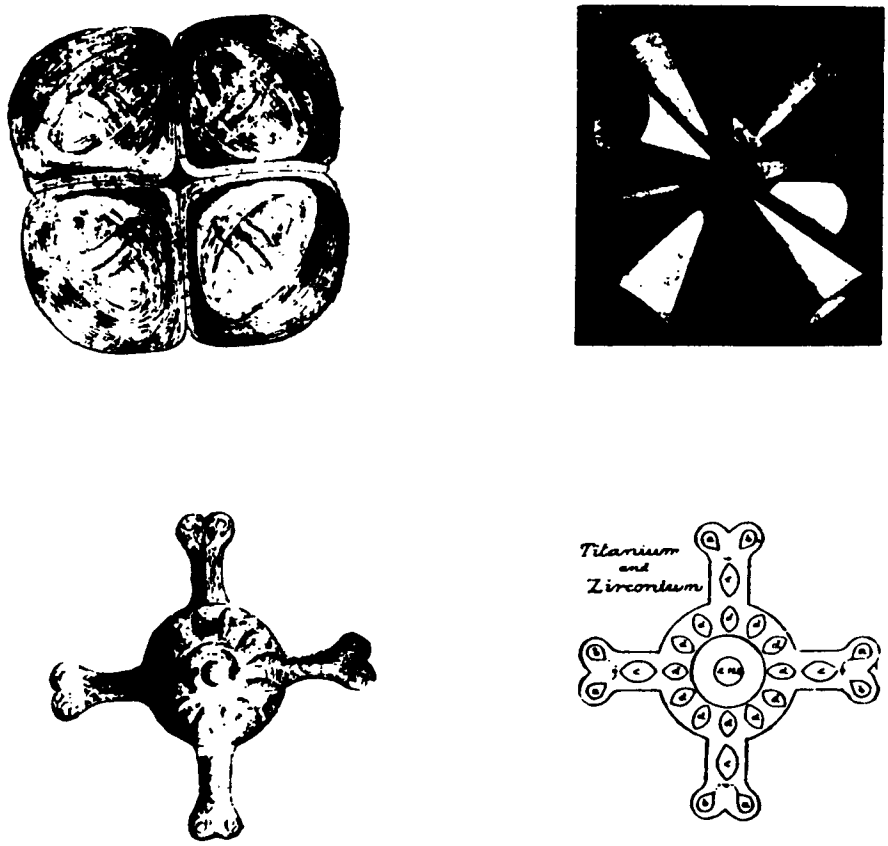


FIG. 117. TYPES OF OCTAHEDRONS

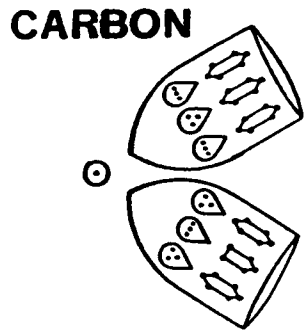


FIG. 118. TWO FUNNELS OF CARBON WITH LINKING ANU.

CHAPTER IX

THE OCTAHEDRON GROUP A

THIS group is a very interesting one, containing as it does the element Carbon, so important in organic chemistry. The members of the group occur at the extreme limits of the left-hand swing of the pendulum. Their characteristic form is that of an octahedron, rounded at the angles and a little depressed between the faces in consequence of the rounding. In fact, it was not at first recognized as an octahedron, and was called the " corded bale ".

All these elements are tetravalent and have eight funnels opening on the eight faces of the octahedron. Here, as usual, we find that the number of funnels is twice the valence.

The conception of the four valencies of Carbon pointing to the four corners of a tetrahedron, so much used in organic chemistry, at once comes to the mind. It is obvious that if four of the eight funnels are used, these would give forces pointing in the required directions in space. This subject is further illustrated in the descriptions of the Carbon compounds in Chapter XIII.

ATOMIC NO.	ANU	ELEMENT	CENTRE	FUNNELS
6	216	Carbon	4	4 C27+4C26
22	864	Titanium	(Ne120+8) +12Ti14	4 (Ti88+C27+C26+1)
40	1,624	Zirconium	(Ne120+8) +12Zr36	4 (Zr212+C27+C26+1)
58	2,511	Cerium	Ce667	4 (Zr212) 4 (Ca160+Ce36+C27+C26)
72	3,211	Hafnium	Hf747	4 (Zr212+4Hf36) 4 (Ca160+Ce36+C27+C26 +Ge11)
90	4,187	Thorium	Lu819	4 (Zr212+Sb128+Ac116) 4 (Ca160+Mo46+2Li63+C27 +C26+1)

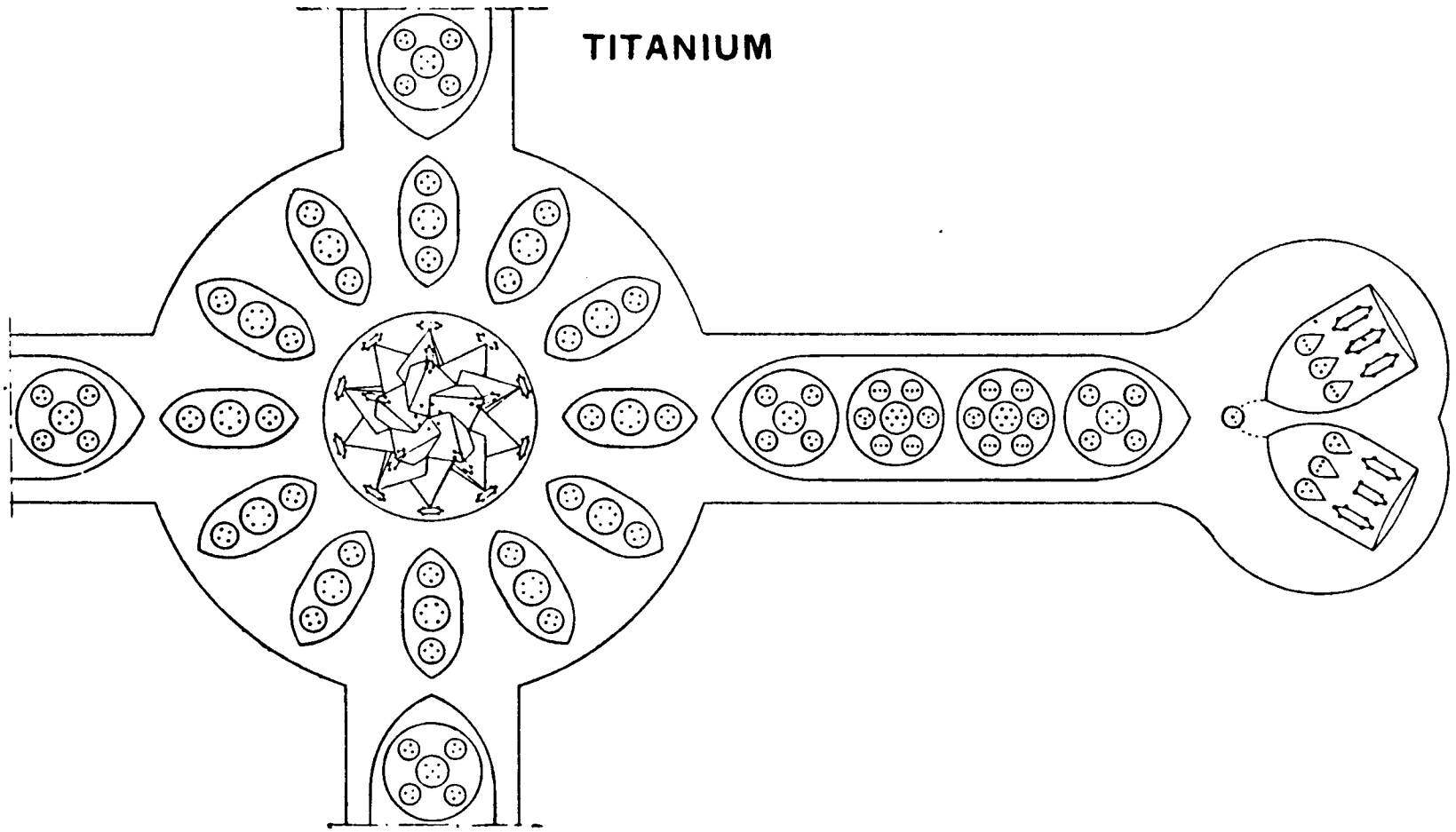


FIG. 119. TITANIUM

ATOMIC NO. 6.

CARBON

Carbon gives us the fundamental octahedron form, which becomes so marked in Titanium and Zirconium.

Central globe. In the centre of the octahedron is a globe containing four Anu, each within its own wall; these lie on the dividing lines of the faces and each holds a pair of funnels together. It seems as though this Anu had been economically taken from one Ad6 in the funnels, to form the link. Fig. 118.

Funnels. The funnels are in pairs, one of each pair showing three "cigars" and having as its fellow a funnel in which the middle "cigar" is truncated, having lost one Anu. Each Ad6 has a leaf-like body at its base, the six together making up one Hydrogen atom.

Carbon = 4+4C27+4C26

Centre	=	4	Anu
4 funnels of 27 Anu	=	108	,,
4 funnels of 26 Anu	=	104	,,
Total	=	216	Anu

Number weight $\frac{216}{18} = 12.00$

ATOMIC NO. 22

TITANIUM

Central globe. The central body is made up of the five interlaced tetrahedrons, Ne120, with a ring of seven Anu round an eighth, that forms the minute centre of the whole. Into this elaborate body one hundred and twenty-eight Anu are built.

Round this centre comes a ring of twelve ovoids each holding within itself fourteen Anu, distributed among three contained spheres, two quartets and a sextet. This is a new device for crowding in material. Fig. 119.

Funnels. Titanium has a complete Carbon atom distributed over the ends of its four arms, a pair of funnels with their linking Anu being seen in each. Then, in each arm, comes the elaborate body Ti88, with its eighty-eight Anu.

The protrusion of the arms in Titanium and Zirconium suggests the old Rosicrucian symbol of the cross and rose, but since they show at their ends the eight carbon funnels with their characteristic contents they justify their relationship.

Titanium = (Ne120+8)+12Ti14+4(Ti88+C27+C26+1)

Central globe	=	128	Anu
Ring	=	168	,,
4 arms	=	352	,,
8 funnels	=	216	,,
Total	=	864	Anu

Number weight $\frac{864}{18} = 48.00$

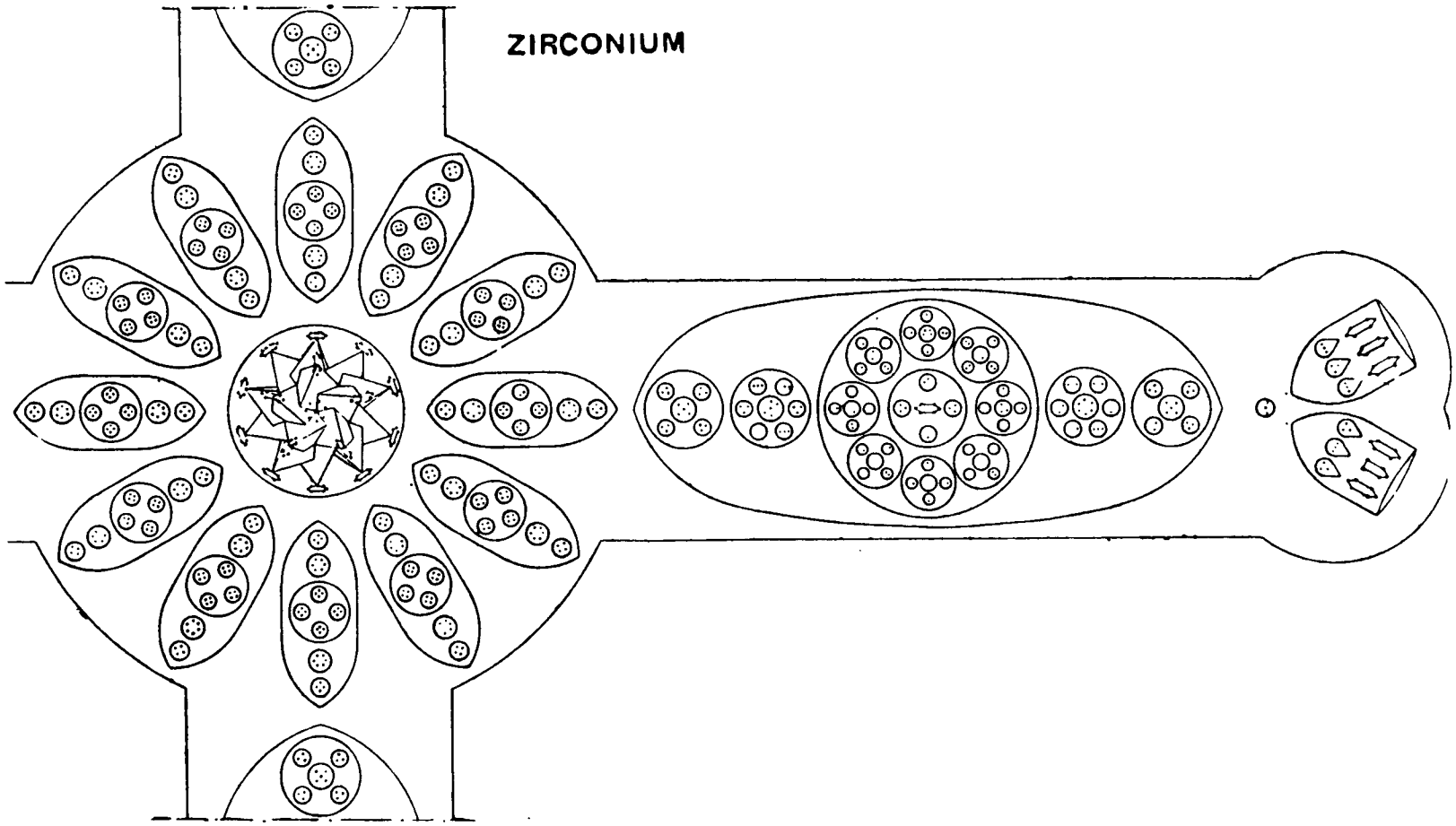


FIG. 120. ZIRCONIUM

ATOMIC NO. 40.

ZIRCONIUM

Zirconium has a similar design to Titanium, the Carbon atom being similarly distributed and the central body identical in pattern. Fig. 120.

Central globe. The central globe resembles that of Titanium, being Ne120+8, but the 12 ovoids in the ring are more elaborate, each containing 36 Anu instead of 14.

Funnels. The ovoid in the arm of Zirconium shows no less than thirteen secondary globes, four of which make Ti88. These in turn contain altogether 69 smaller spheres. So we have 212 Anu in each arm, Zr212. A whole Carbon atom is distributed over the ends of the four arms, as in Titanium.

In this way the clever builders have piled up in Zirconium no less than 1,624 Anu.

Zirconium = (Ne120+8)+12Zr36+4(Zr212+C27+C26+1)

Central globe	=	128	Anu
Ring	=	432	„
4 arms of 212 Anu	=	848	„
8 funnels	=	216	„
Total	=	1624	Anu

Number weight $\frac{1624}{18}$ = 90.22

ATOMIC NO. 58.

CERIUM

This element has many of the characteristics of Carbon, Titanium and Zirconium, but the projecting arms which give Titanium and Zirconium the form of a cross are so masked by other projections that they now take their place as ordinary funnels, and we have once more the octahedron which in appearance resembles a corded bale.

Central globe. The central globe is formed of a central group, Ce27, surrounded by 20 ovoids Ce32. These are arranged on the pattern of the Radium centre. This group, Ce667, is also found as the centre of Neodymium in the Tetrahedron Group A. Fig. 121.

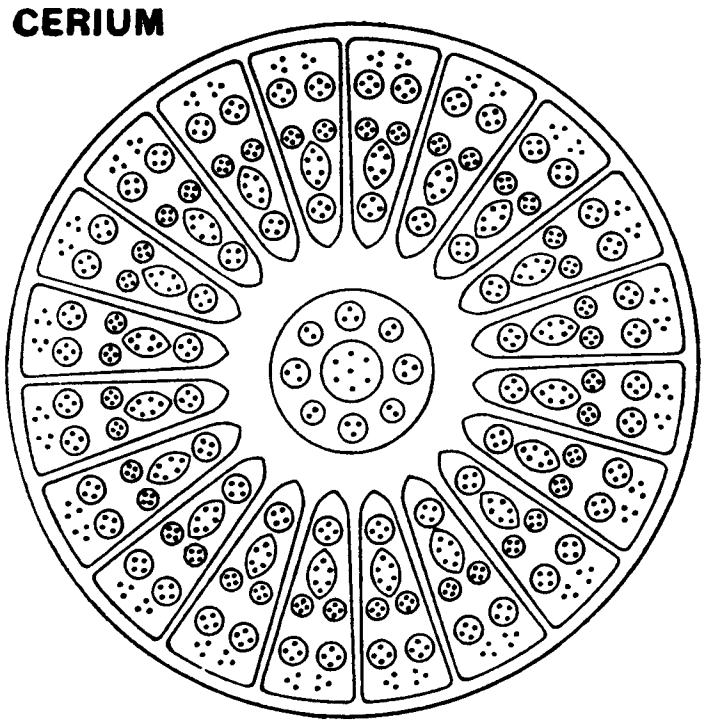


FIG. 121. CERIUM CENTRE, Ce667

Funnels. Cerium has two types of funnels, four of each type. Fig. 122.

Type A contains the arm of Zirconium, Zr212.

Type B is partly made up of constituents from Calcium. First Ca45, then Ca70, and then another Ca45. Next comes a new sphere, Ce36, containing 2 Mo11 and 2 I.7. At the mouth come two Carbon funnels. The characteristic Carbon atom thus appears as usual divided into four parts, though it is only in four out of the eight funnels. Oddly enough its little funnels have lost their linking Anu.

Cerium = Ce667+4Zr212+4 (Ca160+Ce36+C27+C26)

Central globe	=	667	Anu
4 funnels of 212 Anu	=	848	,,
4 funnels of 249 Anu	=	996	,,
Total	=	2511	Anu

Number weight $\frac{2511}{18} = 139.50$

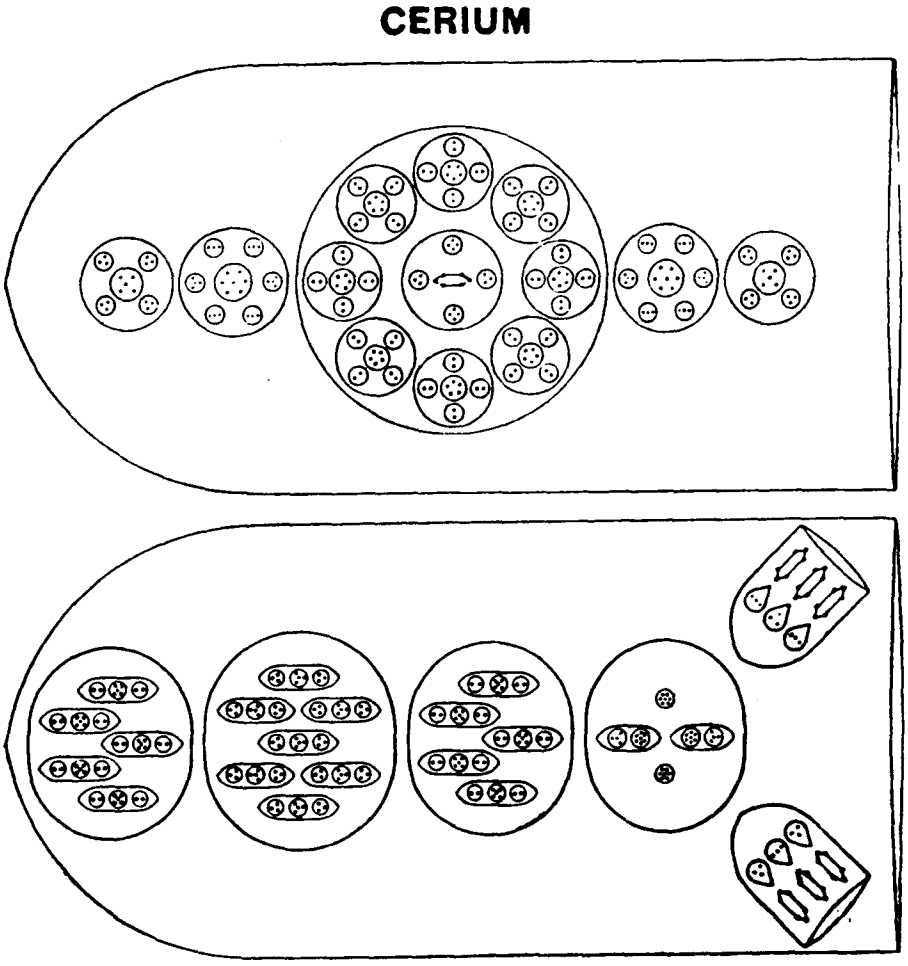


FIG. 122. CERIUM. FUNNELS A AND B

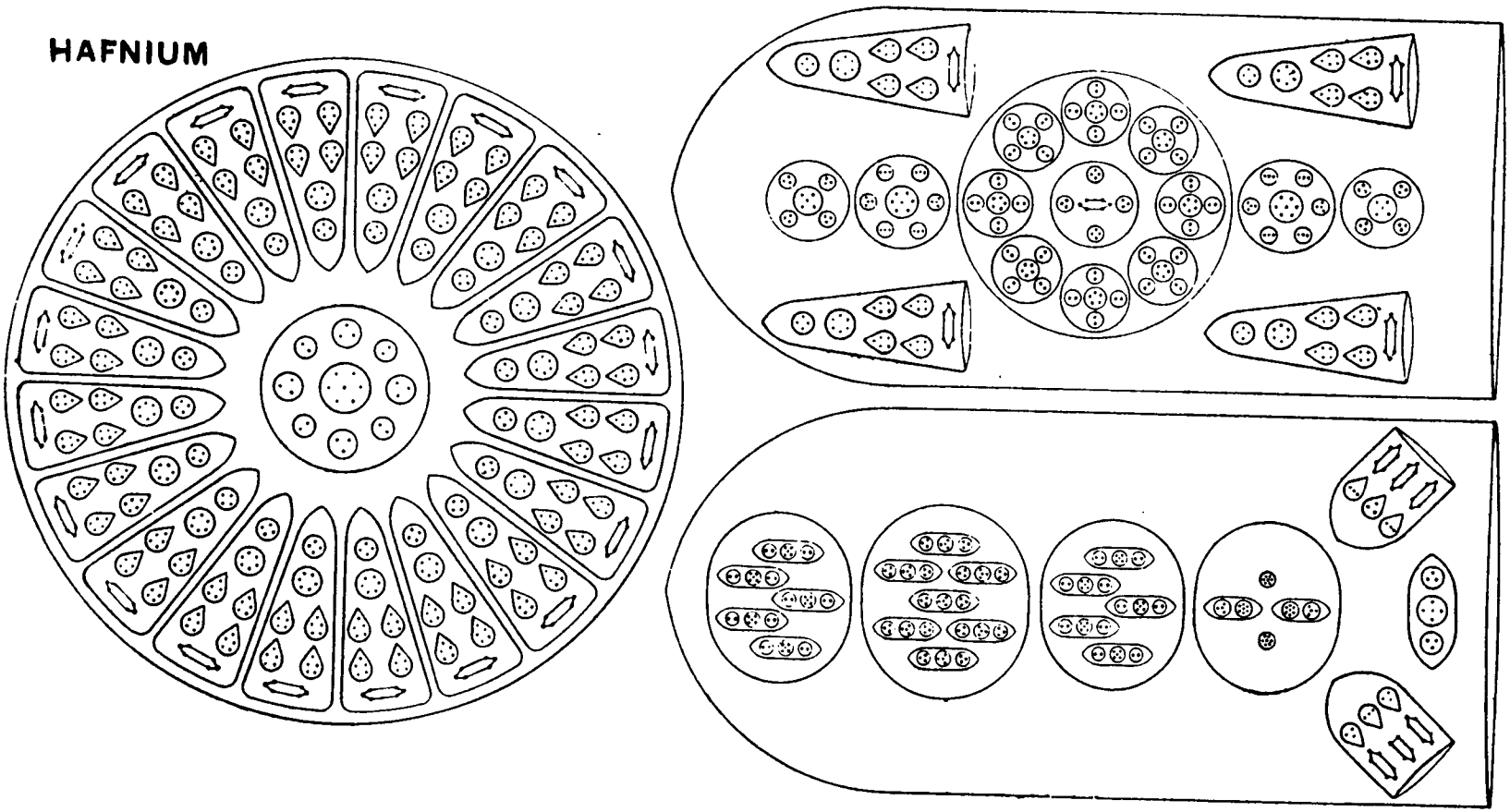


FIG. 123. HAFNIUM

ATOMIC NO. 72.

HAFNIUM

This element is also an octahedron. It is similar to Cerium in having two types of funnels. Fig. 123.

Central globe. The central globe is formed on the same pattern as that of Cerium. The central sphere is Ce27, and this is surrounded by 20 ovoids. These ovoids are each of 36 Anu, Hf36. The total number of Anu in the central globe is 747, Hf747.

Funnels. Four funnels are of one type and four of another.

Type A. These four funnels contain the Zr212 group, but four ovoids Hf36, similar to those in the central globe, are added. This makes a total of 356 Anu.

Type B. These funnels are very similar to those in Cerium. We have first the Ca160, next the Ce36 group, and then the two funnels of Carbon, still without their linking Anu. In addition a small ovoid, Ge11, containing two triplets and a quintet, floats at the mouth of the funnel. The total number of Anu is 260.

Hafnium = Hf747+4(Zr212+4Hf36)+4(Ca160+Ce36+C27+C26+Ge11)

Central globe	=	747	Anu
4 funnels A	=	1424	„
4 funnels B	=	1040	„
Total	=	3211	Anu

Number weight $\frac{3211}{18}$ = 178.38

ATOMIC NO. 90.

THORIUM

This element reproduces the features of Cerium while adding to them. Oddly enough, the Carbon atom has here resumed the links which it lost in Cerium and Hafnium. The Lithium spikes are here again, brought over presumably from Actinium, but as Thorium is an octahedron there is now room for them in the funnels. The special adaptation of the Antimony funnels has evidently come along the spiral from Actinium also, and the central sphere is Lu819. Fig. 124.

Central globe. This is the Lu819 which is used in so many elements, including Radium and Uranium. It is formed from the Ce27 group at the centre and 24 ovoids of Ba33.

Funnels. The eight funnels are of two types, four of each.

Type A contains the Zr212 and adds Sb128 and the group Sb113+3, or Ac116, which occurs in Actinium. The total contains 456 Anu. Fig. 125.

Type B is formed of three groups. First a large group containing Ca160, Mo46 and ½ C. (The Carbon funnels have their linking Anu in this case.) Then, on either side of the large group, we find a Lithium spike, 2Li63. The total contains 386 Anu. Fig. 126.

Thorium = Lu819+4(Zr212+Sb128+Ac116)+4(Ca160+Mo46+C27+C26+1+2Li63)

Central globe	=	819	Anu
4 funnels A	=	1824	„
4 funnels B	=	1544	„
Total	=	4187	Anu

Number weight $\frac{4187}{18}$ = 232.6

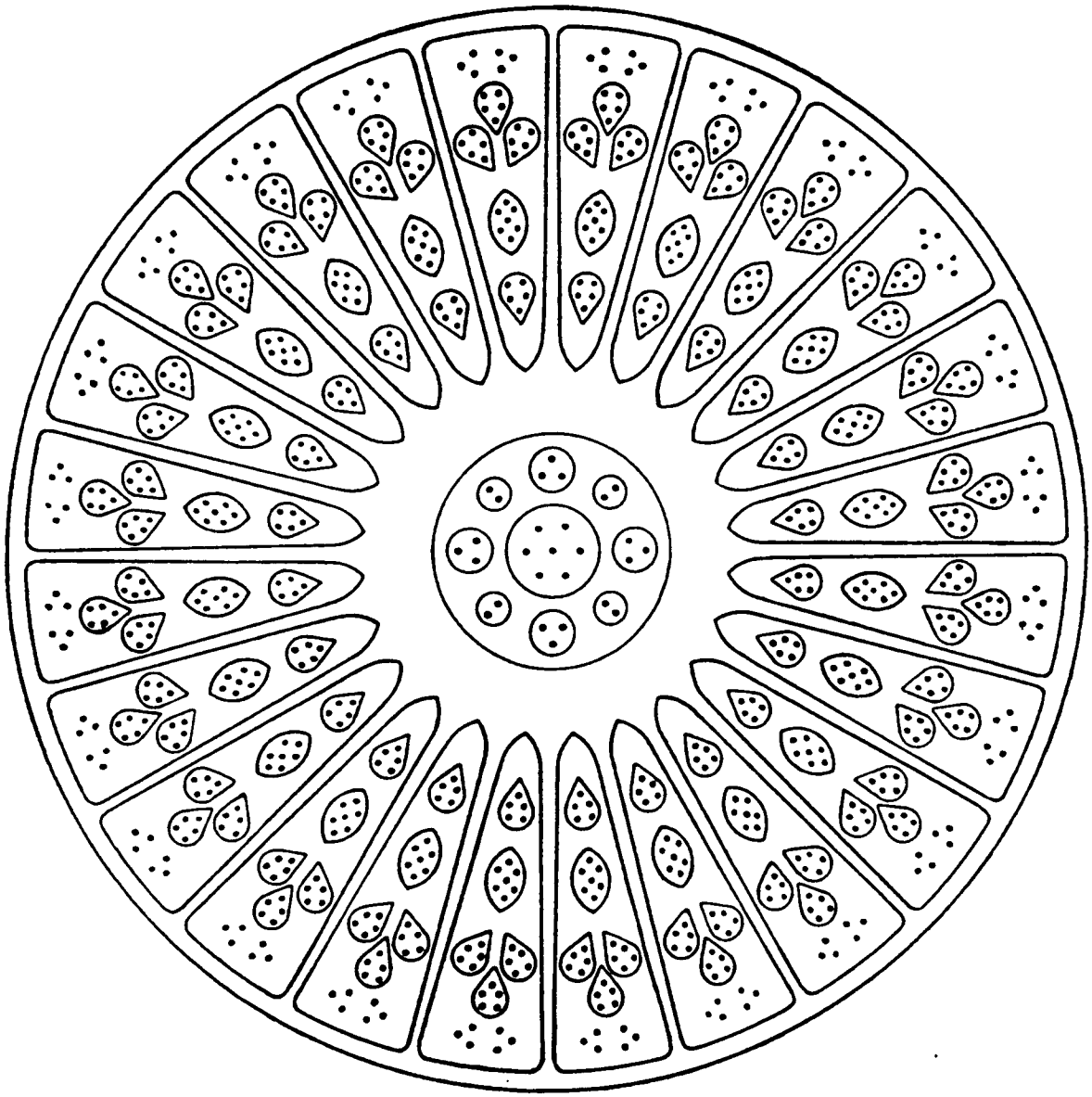


FIG. 124. THORIUM CENTRE, Lu819

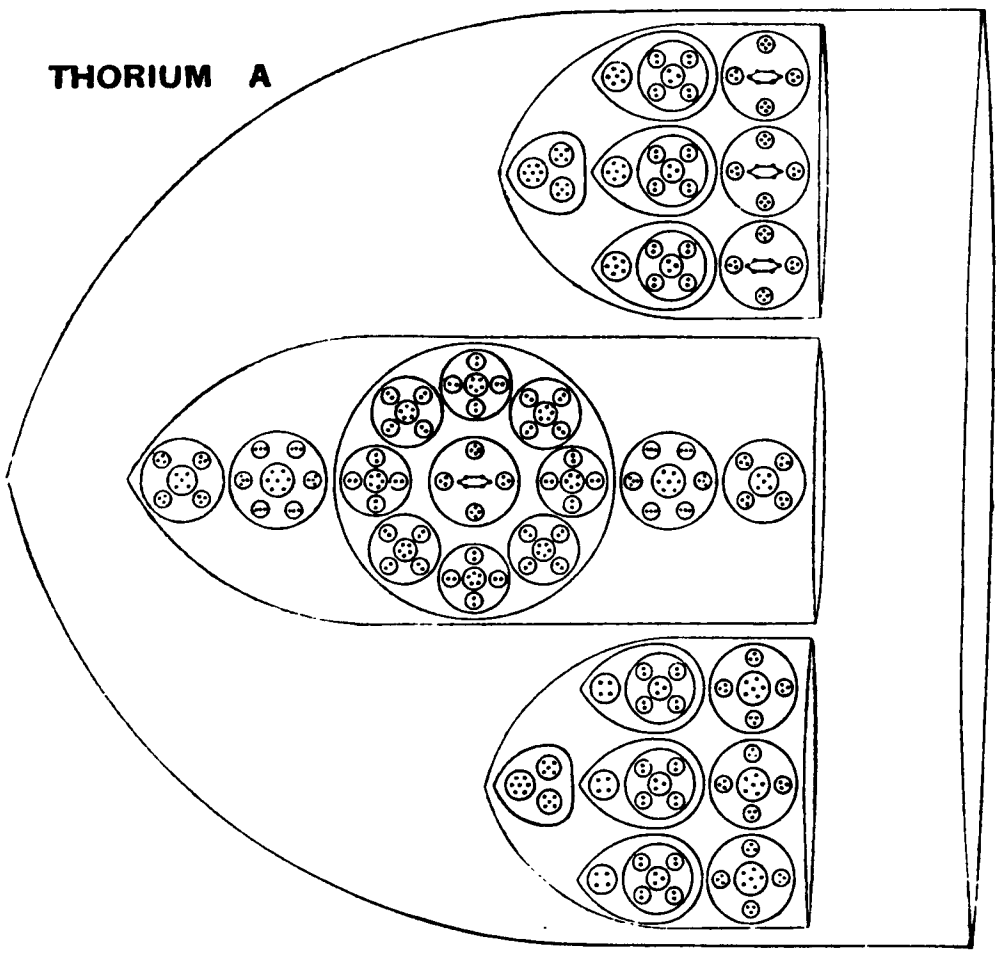


FIG. 125. THORIUM FUNNEL A

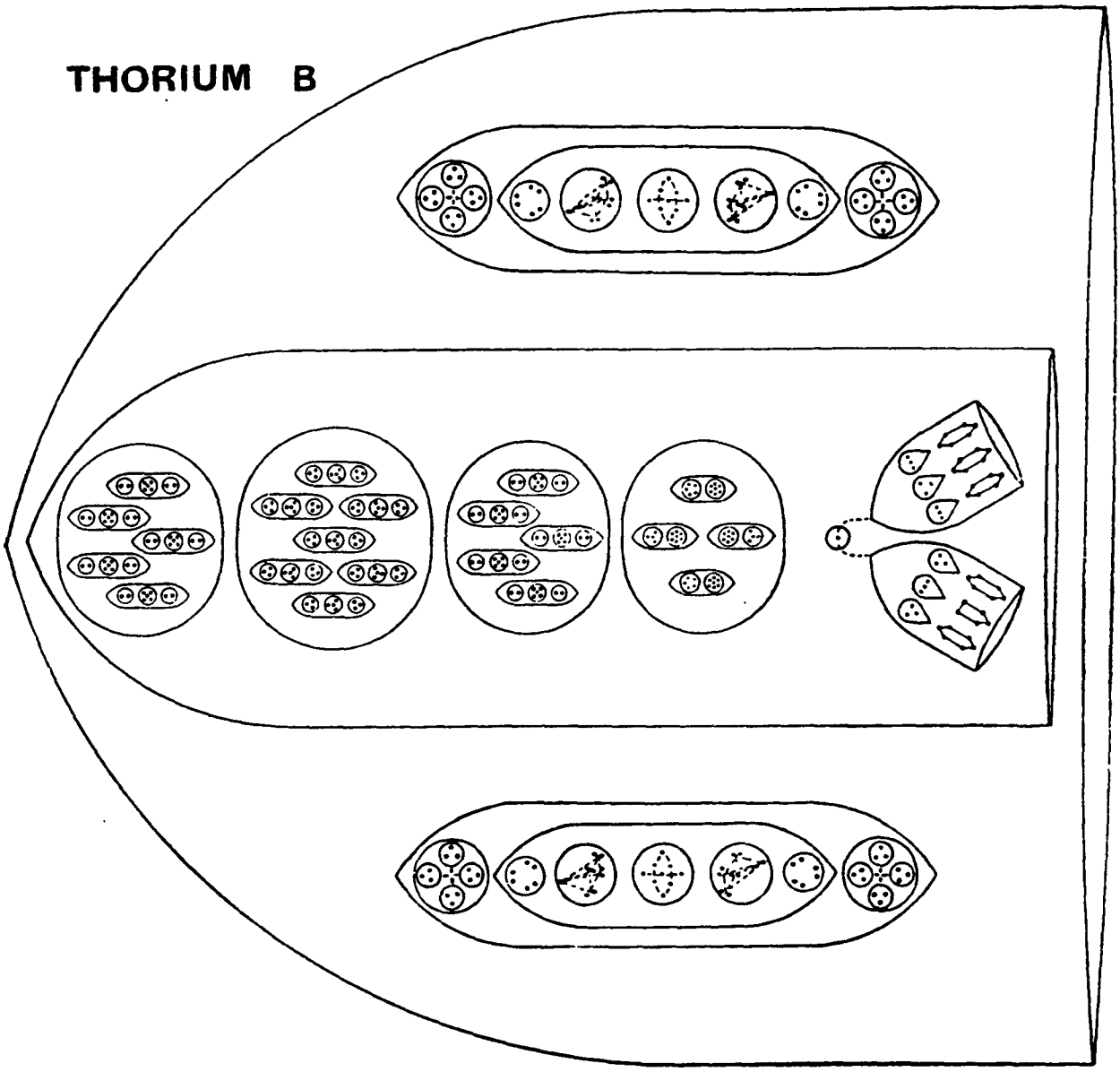


FIG. 126. THORIUM, FUNNEL B

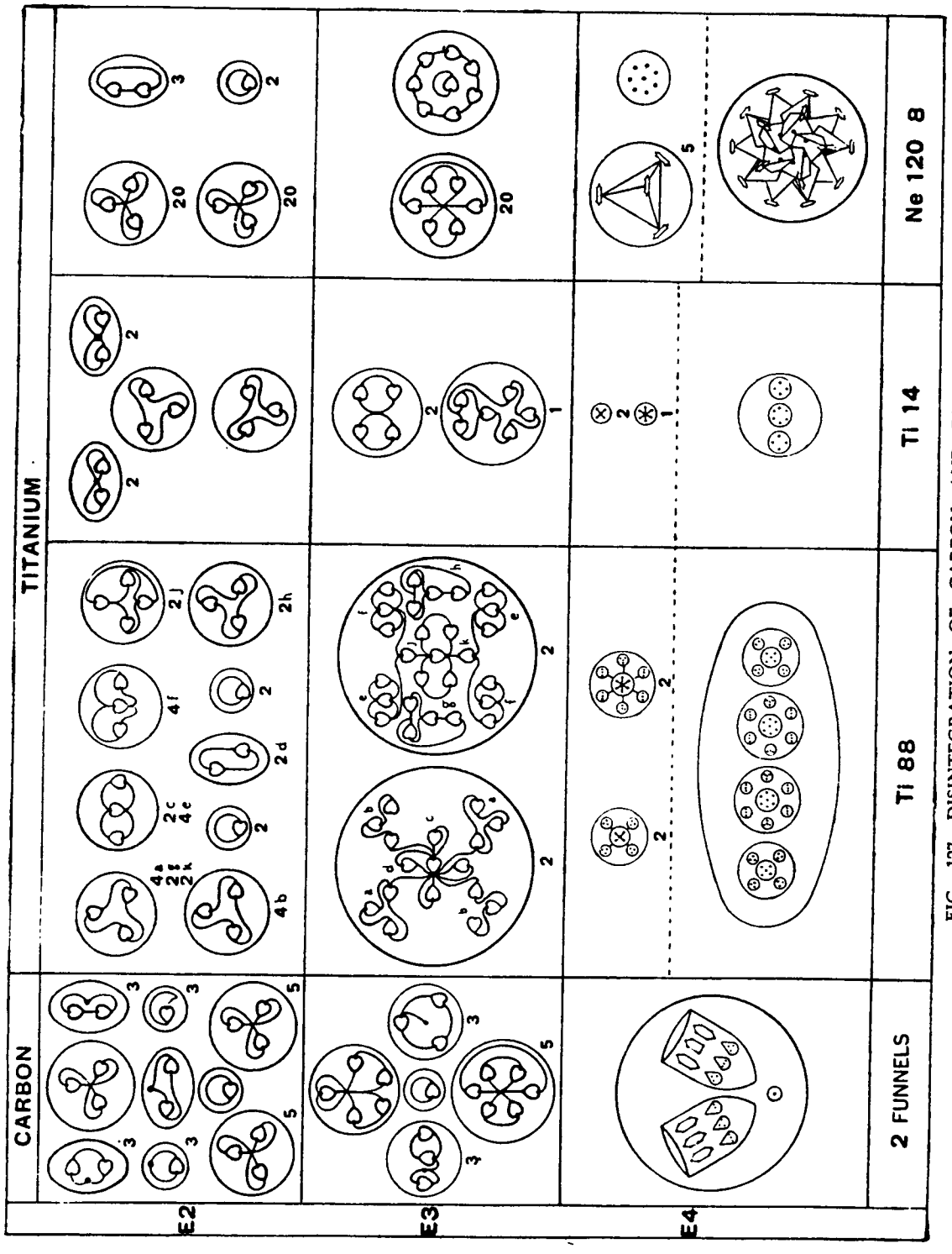


FIG. 127. DISINTEGRATION OF CARBON AND TITANIUM

DISINTEGRATION OF OCTAHEDRON GROUP A

DISINTEGRATION OF CARBON

Carbon is the typical octahedron, and a clear understanding of this element will enable us to follow easily disintegration of the various members of these groups. Fig. 127.

On the E4 level the atom breaks up into four spheres each consisting of a pair of funnels connected by a single Anu.

On the E3 level the five Ad6 groups give the usual sextets and the truncated 'cigar' of five Anu forms a quintet. The leaves yield two forms of triplets and the unit remains alone.

On the E2 level the sextets each give two triplets, the quintet a triplet and a duad; the triplets give duads and units and the single unit remains free.

DISINTEGRATION OF TITANIUM

On the E4 level this element first breaks up into its constituent parts. Each arm of the cross gives the pair of funnels with the linking Anu as in Carbon, and an ovoid, Ti88. Fig. 127.

The ring liberates the twelve spheres, Ti14, and the central globe, Ne120+8, is also set free.

At the second stage on the E4 level the ¼ C group remains together, as in Carbon, but the other groups break up still further as shown in Fig. 127.

The ovoid, Ti88, gives four globes of two types.

The Ti14 spheres each yield three smaller spheres.

The central globe gives five tetrahedrons, 5Ad24, and a group of eight Anu from the centre. These make a ring of seven Anu round a central one.

Thus on the E4 level we get 62 groups. The four ¼ C, 16 spheres from the four arms, 36 spheres from the ring and 6 bodies from the central globe.

On the E2 and E3 levels the bodies behave as shown in Fig. 127. The funnels act as in Carbon; Ti88 yields star-like and cruciform bodies on the E3 level, and simple triplets, duads and units on the E2. Each Ti14 gives a sextet and two quartets on the E3 level and triplets and duads on the E2 level.

The central sphere behaves as in Neon and Occultum, while the group of eight Anu forms a ring of seven Anu with one in the centre on the E3 level, and breaks up into duads and units on the E2.

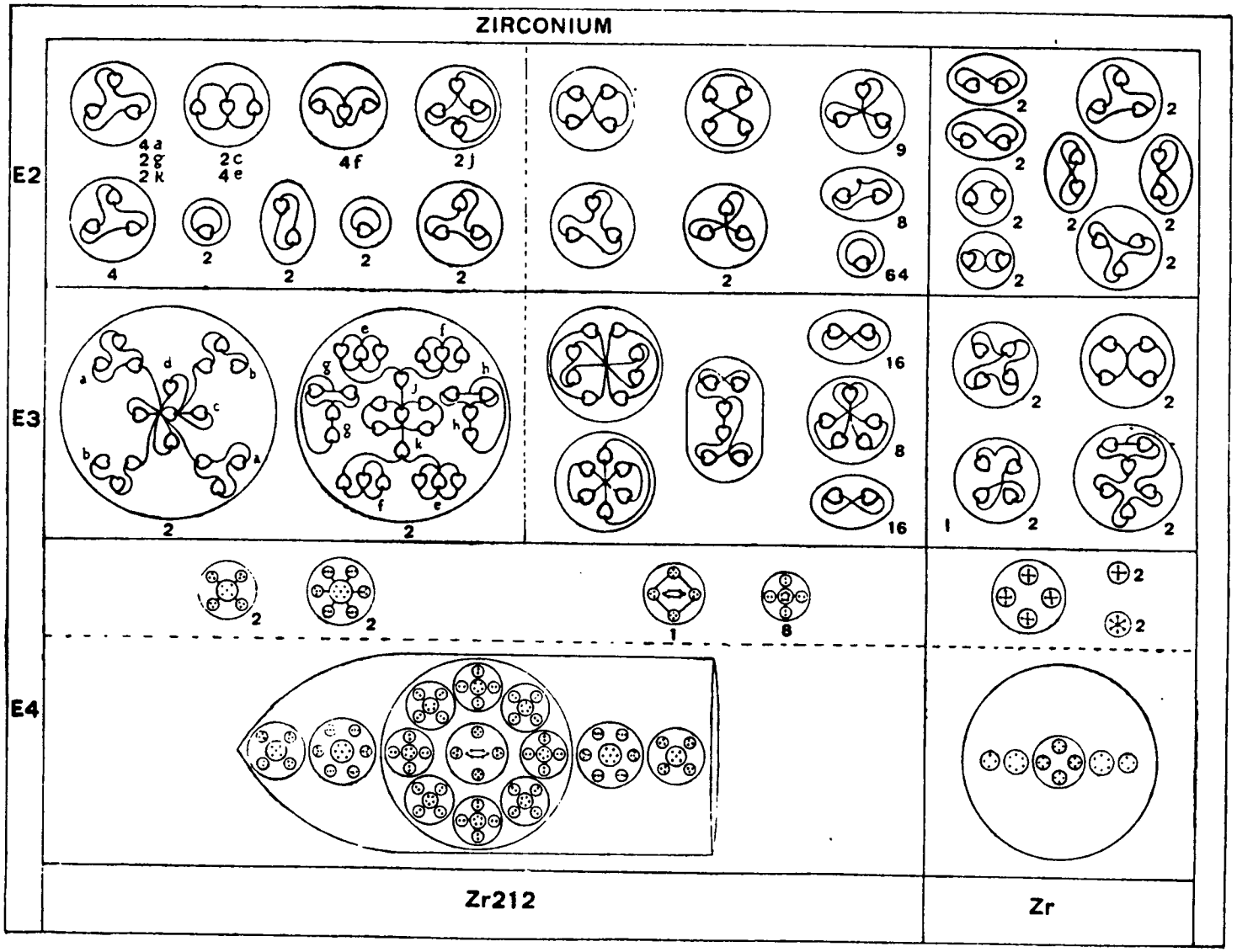


FIG. 128. DISINTEGRATION OF ZIRCONIUM

DISINTEGRATION OF ZIRCONIUM

Zirconium also breaks up in two stages on the *E4 level.* Fig. 128. The four sets of Carbon funnels are liberated as well as four Zr212 from the arms. Twelve Zr36 are set free from the ring and the central globe, Ne120+8, is also liberated.

At the second stage of E4 the Carbon funnels remain together but the other groups break up. The Zr212 gives the four spheres which make up Ti88, and nine globes from its central portion, eight Zr13 and one Ga20.

The spheres from the ring, Zr36, each liberate five bodies, four of which we have already seen in Titanium, and one of which is a group of 16 Anu. These follow the Sodium model.

The central globe liberates six bodies as in Titanium, five Ad24 and one group of eight Anu.

On the E3 level the ¼ C acts as shown under Carbon. The Zr212 forms the complex bodies already seen in Titanium and also an octet, two sextets of different types, eight quintets (from the truncated cigars in the Zr13) and 32 duads.

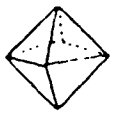
The Zr36 gives six quartets of different types, and two sextets.

The Ne120+8 acts as shown under Titanium.

On the E2 level quartets, triplets, duads and units are formed.

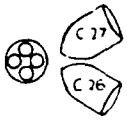
All these disintegrations can be followed by the aid of Figs. 127 and 128.

Fig. 129 shows the Octahedron Group A in a condensed form, from which the relationships in this group may be studied.

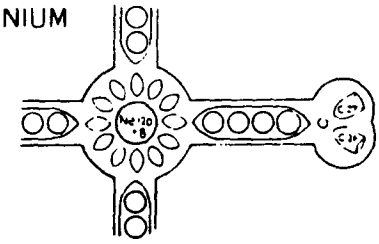


OCTAHEDRON GROUP A

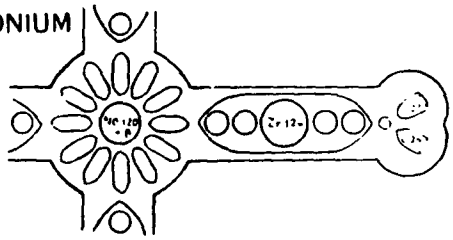
CARBON



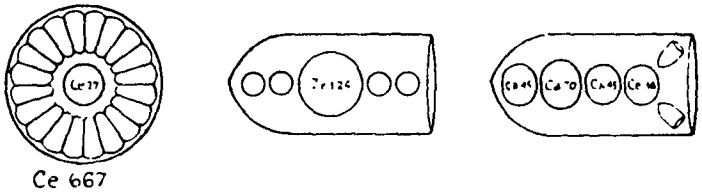
TITANIUM



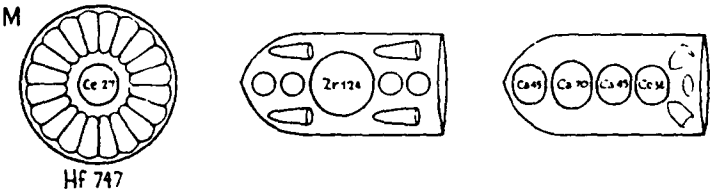
ZIRCONIUM



CERIUM



HAFNIUM



THORIUM

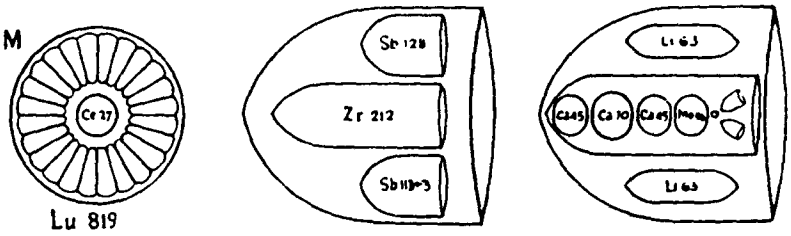


FIG. 129. THE OCTAHEDRON GROUP A