ORGANIZATION FORMAT OF GANITA SUTRAS

Step 57 : **Transition from single orientation
to pair of orientations set up**

1. Ganita Sutra-1 working rule 'one more than before' settles single orientation set up.

2. Ganita Sutra-7 working rule 'by addition and subtraction' accept simultaneous availability of a pair of opposite orientations.

3. The orientation opposite to the orientation of the set up of the rule of Ganita Sutra-1 acquires independent play for the working rule of Ganita Sutra – 14 'one less than the previous one'.

4. The process beginning with Ganita Sutra-1 availing single orientation and processing steps reaching at the phase and stage of simultaneous availability of a pair of orientations at the stage of Ganita Sutra-7 and ultimately there being a reach for segregation of the pair of orientations by the stage of a reach up till the organization format of Ganita Sutra-14, deserves to be chased to comprehend and to imbibe the features of the organization format of Ganita Sutras.

5. The sequential phases and stages in between the organization format of Ganita Sutra-7 to the organization format of Ganita Sutra, as such deserve to be distinctively comprehended and to be imbibed.

6. The working rule of Ganita Sutra-8 'by the completion and non completion' focuses upon the organization feature of synthesizing 'completeness' with 'incompleteness' in such a way that the completeness retains its intrinsic completeness feature even after segregation therefrom of 'incompleteness'.

7. One may have a pause here and permit the transcending mind to chase transition from the set up of the format of Ganita Sutra-7 to the set up of organization format of Ganita Sutra-8.

8. The features of organization format of Ganita Sutra-7 may be appreciated with the help of an interval accepting a pair of opposite orientations.

9. Further the features of organization format of Ganita Sutra-8 may be appreciated in terms of the feature of a close interval permitting a split as a close interval and as non close interval.

10. The above pair of features of an interval firstly as a set up of a pair of orientations super imposed upon each other and secondly the permissibility for the close interval for the split as a close interval and non close interval, may be of great help to have a chase for the transition form the phase and stage of organization format of Ganita Sutra-7, to the phase and stage of the organization format of Ganita Sutra-8.

11. Here it would be relevant to note that the feature of pair of orientations getting super imposed in case of an interval is there as there being a permissibility for a reach from first end to the second end of the interval and vice – versa

12. One may have a pause here and permit the transcending mind to be face to face with this feature of super imposition of pair of orientations as a feature of the boundary (end points) being segregated from each other because of the inbetween domain (interval) Interval length.

13. This, this way would help comprehend this feature as such being of super imposition of orientations due to end points of the interval, would not be restricted up till interval as 1-space, but in fact, the same would be equally marking its presence for the set ups of whole range of dimensional bodies (of 2-space, 3-space and so on)/ square, cube, hyper cube.'

14. One may further have a pause and permit the transcending mind to be face to face with the feature of 'by completion and in completion', which in the context of an interval being as that close interval is a set up of close interval and a non close interval.

15. This feature of close interval as synthesis of a close interval and a non close interval deserves to be comprehended and to be imbibed as that here in the context the close interval accepts both end points intact, while non close interval has only one of its end points being intact.

16. One may further have a pause and permit the transcending mind to be face to face with this phenomenon of single point making all the difference for the set ups of a close interval and a non close interval. Here

it would be relevant to note that NVF (Full) = 51 while NVF (void) = 50 and the difference between these values being only 1 = 51 -50.

17. This feature of a point of a line shall be taking us to 'line of a plane' and ahead to a surface of a solid as that point is of a zero length while line is of a zero area and surface is of a zero volumme.

18. Further ahead solids would be of zero hyper volumme.

19. One may have a pause here and permit the transcending mind to be face to face this feature of 'a single point' of a line (domain).

20. It would be a fixed position for a point on the line in terms of which the split of above feature of close interval as a synthesis of close interval and non close interval is there.

21. However there may be any position for such point along whole of the domain (line).

22. This feature of a moving position of the line and above feature being retained and preserved throughout, is the feature which deserves to be comprehended and imbibed to comprehend and imbibe the values of the working rule of Ganita Sutra-9.
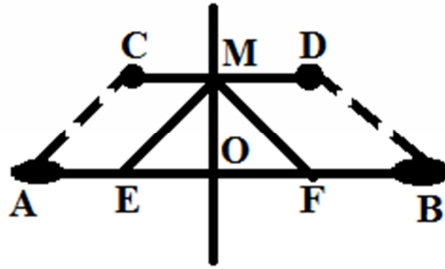
23. The Ganita Sutra-9 working rule 'moving (sequential motion) and non moving' is a transition from the static in between point of a domain to sequentially moving point of the domain causing split for the domain (say length) as $1 = x + (x-1)$ with x being variable or constant shall be providing us a transition from the phase and stage of organization format of Ganita Sutra-8 to the phase and stage of organization format of Ganita Sutra-9.

24. Here it also would be relevant to note that as a dimensional space can play the role of domain as well as of boundary, as such above feature of split of domain (while in the role of boundary) would be a split at the boundary.

25. It is this split at the boundary, which deserves to be chased.

26. This chase of split at the boundary with domain boundary ratio as A^n: $2nB^{n-1}$ shall be focusing on working in terms of 'not complete boundary of the domain'.

27. The domain boundary ratio A^n: $2nB^{n-1}$ gives a focus upon the possible split for the boundary into even number of components and as such the split of a boundary into a pair of halves would be of big range of applied values.

28. It would be relevant to note that the modern calculus, infact with its acceptance nx^{n-1} as the derivative for x^n, is making use of half boundary of domain x^n.

29. The modern mathematical knots / puzzles / problems in the domain of calculus are there because of above definition of derivative which restricts up till the features of half boundary of domain and unless and until this limitation is not taken care of then the problem of 'every where continuous but no where derivable functions' is bound to remain.

30. The transition from the organization format features of Ganita Sutra-9 to organization format of Ganita Sutra-10 would focus upon the features of the working rules of Ganita Sutra-9 and Ganita Sutra-10.

31. The working rule of Ganita Sutra-10 'by deficiency' focuses upon the inherent features of domains (say length) of lines may it be bigger or smaller.

32. A pair of lines, one being bigger than other, as such preserve the basic feature of 1-space content.

33. To appreciate it, let us

    i. have a pair of lines [A, B], [C, D] such that line AB is of bigger length than that of 'C, D'.
    ii. Let O is the middle point of line AB and M is the middle point of line CD.
    iii. Let us draw these lines parallel to each other such that line OM is perpendicular to the pair of lines AB, CD.
    iv. Join A and C, as well as B and D.
    v. Through point M draw a line parallel to CA. Let it be (ME).
    vi. Draw another line from M parallel to line DB. Let it be MF.

vii.   The portion EOF of line AB would the deficiency in reference to the line CD

34. Despite deficiency (EOF), like line AB, the line CD as well is having the features of 1-space domain being intact.

35. It shall be focusing upon the feature of infinity minus infinity still being infinity.

36. The transition from the features of organization format of Ganita Sutra-10 to Ganita Sutra 11 shall be taking us to the existence phenomenon of domains as that the cube within a cube as well of whole range of features of a 3-space domain.

37. Likewise hyper cube n within hyper cube n shall be of whole range of features of domain of n-space.

38. One shall have a pause and permit the transcending mind to be face to face with features of working rule of Ganita Sutra-11 'part is whole'.

39. One may further have a pause here and permit the transcending mind to be face to face with the transition from the features of organization format of Ganita Sutra-10 to the features of organization format of Ganita Sutra-11.

40. One may have a pause here and permit the transcending mind to be face to face with the features of domain fold (say here volumme part of cube) as well as its boundary / frame / geometric frame).

41. From the phase and stage of 'part being whole', say the cube within a cube preserving the whole range of features of the representative regular

body of 3-space, it is the wholeness of the domain as well as of the boundary are to be simultaneously available. The domain part, (say volume part of cube) shall be permitting a measuring rod of points, lines, squares and cubes.

42. One may have a pause here and take note that points, lines surfaces and solids are of the formats of features of zero degree, one degree, two degree and three degree set ups, the parallel to it would be a sequential format, say of ten place value, of sequential places values 10^0, 10^1, 10^2, 10^3, and so on.

43. As such within a cube (volumme / domain part) the sequential values formats for the measuring rod would be of the features 10^0 , $(10^0, 10^1)$, $(10^0, 10^1, 10^2)$ and $(10^0, 10^1, 10^2, 10^3)$.

44. In general for hyper cube n, it shall be of sequential steps 10^0 , $(10^0, 10^1)$, $(10^0, 10^1, 10^2)$, $(10^0, 10^1, 10^2, 10^3)$ and so on.

45. One may have a pause here and permit the transcending mind to be face to face with the working rule of Ganita Sutra-12 'remainder by the last digit', which shall be amounting to availing the remainders to be of sequential formats of last place value (say 10^0), last pair of place values say $(10^0, 10^1)$, last three place values $(10^0, 10^1, 10^2)$ and so on.

46. One may again have a pause and permit the transcending mind to be face to face with the features of boundary fold / boundary of domain, which accepts domain boundary ratio as $A^n : 2n\ B^{n-1}$ and to comprehend and imbibe the values of the working rule of Ganita Sutra-13 'ultimate and twice the penultimate'.

47. One may have a pause here and permit the transcending mind to continuously remain in prolonged sitting of trans and to be face to face with the phase and stage of emergence of above range of features ultimately taking us to the phase and stage of a working rule of Ganita Sutra-14 'one less than before' as of features of orientation opposite to that of Ganita Sutra-1, which at the phase and stage of Ganita Sutra-7 was

super imposed upon it and both the orientations were simultaneously available.

48. One may have a pause here and to comprehend and imbibe the attainment of the above sequential phases and stages whereby the pair of orientations get segregated for their independent existence values.

49. It is this feature of simultaneous availability of a pair of lines of independent but of opposite orientations which while shall be synthesizing as axis to attain transition from the set up of a line (1-space domain) to surface (a 2-space domain), there shall be synthesis thereof as are the formats of symbols (+ addition, x multiplication).

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