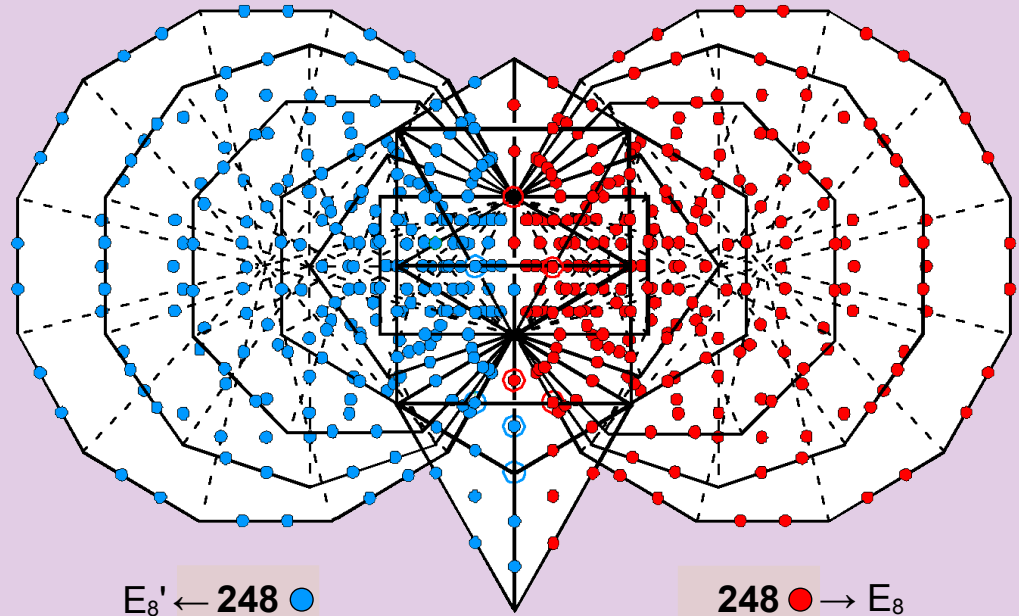


$$E_8' \leftarrow 248 \text{ (blue dot)} \quad 248 \text{ (red dot)} \rightarrow E_8$$

The 2nd-order tetractys contains 85 yods, where $85 = 4^0 + 4^1 + 4^2 + 4^3$. 13 yods line shared sides of adjacent sectors of the octagon, leaving **72** yods per sector. They comprise 10 corners of 10 1st-order tetractyses and **62** hexagonal yods. The octagon has $(8 \times 62 = 496)$ hexagonal yods, arranged in two cross pattées as **248** ● and **248** ●. They symbolise, respectively, the **248** roots of E_8 and the **248** roots of E_8' .

$$496 = 1^3 + 3^3 + 5^3 + 7^3$$



$$E_8' \leftarrow 248 \text{ (blue dot)} \quad 248 \text{ (red dot)} \rightarrow E_8$$

The outer Tree of Life with 1st-order tetractyses as its 16 triangles contains 70 yods. They comprise 10 corners and 60 red or blue hexagonal yods. The inner Tree of Life with Type A polygons contains 524 yods. They comprise **80** corners of 94 1st-order tetractyses and 444 hexagonal yods (222 associated with each set of 7 enfolded polygons). When the outer & inner Trees combine, four hexagonal yods and three corners on each side pillar of the former coincide with hexagonal yods and corners in the two hexagons of the latter. The combined Trees have $[(10-6=4) + 80 = 84]$ corners and $[(60-8=52) + 444 = 496]$ hexagonal yods. $(52/2=26)$ red or blue hexagonal yods can be associated with each half of the outer Tree of Life. Each half of the combined Trees have $(26+22=248)$ red or blue hexagonal yods. They symbolise the **248** roots of E_8 and the **248** roots of E_8' . This is the Tree of Life basis of $E_8 \times E_8'$ heterotic superstrings.