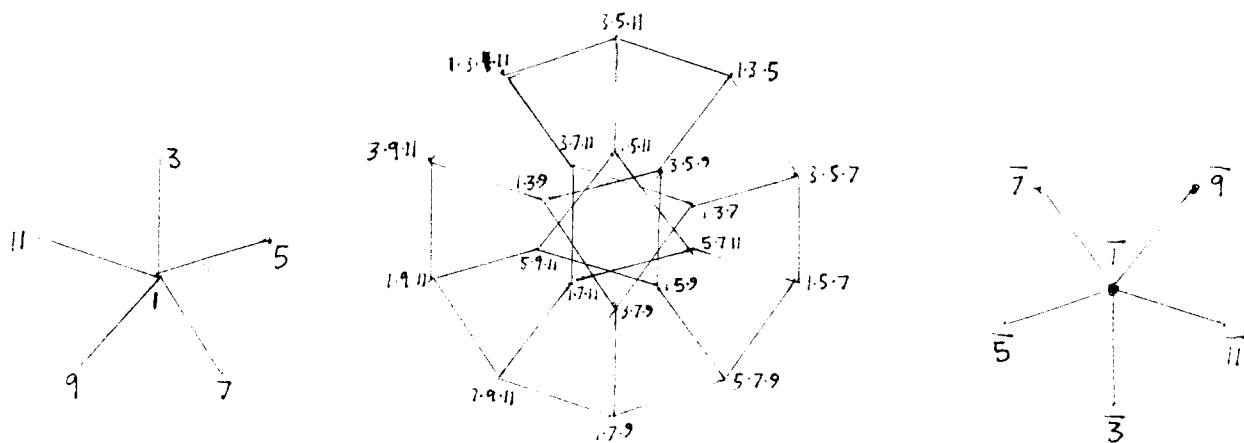


Combination-Product Set Patterns

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In 1969, with Erv Wilson's invention of the product combination set, of which the Hexany and the Eikosany are the most familiar, Just Intonation took a giant leap forward. Here for the first time Just Intonation could not be accused of being a reactionary endeavor. Despite the important work of Harry Partch through his development of the Diamond (via Schlesinger) which forever solidified 11-limit structures, it failed to liberate the dominance of one pitch over another (one composer said that he "could always recognize Harry Partch, it was always in 'G'"). The six-tone Hexany (the two factors-out-of-four combination set) although limited in total number of pitches available, succeeds in liberating its user from a strong tonic, or even an obvious 1/1. Any tone is equally capable of becoming a tonic but unlike the twelve-tone equal-temperament structure, each tone bears a unique relationship to the rest of the members of the structure. It is not that the center is everywhere and the circumference nowhere, but more likely that one can no longer distinguish between the two. A common image that comes to mind is James Hillman's observation: "...the mind being in the imagination as opposed to the imagination in the mind." The Eikosany (the three-out-of-six combination set) is the structure I wish to discuss in detail in this paper. It reminds myself of the game of chess in that the deeper one explores its simplicity, the more unlimited it becomes as well as complex. Since Wilson's original paper on the subject, the horizon of the Eikosany has deepened considerably; for that reason, certain of these developments need to be brought forward. Since the inventory is overwhelming, this exploration will be limited by those capabilities illustrated by a centered pentad lattice of a 1-3-5-7-9-11 Eikosany. The first diagram is of such a lattice:



5-9-11 1-5-11 5-7-11 1-7-11 3-7-11 1-3-7 3-7-9 1-3-9 3-5-9
 3-5-11 1-3-11 3-9-11

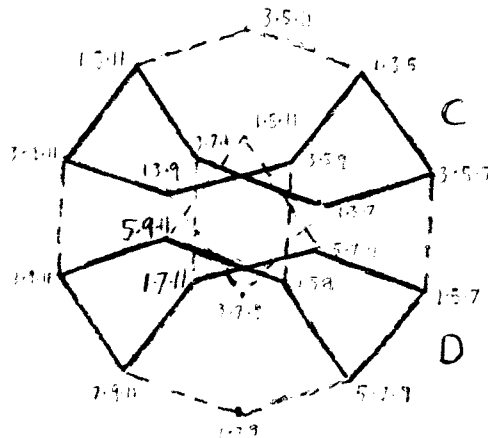
1-5-9 5-9-11 1-5-11 5-7-11 1-7-11 3-7-11 1-3-7 3-7-9 1-3-9
 1-9-11 7-9-11 1-7-9

3-5-9 1-5-9 5-9-11 1-5-11 5-7-11 1-7-11 3-7-11 1-3-7 3-7-9
 5-7-9 1-5-7 3-5-7

1-3-9 3-5-9 1-5-9
 1-3-5

The two pentad shapes on each side can be used to figure out the tetrad formed. It should be understood that the patterns can start and end anywhere as well as change direction. Also, the forementioned rotation of the elements of the pentads will create different dekanies and/or different orders.

Below is another structure I stumbled upon one day of which I am fond. It contains many patterns of four (compared to the **Tree Toad** patterns of ten). It can be rotated 36 degrees (or an multiple thereof) for purposes of development or creating larger cycles. Here is the lattice pattern overlaying the previously used **Eikosany** with illustrations of patterns beneath that should be self-explanatory upon examination:



C2	1-3-9	3-5-9	1-3-5	3-5-7	1-3-7	3-7-11	1-3-11	3-9-11
C1	1-3-11	3-9-11	1-3-9	3-5-9	1-3-5	3-5-7	1-3-7	3-7-11
D1	1-9-11	5-9-11	1-5-9	5-7-9	1-5-7	5-7-11	1-7-11	7-9-11
D2	1-7-11	7-9-11	1-9-11	5-9-11	1-5-9	5-7-9	1-5-7	5-7-11

Combinations C1 & D1 or D2 will form dyads within the 11 limit
 D1 & C1 or C2 will form dyads within the 11 limit
 C1 & D1 & D2 will form triads within the 11 limit
 D1 & C1 & C2 will form triads within the 11 limit

