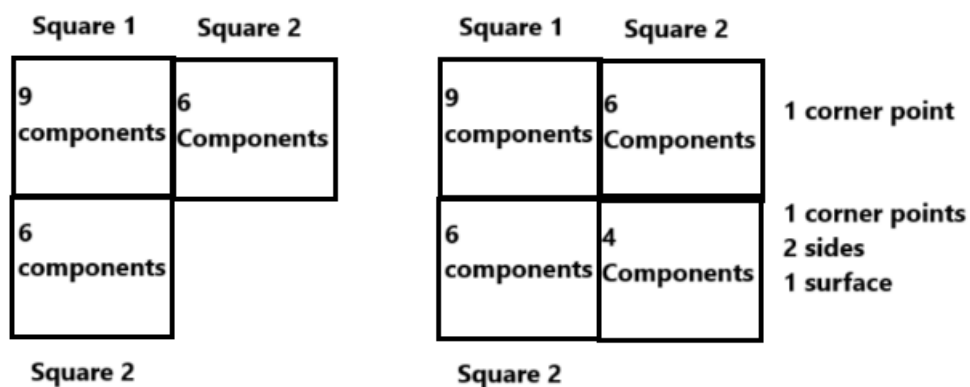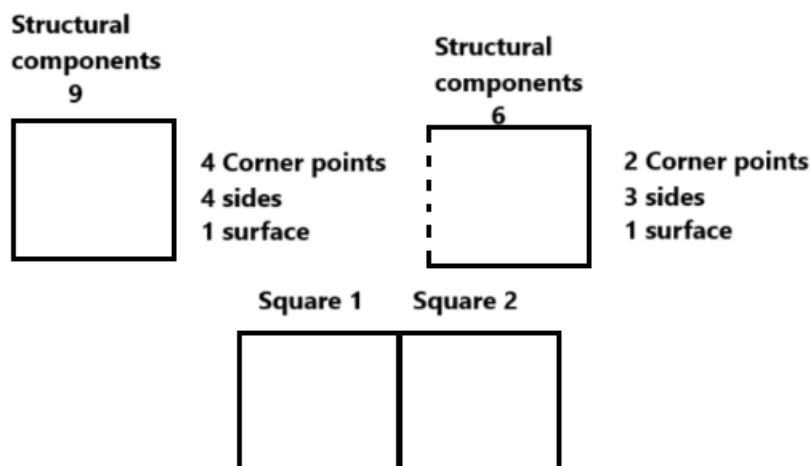
ii.   Second to 100th row each of components 6 + 4 x 99

$= 6 + 4 \times 99$

$= 2 + 4 + 4 \times 99$

$= 2 + 4 \times 100$

$= 402$

Total structural components of 1000 squares equal to summation value of above 'i' and 'ii'.

Second to ninth row components 9 x 402 = 3618

Total 603 + 3618 = 4221

Difference of structural components of 1000 cubes and of 1000 squares of such arrangement is 12663 – 4221 = 8442 = 2 x 4221

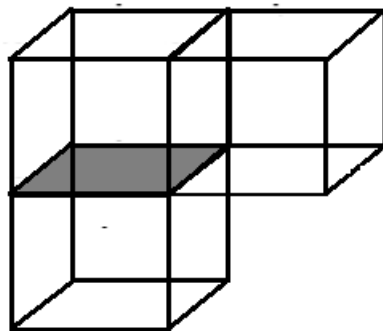### 7. Organization of 1000 cubes as ten layers of 100 cubes each

100 cubes layer is of ten rows of ten cubes each.
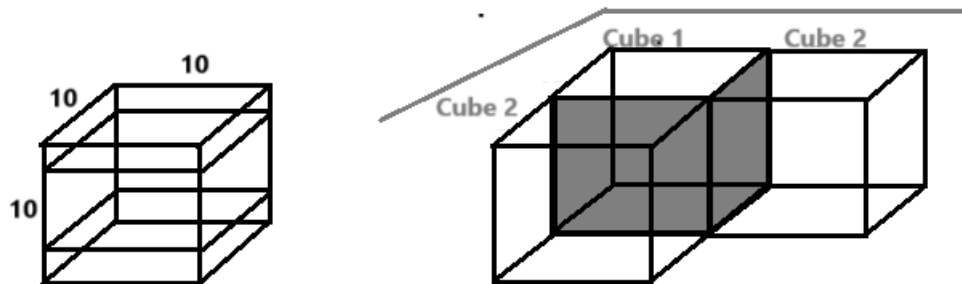
First row is of structural components $27 + 9 \times 18 = 9 + 10 \times 18 = 189$
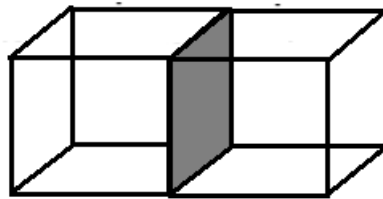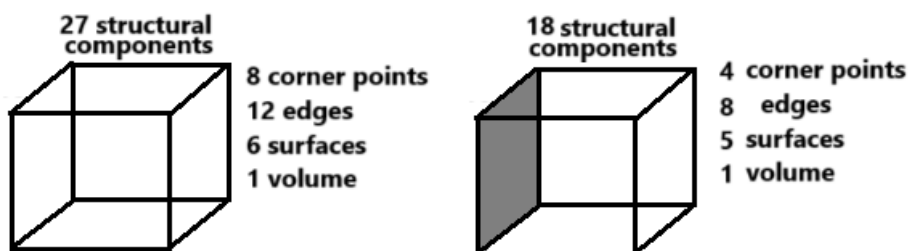
Second layer is of components $18 + 9 \times 12 = 9 \times 14 = 126$

Structural components of second to tenth layer $= 9 \times 126 = 1134$

Total Structural components of first layer $= 1134 + 189 = 1323$

Structural components of second layer is also of ten rows

First row Structural components are $18 + 9 \times 12 = 9 \times 14 = 126$

Structural components of second row are $12 + 9 \times 8 = 84$

Structural components of second to ninth row = 9 x 84 = 756

Total Structural components of second layer are 126 + 756 = 882

Total Structural components of second to tenth layer are 9 x 882 = 7938

Total Structural components of all the ten layer are 1323 + 7938 = 9261

The difference of first set up of 1000 cubes and of above second set up of 1000 cubes

Is 12663 – 9261 = 3402 = 3400 + 2 = 34 x 100 + 2

Value 34 is parallel to summation value of four folds (7, 8, 9, 10) of hyper cube 9.

Hyper cube 9 as dimension leads to a set up of a domain of difference of structural components of 1000 cubes of above two set ups of 1000 cubes.

Organization format of ब्रह्मवन **Brahamvan / forest trees**

Length $N^2 + N^2$

Breadth

Half of it as surface area for Brahamvan forest trees is ($\frac{1}{2} N^2 + N^3$)

8.

$$\boxed{N = 2}$$

1

Eight Squares Set up

4				
9	6	6	6	= 27
6	4	4	4	= 18
6	4	4	4	= 18
6	4	4	4	= 18

(left column label: 2)

Grand Total= 81

Total structural components 81

2

Eight Cubes first set up

4				
27	18	18	18	= 81
18	12	12	12	= 54
18	12	12	12	= 54
18	12	12	12	= 54

(left column label: 2)

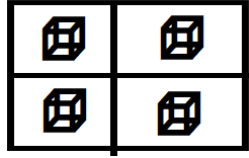Grand Total= 243

Total structural components 243

Difference of structural components of 8 squares and 8 cubes
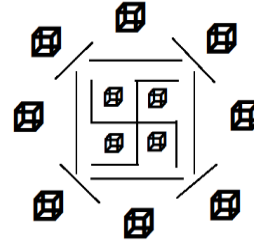
$$243 – 81 = 162 = 2 \times 81 = 2 \times 3^4$$

Cube is origin of 2-spacc

4-space if of quadruple spatial dimensions.

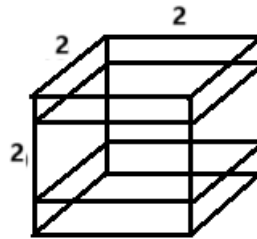Transcendenc from the origin of quadruple spatial dimension is of value $(3)^4$

3-space as origin of 2-space   Hyper Cube 4

3
Second set up of eight cubes

First layer

(i)   First row structural components = 27 + 18 = 45
(ii)   Second row strcutral components = 18 + 12 = 30.
(iii)   Total structural components of first layer 45 + 30 = 75

Second layer

(i)   First Row structural component 18 + 12 = 30
(ii)   Second row structural component 12 + 8 = 20

Total structural components
(i)   75 + 50 = 125

Difference of structural components of first set up and second set up

243 − 125 = 118 = 2 x 59

59 = 22 + 37

37 = 18 + 19

6-space is origin of 5-space.

H6 = 22, H5 = 18, h5 = 19

Conclusion

Structural organization of Upsutra 7 deserve to be chased further as transition base for a reach and jump for Ganita Upsutra 8 following Sutra 9. And values pair (8, 9) as of organization (2^3, 3^2) of the Sathapatya of pair of opposite vertical orientation due to solid (3-space) transcendence from origin of 2-space. This aspect of good number of steps, for which, the write up will follow.

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January 04, 2025