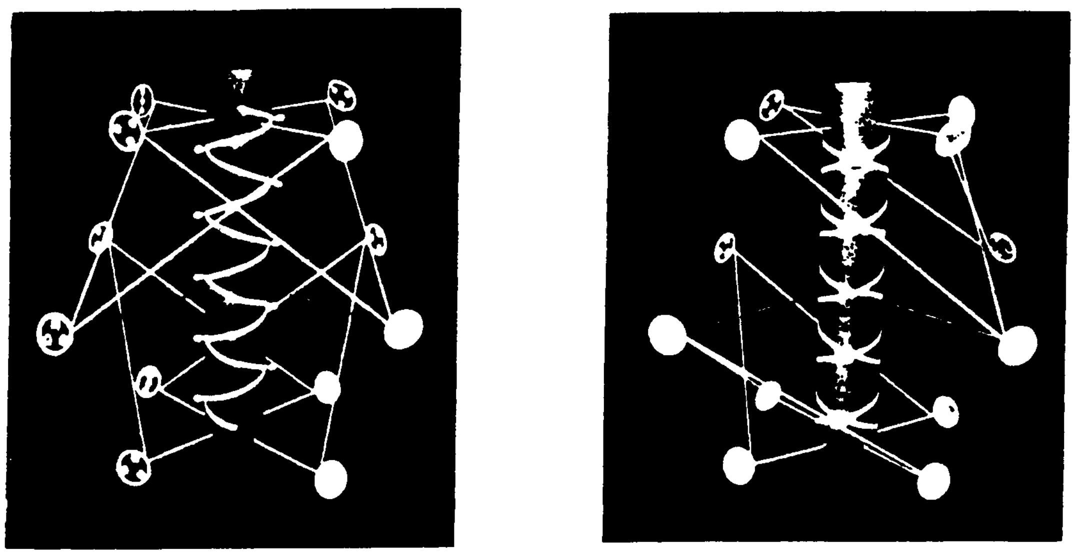


a b

FIG. 157. THE MOLECULE OF WATER, H_2O.

CHAPTER XIII

COMPOUNDS

A CHEMICAL compound is formed when two or more different atoms unite to form a new substance. When a compound is observed by clairvoyance it is seen that the atoms do not usually remain separate but that a mingling of the component parts of the constituent atoms takes place. Sometimes the atoms maintain their individuality and sometimes they are very much broken up, but their characteristic groups can easily be traced by reference to the diagrams of the atoms previously given.

The compounds which have been examined are here arranged as far as possible in related groups, first inorganic and then organic compounds.

As with the elements, the diagrams, though sometimes taken from photographs of actual models, are inadequate, and the reader must use his imagination to reconstruct the true molecule.

WATER H_2O

Each molecule of water is composed of two Hydrogen atoms and one Oxygen. Fig. 157 shows what happens when these atoms combine. The Oxygen double snake retains its individuality, as indeed it usually does, while the two Hydrogen atoms arrange themselves round it. Fig. 157a shows the Hydrogen atoms as forming with the Oxygen a sphere. Fig. 157b, another photograph of the same model taken from a different point of view, shows that each Hydrogen atom keeps its separate individuality.

THE HYDROXYL GROUP OH

This group is one of a number of distinct groups which keep their form and can be distinguished in many compounds. In the centre we find the double Oxygen snake. The Hydrogen atom divides into its two triangles and floats above and below the Oxygen. It will be noticed that when forming compounds the atoms often break up into the groups which they form when they disintegrate to the E4 level. This shows the importance of a study of the disintegration of the elements. It would seem that the E4 level is connected with chemical change. The appearance of the group is shown in Fig. 158. The upper triangle is positive, and the lower negative. Though these two triangles of Hydrogen are separated, with Oxygen in between, they are still bound to each other, and a linking force goes through the middle of the Oxygen snake. Each triangle rotates flat, and while rotating, sways a little up and down, as the lid of a pot rotates before it finally settles down.

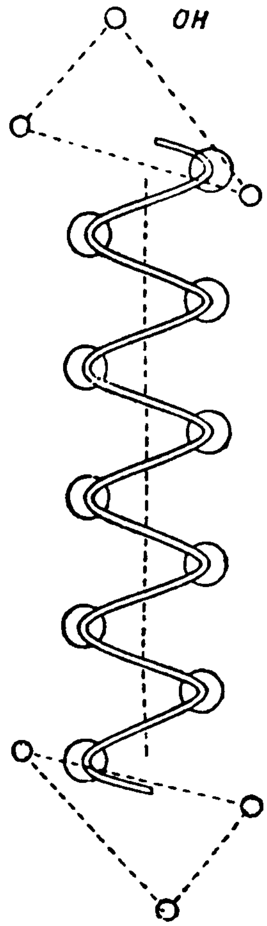


FIG. 158. THE HYDROXYL GROUP OH

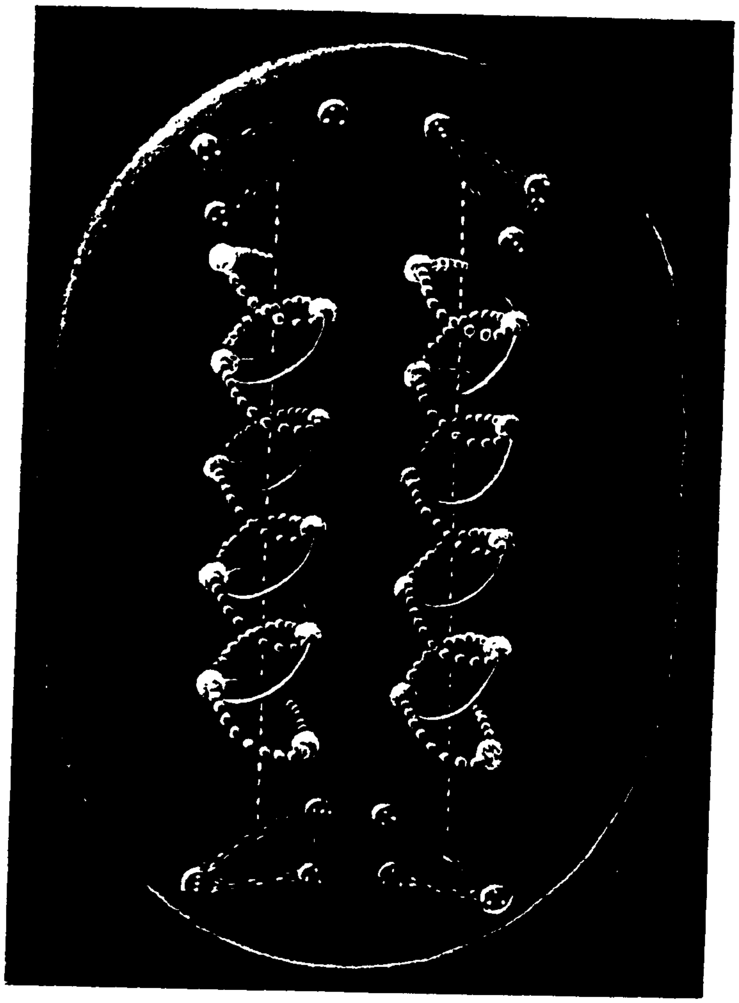


FIG. 159 HYDROGEN PEROXIDE H_2O_2

HYDROGEN PEROXIDE H_2O_2

This substance appears to be related to the Hydroxyl group rather than to Water. The appearance of Hydrogen Peroxide is shown in Fig. 159. In drawing each Oxygen atom, the artist has purposely left out the small bodies of two Anu in one of the snakes, in order to make the Oxygen more graphic. Here we have two OH side by side, except that in the second OH the polarity is reversed, and the upper triangle of Hydrogen is negative and the lower positive. The two OH groups do not give the impression of being attracted to each other. But, under certain conditions, one Oxygen atom flies off, and then the two Hydrogen triangles associated with it are attracted to the triangles of the neighbouring OH, and form H_2O, Water, as in Fig 157.

An interesting question is why H_2O_2 should be unstable. Investigation shows that there is some kind of a radiation from the earth: whether this force of radiation is due to the sun or not was not investigated. But the earth is steadily pouring out this radiation, and it rushes upwards. As the radiation rushes upwards, it hits the upper Hydrogen triangles which are rotating. Usually the impact makes no difference, as the upper and lower triangles are united by the bond which goes through the Oxygen atom, and the impact of the radiating force is not strong enough to break the link. But it happens that as the triangle rotates, it gets tilted sideways and, if the force from the earth hits it at its moment of greatest tilt, the triangle may be thrown off its balance, thus breaking the link with the lower triangle. Just as a metal disc can be kept revolving at the end of a jet of steam so long as the jet is directly underneath, so is the Hydrogen triangle as it rotates. But just as, if the steam hits the disc when it is aslant, the disc flies off, so it is with the upper triangle when the force from the earth hits it. When it is so thrown off its balance, and the Oxygen atom is released and flies off, that triangle at once flies to the positive Hydrogen triangle nearest to it. The positive Hydrogen triangle below then flies to its neighbour, the negative Hydrogen triangle of the neighbouring OH. The result is a molecule of Water.

SODIUM HYDROXIDE NaOH

The arrangement of Oxygen and Hydrogen to make the Hydroxyl group OH was shown in Fig. 158. Sodium has been already described as dumb-bell. The combination Sodium Hydroxide NaOH is as in Fig. 160.

The central rod of Sodium enters inside the Oxygen atom, retaining at either end its floating funnels. The rod has plenty of space for its movement without touching the Oxygen atom, because the latter has become much fatter and shorter.

The two triangles which make up Hydrogen are separated, as in Hydroxyl, and float above and below Sodium. In Hydroxyl these two triangles are united by a bond which goes through the Oxygen atom. That bond still persists in NaOH, though Sodium has come in the way. We shall see later in Hydrochloric Acid HCl, where there takes place a similar disruption of Hydrogen, the reason for the intense activity of NaOH, when seen clairvoyantly, and probably also for its burning quality.

It is here noteworthy that the chemical combinations examined clairvoyantly produce effects which are not solely mechanical. They radiate a quality of *feeling* which, however rudimentary, causes a reaction in the observer. Thus the observer, even without any chemical knowledge, would note that NaOH is not a pleasant thing, and that it feels as though it would burn.

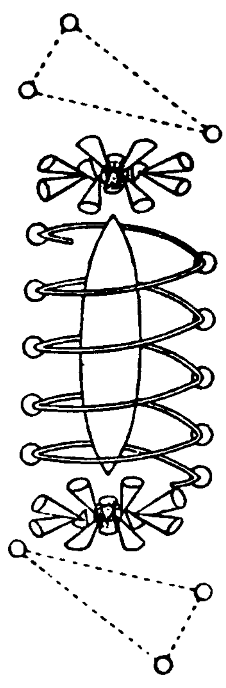


FIG. 160. SODIUM HYDROXIDE NaOH

HYDROCHLORIC ACID HCl

One atom of Hydrogen and one of Chlorine combine to make a molecule of Hydrochloric Acid. Chlorine is a dumb-bell of the same shape as Sodium. The combination of Hydrogen and Chlorine is as shown in Fig. 161.

The first noticeable change in Chlorine is that its central rod is shorter and fatter than usual, as if compressed. The second change is in the two spheres, of ten Anu each, from which, as the centre, the funnels at either end of the Chlorine atom radiate normally; these two spheres are pulled out of place. All this distortion is due fundamentally to the two triangles of Hydrogen. These two, in their normal state when making the unit of Hydrogen, are linked in a special way, one going through the other. They are separated in Hydroxyl but the linking bond goes through the Oxygen in between. In HCl the bond still remains, though Chlorine comes in between.

In Chlorine each sphere of ten Anu, at top and at bottom, is linked to the little sphere of five Anu in the centre of the rod. This sphere of five is the grand centre of Chlorine. The two spheres of ten are normally held bound to it, and remain at a definite distance from it. But when one half of Hydrogen floats over the Na10 at the top, and the second half floats similarly under the Na10 at the bottom the spheres are displaced, owing to the strong pull exercised over them by the two halves of Hydrogen. But just as they are being displaced towards the Hydrogen, they are pulled back into place by the grand centre of Chlorine, the little sphere of five Anu. The result is like a spring coiled up and compressed; the spring strives to get back to its normal condition. This condition of tension may account for the power of Hydrochloric Acid to eat into things, for as it eats into things probably the spring strain diminishes.

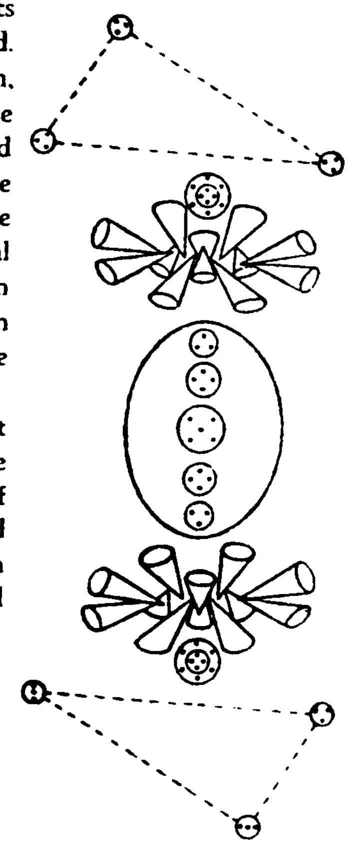


FIG. 161. HYDROCHLORIC ACID HCl

There is only a slight change in the funnels which radiate from each Na10 forming the top and bottom of Chlorine. The twelve funnels in each group still radiate, pointing alternately up and down, but they are nearer to one another than is the case when Chlorine is by itself.

COMMON SALT NaCl

The molecule of common Salt, NaCl, is composed of one atom of Sodium and one atom of Chlorine. Both are of the dumb-bell type. Each consists of a central rod, at each end of which is a sphere, and from each of the two spheres revolve twelve funnels. Detailed descriptions of both have already been given. Fig. 162 shows the salient points of the two elements, a diagram being given of the central rod, of a sphere and of a funnel.

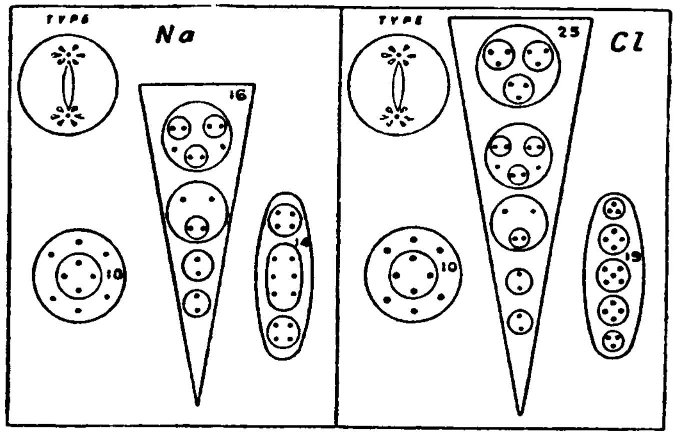


FIG. 162. COMPONENTS OF SODIUM AND CHLORINE

In the central rod of Sodium, there appears a body of six Anu. This body is positive, and appears to act as the centre of the whole atom.

When Sodium and Chlorine combine to make a molecule of Salt, the constituent bodies arrange themselves so as to make a cube. Fig. 165. The 24 Chlorine funnels radiate from the centre of the cube, in groups of three, to the eight corners of the cube; the 24 shorter Sodium funnels radiate, in groups of two, to the 12 middle points of the twelve edges of the cube. A rearrangement takes place in the bodies composing the two rods and in the spheres at each end of the dumb-bell. From the two rods, six groups are made to radiate from the centre to the six middle points of the six faces of the cube. Each of these six groups is as in Fig. 163.

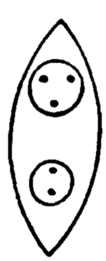


FIG. 163. SMALL GROUP IN NaCl

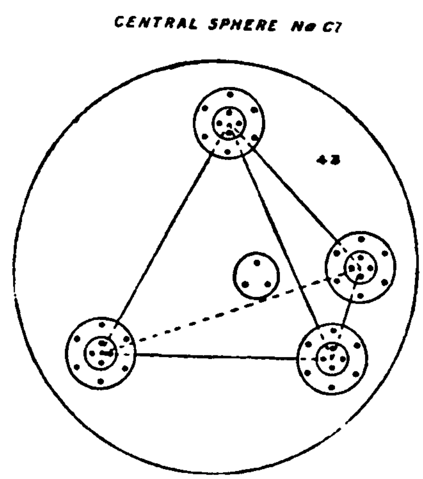


FIG. 164. CENTRE OF NaCl

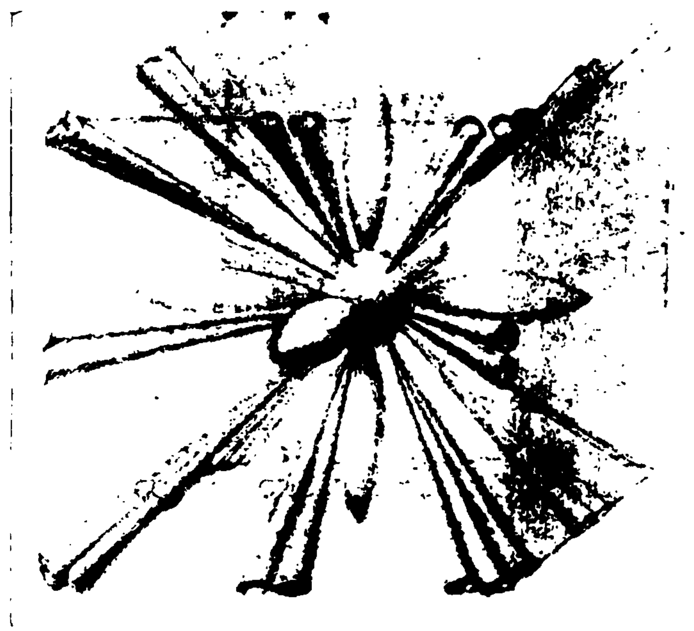


FIG. 165 MOLECULE OF SALT NaCl

Counting up the individual Anu in Sodium and Chlorine, all are accounted for in the molecule of salt.

SALT :	24 Chlorine funnels to eight corners of cube	....	600
	24 Sodium funnels to the middles of twelve edges of cube	....	384
	6 bodies of 5 Anu to the middles of six faces of cube	....	30
	Central sphere	....	43
			1,057

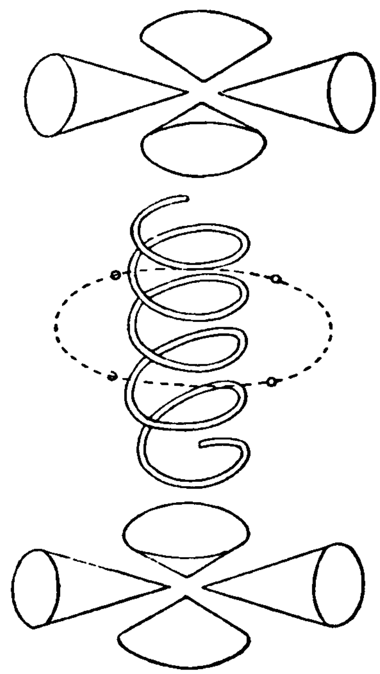


FIG. 166. CARBON MONOXIDE CO

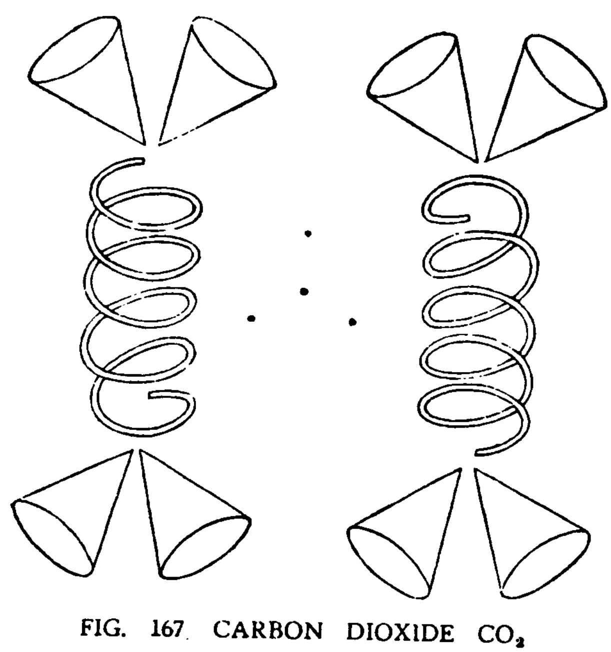


FIG. 167. CARBON DIOXIDE CO_2

CARBON MONOXIDE CO

Carbon Monoxide is a simple combination of Carbon and Oxygen. Carbon is a group of eight funnels pointing to the eight faces of an octohedron. Four of its funnels are positive and four negative, with a single Anu linking each pair. In Carbon the grand centre is composed of four positive Anu, not linked to each other.

When combined with Oxygen, the Carbon is broken up. The appearance of the combination is shown in Fig. 166.

The Oxygen atom, unchanged, remains upright, and round its centre but outside there revolve like four moons the four Anu of the Carbon centre. The eight funnels arrange themselves as two groups of four each, and float at the top and bottom of the Oxygen atom. The four funnels, two of which are positive and two negative, revolve on a horizontal plane. They are however flattened, truncated, more pear-shaped than funnel-like.

It should here be mentioned that the particular particle of Carbon Monoxide which was examined was made occultly, that is, not by a laboratory process. The clairvoyant investigator made a molecule of Carbon Monoxide by taking Carbon Dioxide CO_2 and removing from it one Oxygen atom. The resultant CO was then examined. But the Carbon Monoxide made in a laboratory may show some differences from the CO molecule described above.

CARBON DIOXIDE CO_2

In this combination, we have one Carbon and two Oxygen atoms. Their appearance is as in Fig. 167.

The two Oxygen atoms revolve round a common centre, which is composed of the four loose Anu which form the Carbon centre. The four Anu are not at the corners of a tetrahedron; while one of them is in the middle, the remaining three are arranged askew round it.

At either end of each Oxygen atom, there float two funnels from the Carbon atom. They do not revolve flat as in Carbon Monoxide, but stick out more upright, pointing slightly outwards.

SODIUM CARBONATE Na_2CO_3

Having examined the combination of Carbon with one Oxygen atom and with two Oxygen atoms, the investigation was extended to the configuration of Carbon with three Oxygen atoms. CO_3 does not exist by itself, but only in combination, so Sodium Carbonate Na_2CO_3, as easily procurable, was taken for examination. In this there are two atoms of Sodium, one of Carbon and three of Oxygen. The appearance of the molecule is as in Fig. 168.

The grand centre of the whole combination is still the four loose Anu from the Carbon centre. Round this there whirl upright three Oxygen atoms, at the three corners of a triangle. The two Sodium atoms have placed themselves inside two Oxygen atoms, as in Fig. 160, and the eight Carbon funnels float over the ends of the third Oxygen atom.

It is interesting to note that this triangular arrangement of O_3 has been deduced by Bragg from his X-ray analysis of Calcite and Aragonite, in which the group CO_3 occurs.

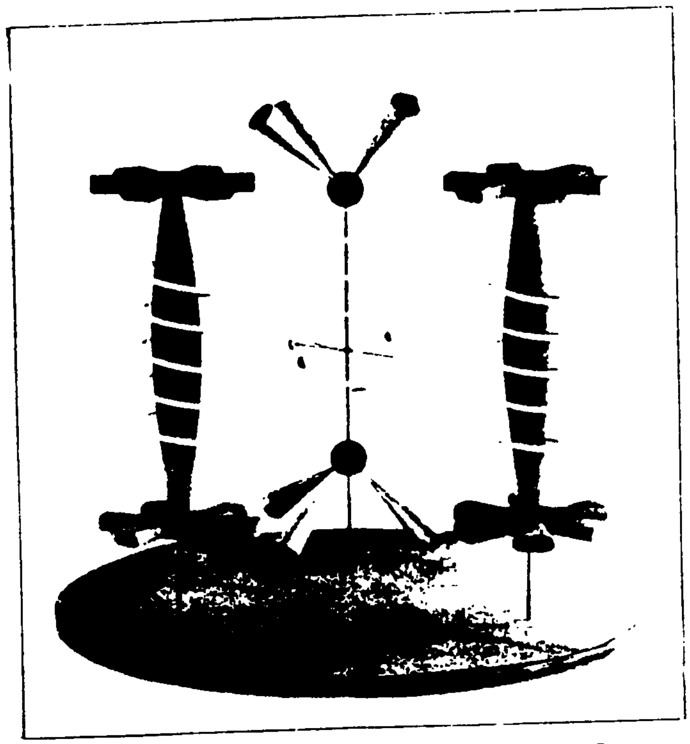


FIG. 168. SODIUM CARBONATE Na_2CO_3

CALCIUM HYDROXIDE

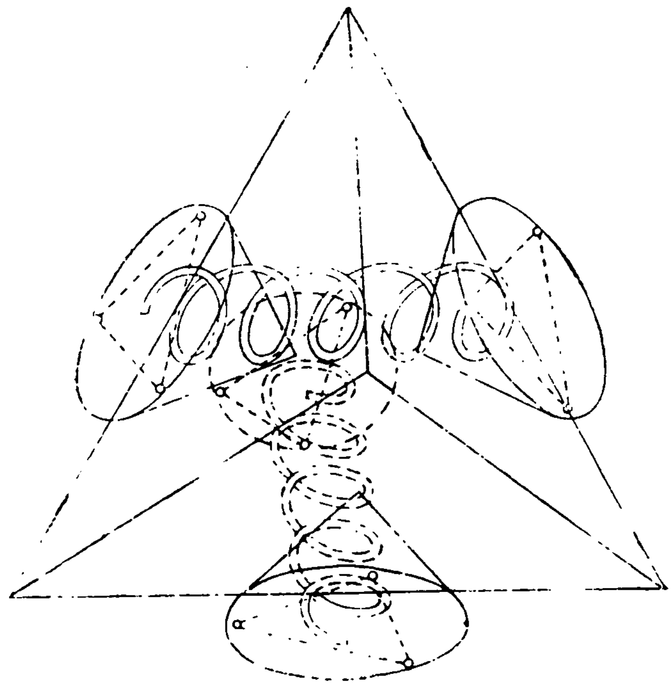


FIG. 169. CALCIUM HYDROXIDE $Ca(OH)_2$

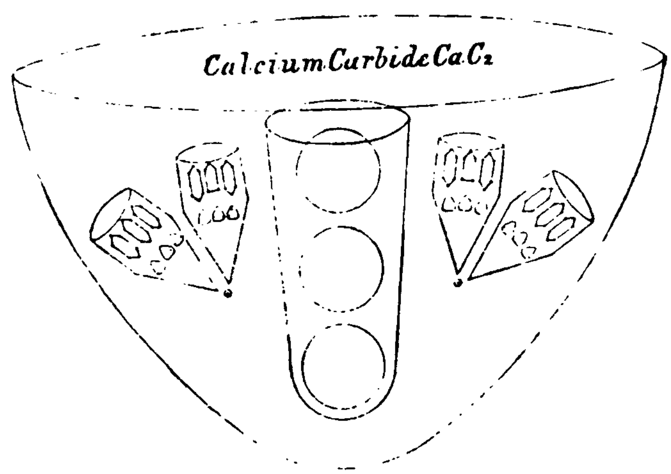


FIG. 170 CALCIUM CARBIDE CaC_2

CALCIUM HYDROXIDE $Ca(OH)_2$

Calcium is a di-valent element, and when investigated by clairvoyant magnification is seen to be composed of four funnels which radiate from a centre to the four faces of a tetrahedron. The centre of Calcium is a sphere of 80 Anu, and each of the four funnels contains 160 Anu.

The appearance of the Hydroxyl group OH is given in Fig. 158.

We can follow the arrangement of Calcium Hydroxide Ca $(OH)_2$ in Fig. 169. Each Hydroxyl group lies at right angles to two funnels of Calcium. The arrangement will be clear if one holds in one's hand a tetrahedron. In Fig. 169 one Oxygen atom, with half-Hydrogen triangles attached to its ends, is shown lying horizontally across at right angles to two Calcium funnels. The second Oxygen atom and its half-Hydrogens will not be seen from the angle of vision selected by the illustrator, as they will be hidden. They are, however, suggested by dotted lines. Calcium has a sphere as its centre. This of course persists in $Ca(OH)_2$, but it is not shown in our figure.

CALCIUM CARBIDE CaC_2

In Calcium Carbide we have one Calcium and two Carbon atoms. In the compound, each Carbon atom divides into four segments, each segment being composed of one positive and one negative Carbon funnel, with their linking Anu.

Calcium has four funnels, directed to the faces of a tetrahedron, and a centre In the combination CaC_2, the Calcium centre remains unchanged, but each Calcium funnel swells out to make room for two segments (each of two funnels) of Carbon, as in Fig. 170, which shows one of the funnels.

CALCIUM CARBONATE $CaCO_3$

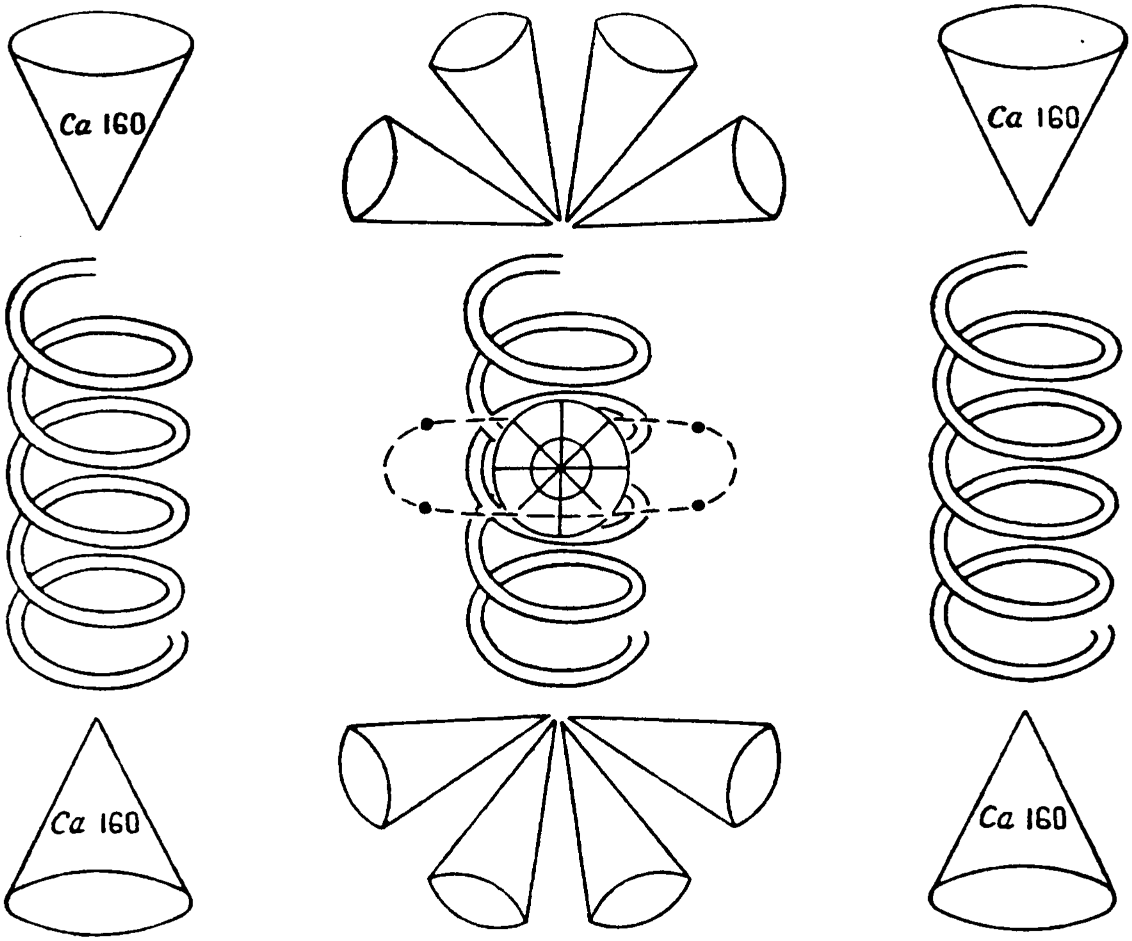


FIG. 171. CALCIUM CARBONATE $CaCO_3$

CALCIUM CARBONATE, $CaCO_3$

In $CaCO_3$ the central globe of Calcium is not broken up and takes the central position. The general arrangement is like that of Sodium Carbonate where the three Oxygen atoms form pillars at the corners of a triangle. In the Sodium Carbonate Na_2CO_3, where we have the same CO_3 group, it will be seen that two of the Oxygen atoms are wound round the Sodium bar. In the case of Calcium Carbonate we again have the three Oxygen pillars but each of the pillars is associated with part of the Calcium or of the Carbon. Fig. 171.

The central globe of the Calcium, Ca80, is in the middle of the molecule, and the four Anu from the Carbon atom revolve round it like satellites. One of the Oxygen pillars has four Carbon funnels at the top and four at the bottom, and the other two Oxygen atoms each have a funnel of Calcium, Ca160, at top and bottom. Thus they divide the Calcium between them. The three Oxygen atoms are at the points of a triangle and move round in a circle. Because of the heavy centre Ca80, there is a slight curvature inward of the Oxygen pillars which is not shown in the diagram.

CALCITE AND ARAGONITE $CaCO_3$

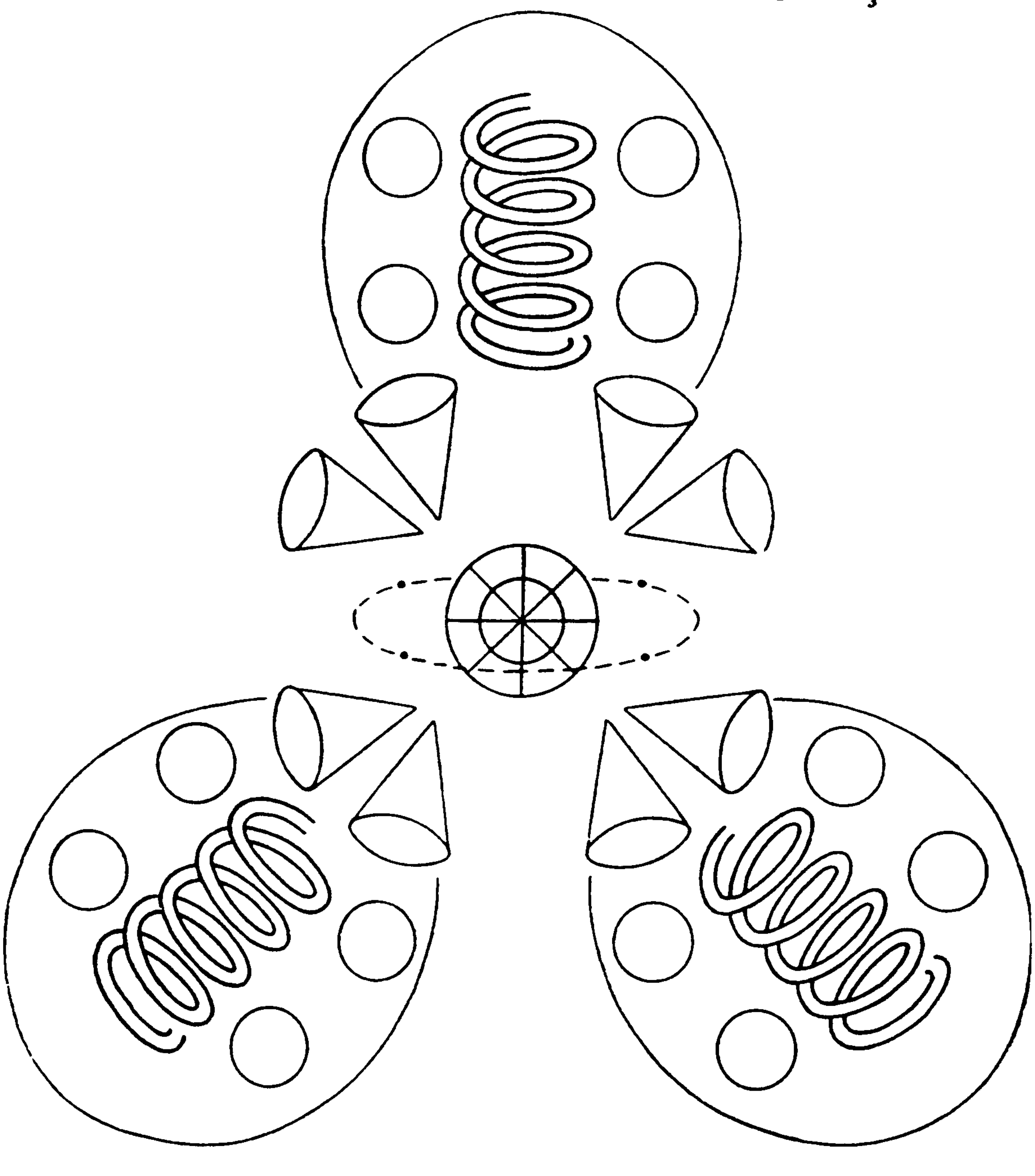


FIG. 172. CALCITE AND ARAGONITE $CaCO_3$

CALCITE AND ARAGONITE $CaCO_3$

Both Calcite and Aragonite are crystalline forms of Calcium Carbonate. In the form given in Fig. 172, the three Oxygen atoms radiate horizontally. The Calcium centre, Ca80, with the four Anu from the Carbon atom, forms the centre as before. The four Calcium funnels break up. Each funnel, Ca160, contains three spheres, so we have 12 spheres in all. These are accounted for by the 12 spheres, four round each Oxygen atom. The eight funnels of the Carbon are placed symmetrically round the centre.

COPPER HYDROXIDE $Cu(OH)_2$

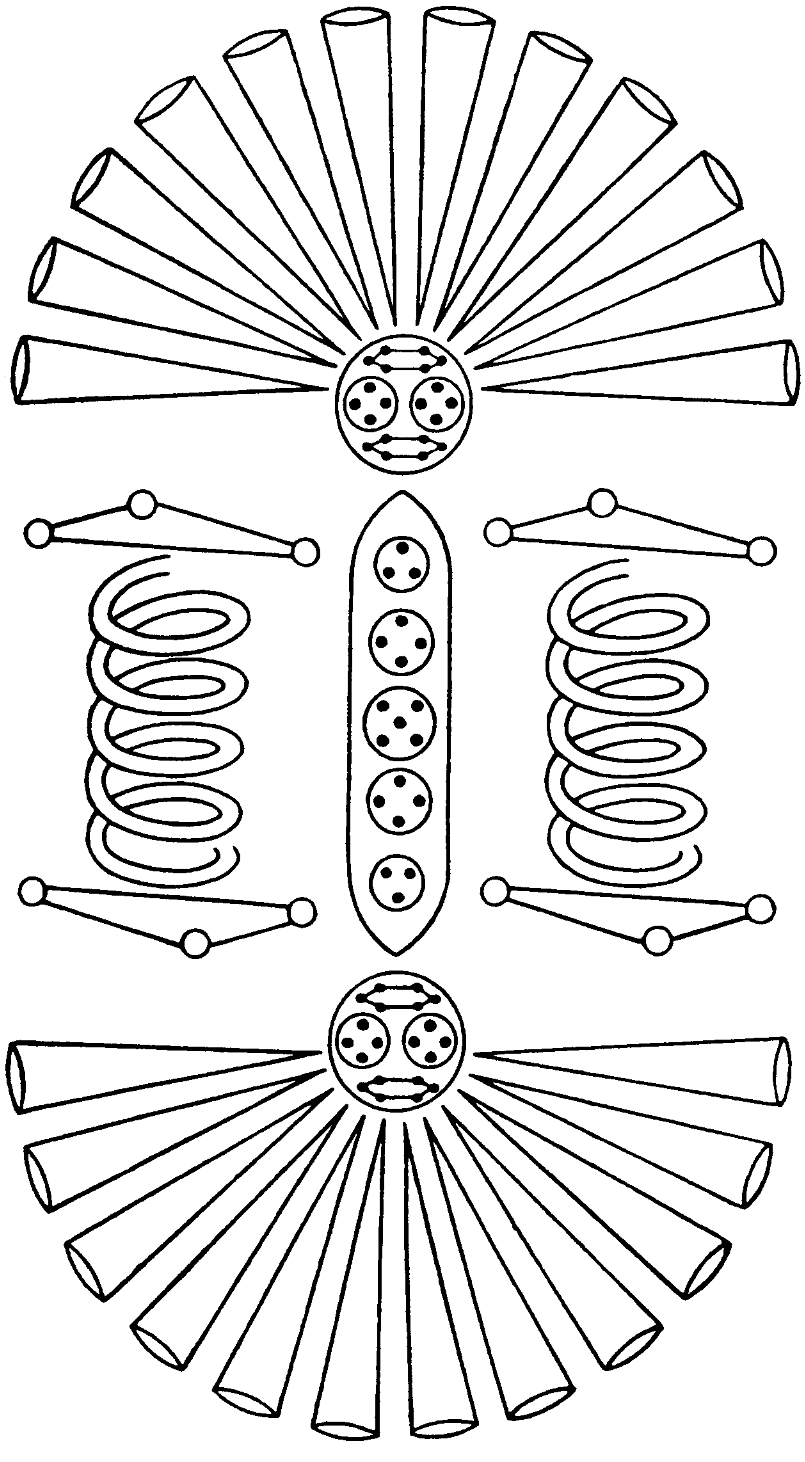


FIG. 173. COPPER HYDROXIDE $Cu(OH)_2$

COPPER HYDROXIDE Cu(OH)

Copper Hydroxide is somewhat like a flat mango. Fig. 173. The Copper atom, which is dumb-bell in shape, stands in the middle. Its central rod is thin and elongated and from its ends the twelve funnels radiate from the globes, Cu_2O. As the funnels are fairly heavy they are long and extend to some distance. Under the radiating funnels there appears on either side of the dumb-bell bar, a Hydroxyl group, just as if when an umbrella is opened there is the central stick but under the cover of the umbrella two groups.

The whole makes a very beautiful form.

SULPHURIC ACID H_2SO_4

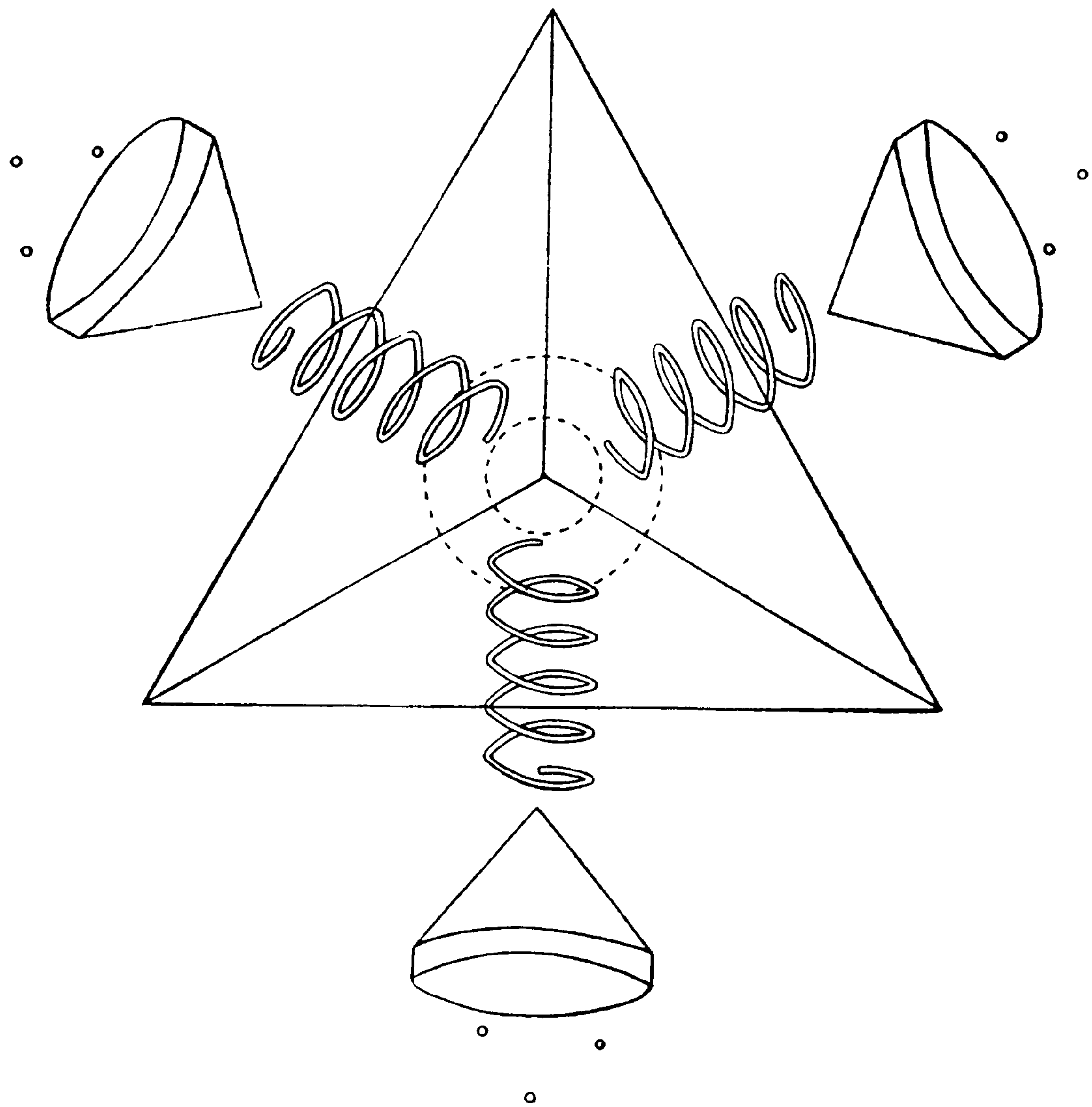


FIG. 174. SULPHURIC ACID H_2SO_4

SULPHURIC ACID H_2SO_4

The Sulphur atom is a tetrahedron having four funnels each containing nine S.16 in a ring. In the compound H_2SO_4 the Oxygen atoms seem to have acted in their usual manner and broken up the Sulphur atom to some extent. They have pushed themselves into the centre and pushed out the funnels. Each of the four Oxygen atoms radiates from the face of a tetrahedron. At the end of each Oxygen snake is a funnel of Sulphur. and over the mouth of the funnel floats half a Hydrogen atom.

In Fig. 174 only three sides of the tetrahedron are shown, the fourth being concealed. This must be imagined at the back, making up the constituents of H_2SO_4.

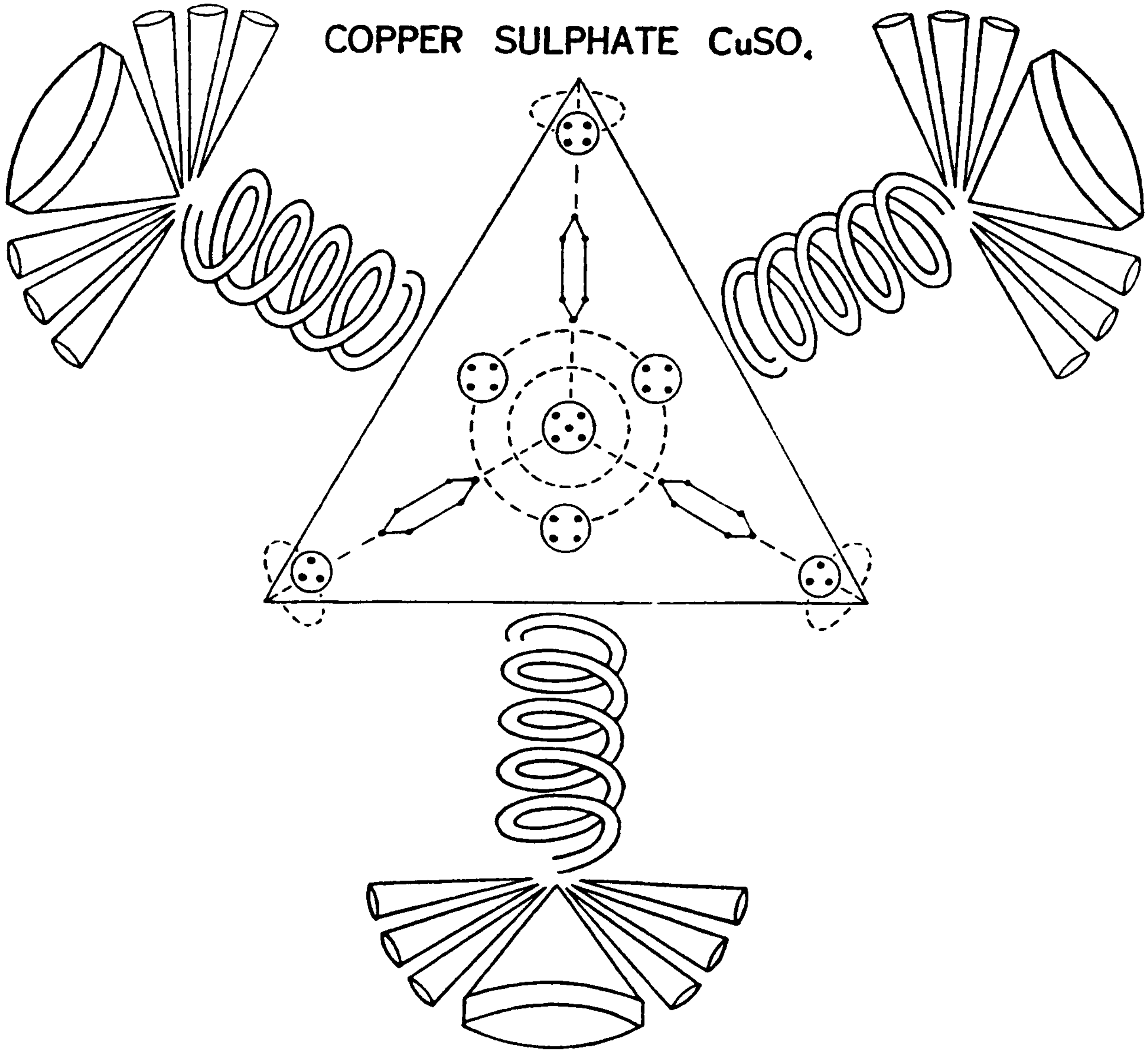


FIG. 175. COPPER SULPHATE $CuSO_4$

COPPER SULPHATE $CuSO_4$

The general appearance of Copper Sulphate is as in the diagram of Sulphuric Acid. As in Sulphuric Acid, the fourth group which completes the tetrahedron in each case is not shown. The tetrahedral form is indicated, but this is not intended to represent an actual boundary. Fig. 175.

In the tetrahedron there appears a grand centre. In the middle of this centre is a body of five Anu from the central bar of the Copper atom. Round these five there radiate to the four corners of a tetrahedron the four groups Ad6, from the two globes of Copper. Then, pointing to the faces of the tetrahedron, appear four balls of four Anu. These four balls come also from the two globes of Copper. The whole centre-piece acts as a unit though *not* enclosed in a sphere wall.

There remain the two bodies of three Anu and two groups of four Anu from the bar of Copper. These are at the corners of the tetrahedron but have a peculiar motion like that of a fly round the corners of the tetrahedron, first one corner and then the next, waltzing round by themselves. The observer wonders whether they are not somehow trying to get back to the others, but cannot. An experiment was tried of releasing the whole thing, and it was then found that these groups jumped back into their places in the bar with great avidity.

From this centre radiate the Oxygen atoms through the four faces of the tetrahedron, and at the end of each Oxygen atom is a funnel of Sulphur, as in Sulphuric Acid. Round each funnel of Sulphur are placed six funnels of Copper, in two groups of three, all pointing to the centre.

It will be seen that, allowing for the fourth group which is not shown in the diagram, all the constituents of the elements in the compound are accounted for.

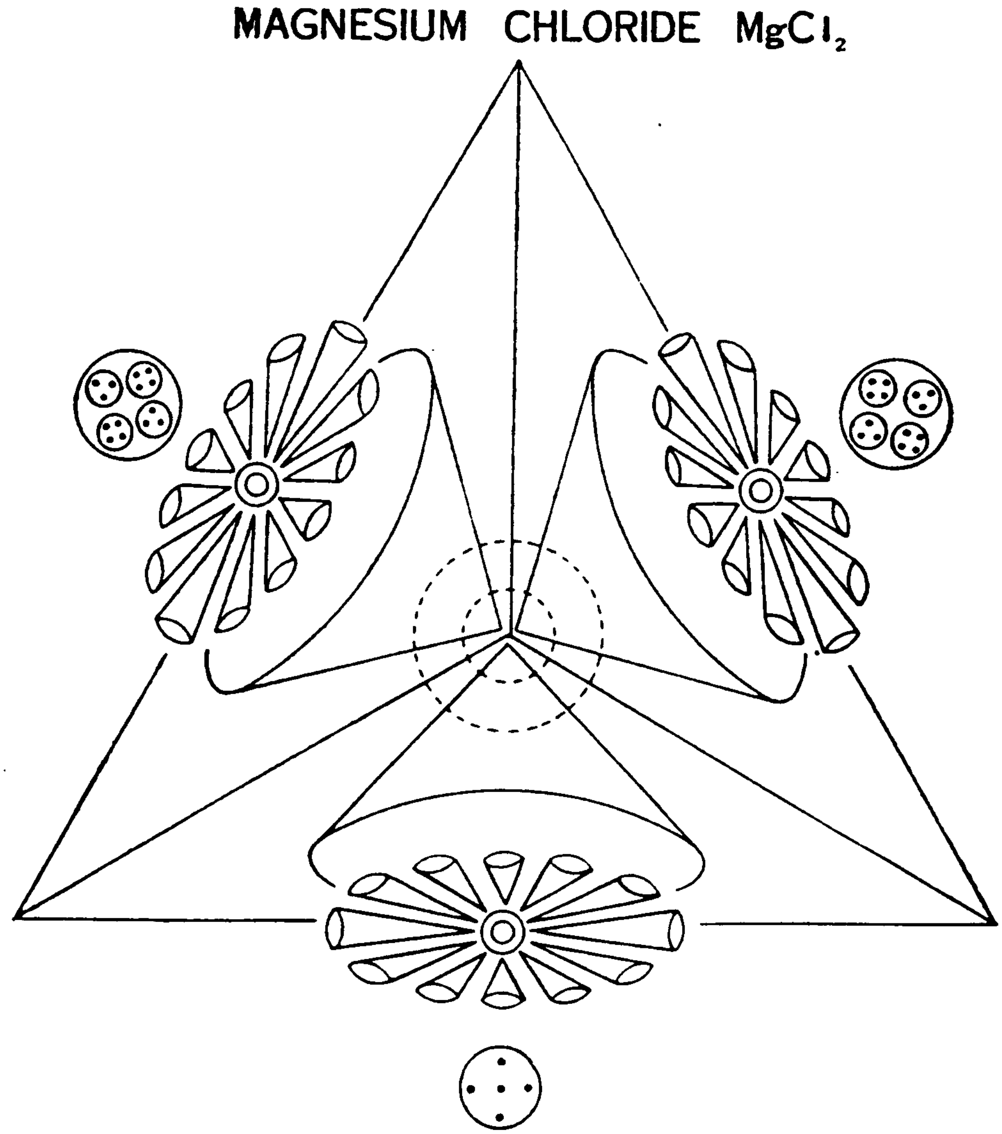


FIG. 176. MAGNESIUM CHLORIDE $MgCl_2$

MAGNESIUM CHLORIDE $MgCl_2$

Magnesium is a tetrahedron. It has no centre but has four rather wide funnels, each containing three segments.

Chlorine has a dumb-bell shape. The centre of a Chlorine atom is the group of five Anu in the central bar or rod. This body of five Anu is described as hard and positive. Positive bodies are hard, and negative softer and more spongy. When the Chlorine breaks up each body of five Anu takes one end of a Chlorine atom with it and floats over a negative funnel of Magnesium. The remaining four bodies from the central rod, two of four Anu and two of three Anu, go with the second end of a Chlorine atom and float over a positive funnel. These four bodies revolve round a common centre of gravity, not in a perfectly flat surface. The 12 funnels at the ends of the Chlorine atoms arrange themselves in a flower shape round their own central globe. As has been said, only three funnels can be shown. Two Magnesium funnels have the flower and a group of four bodies, while two Magnesium funnels have the flower and the group of five Anu. One of these latter groups is not shown. Thus all the constituents of the Magnesium and the Chlorine atoms are accounted for.

FERRIC CHLORIDE $FeCl_3$

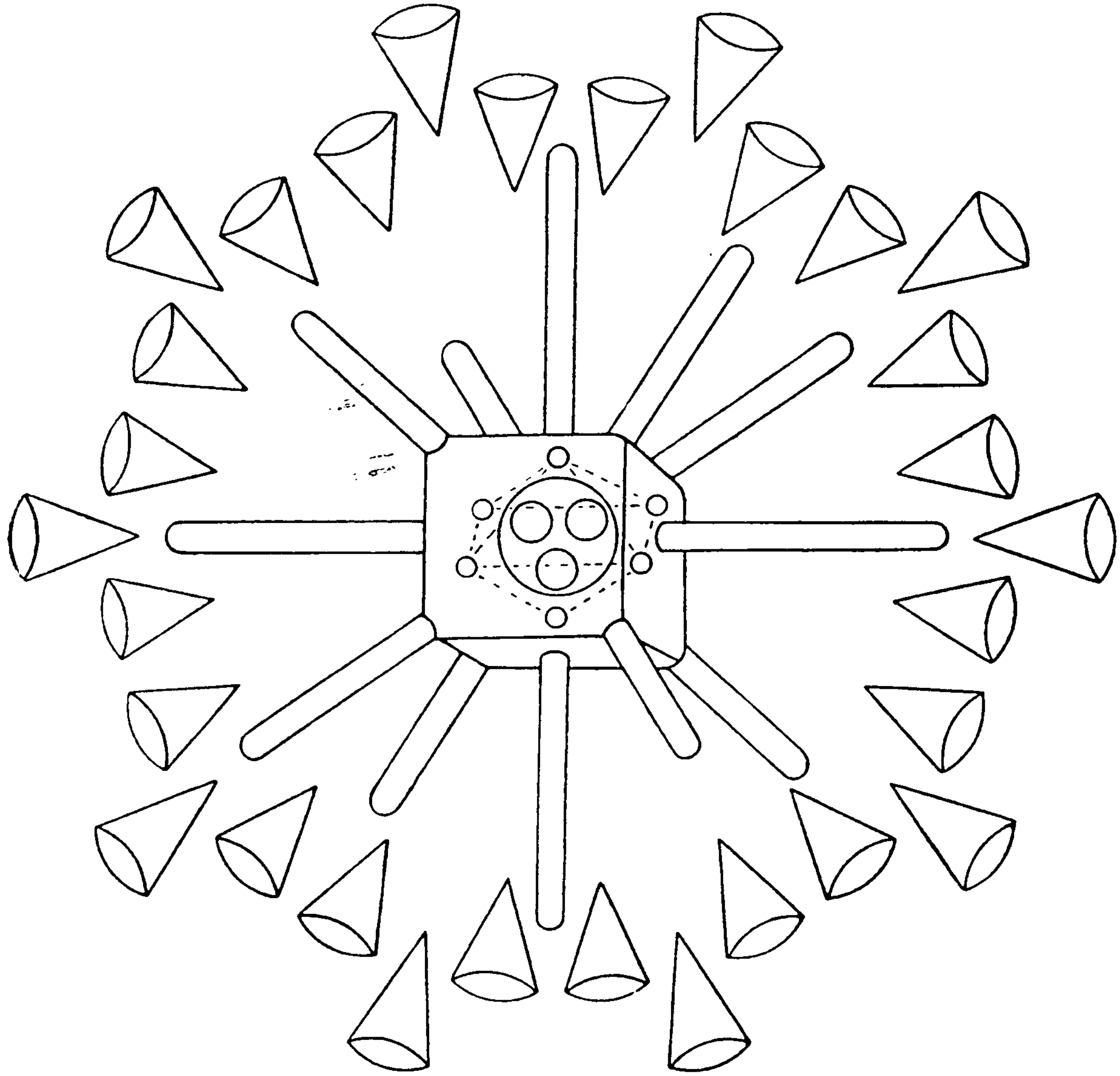


FIG. 177. FERRIC CHLORIDE $FeCl_3$

FERRIC CHLORIDE $FeCl_3$

There are to be accounted for in Iron, fourteen bars radiating from a cube, as in the diagram of the Bars group, then three Chlorine atoms giving three rods, three Cl.19 groups forming the centre of the dumb-bell of Chlorine and six flowers, each with a centre Na10 and 12 funnels, making 72 funnels in all.

In the molecule $FeCl_3$, the three rods of Chlorine make three spheres and place themselves at the centre of the cube. Round these, but still inside the bars of Iron, rotate the six Na10 balls, each at the corner of an octahedron. These make a grand centre inside the Iron atom. The bars of Iron stick out from the cube on to the surface of a sphere. Fig. 177.

In the diagram it is not possible to show all the funnels, so 36 only are shown. They are in groups of three and are intended to be thought of as sticking out like spikes.

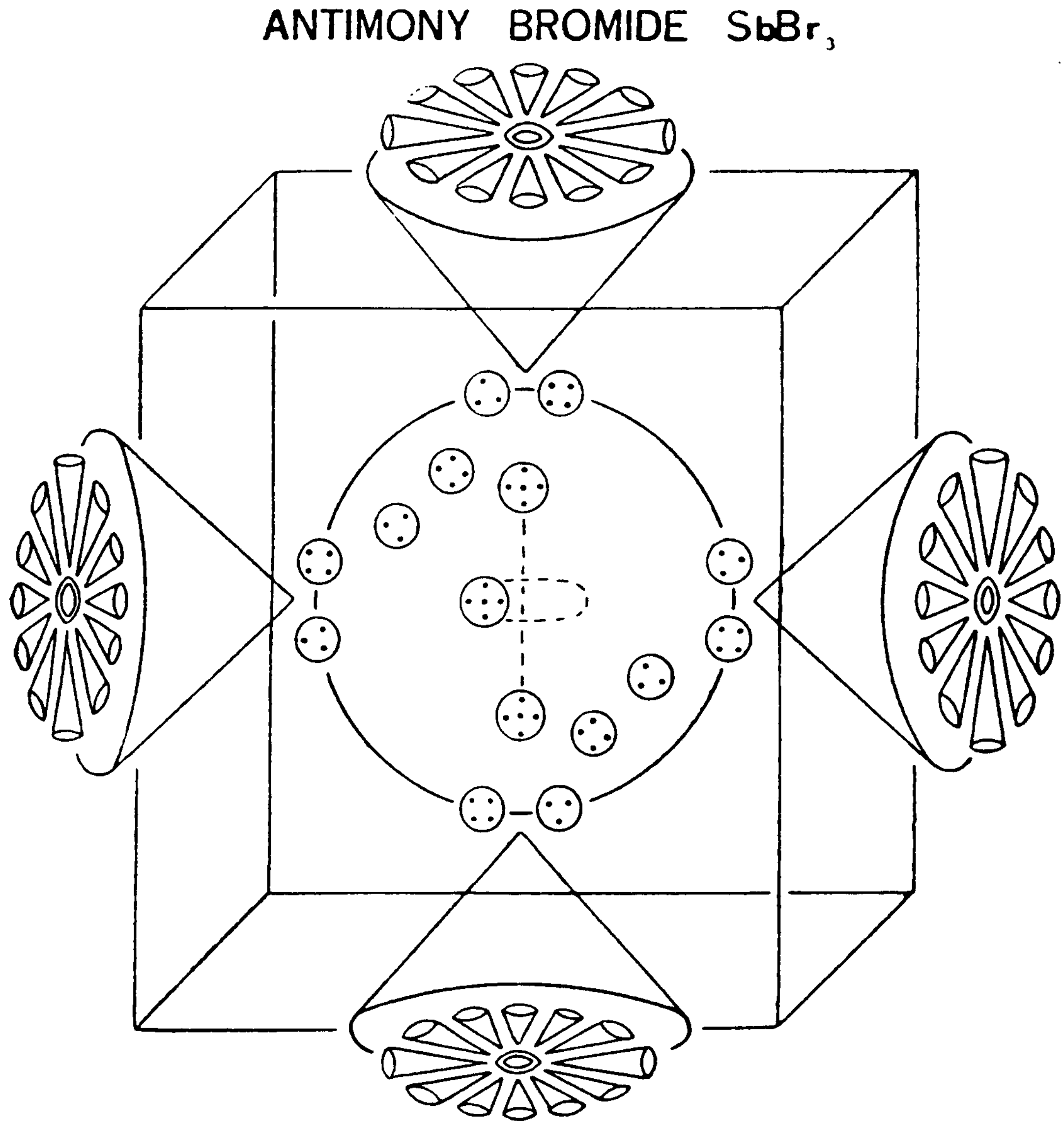


FIG. 178. ANTIMONY TRIBROMIDE $SbBr_3$

ANTIMONY TRIBROMIDE $SbBr_3$

Antimony is a cube. It has six funnels and no centre.

Bromine is a dumb-bell with its rod or bar like that of Chlorine, Cl.19, and having a globe and twelve funnels at each end.

In Antimony Bromide the Antimony is not much changed save that parts of the Bromine atoms enter into the centre of the cube and form a grand centre. Fig. 178.

The Bromine atoms break up. Over each Antimony funnel there floats one flower of 12 funnels and a globe. The six funnels and flowers point to the faces of a cube. In the diagram the cube is indicated but only four of the six funnels and flowers are drawn.

The three rods break up and rearrange themselves as a grand centre within the cube of the Antimony. Each rod consists of a group of five Anu, two groups of four Anu and two groups of three Anu.

In the very centre there come the three groups of five Anu, one from each of the rods. These five Anu are themselves at the corners of a tetrahedron (a five-sided figure, not a regular tetrahedron but a pyramid.) These three groups of five Anu arrange themselves in a special formation. One stands at the top and another at the bottom of a vertical line. The third runs round in a ring, like the edge of a disc, which cuts horizontally the vertical line drawn between the other two. The ends of the vertical line move but comparatively slowly, while the middle group of five Anu moves very fast. The whole arrangement then goes head over heels, having a curious double motion.

Round this central group the other bodies, six groups of four Anu and six groups of three Anu, are arranged as follows:

Take a cube and place inside it, at the centre, the set of three fives as already described. Then take the central points of the sides or faces of the cube and at each of these is a body of four Anu. This gives the position of the six fours. Then take a second cube and set it a little cornerwise cutting the first cube; then take the middle points of the faces of this cube. At the middle points are the six bodies of three Anu. It will be seen that these middle points of the faces of a cube are really at the points of an *octahedron*; if we place the groups of one four and one three fairly near together and at the corners of an octahedron we get the idea of the arrangement. The diagram attempts to indicate this. The whole of these threes and fours are said to be in placed in a sphere which forms the grand centre of the Antimony Bromide molecule. This has been indicated in the diagram.

STANNOUS OXIDE SnO

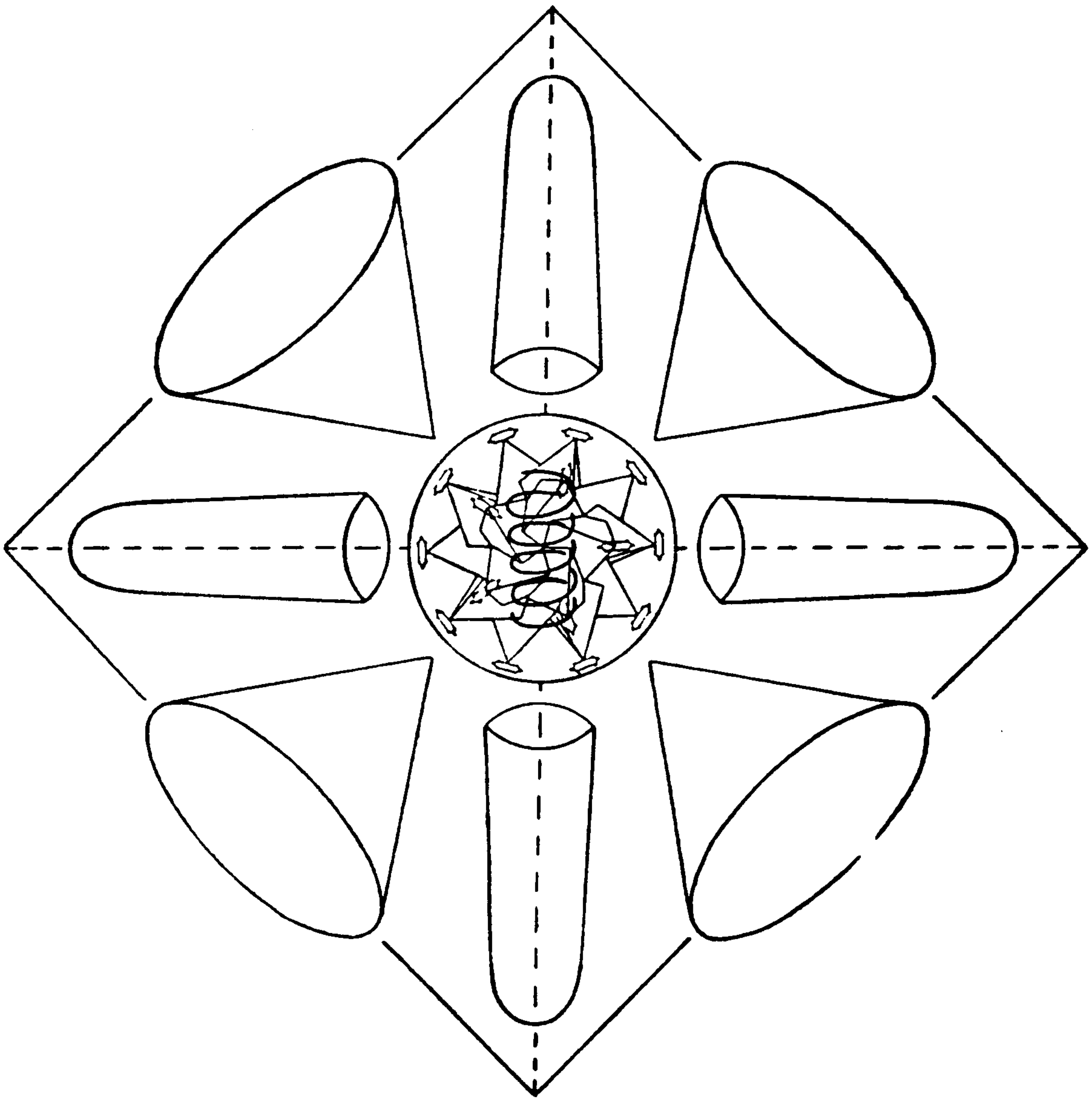


FIG. 179. STANNOUS OXIDE SnO

STANNOUS OXIDE SnO

Tin is a member of the Octahedron Group. It consists of a central globe, Ne120, eight funnels opening on the faces of the octahedron and six spikes pointing to the six corners. Fig. 179.

In Stannous Oxide the Oxygen enters into the middle of the central sphere. This sphere, Ne120, consists of five interlaced tetrahedrons at each corner of which is a group of six Anu. The centre of this tetrahedral arrangement is hollow and the Oxygen gets inside it and stands upright. Before the Oxygen enters the 20 Ad6 groups are held together at a certain distance apart. The Oxygen drives them further apart and the central sphere increases its size without altering its general character. The 20 Ad6 groups, however, which previously lay horizontally at the tetrahedron corners, now stick out vertically, all pointing to the middle.

When the Stannous Oxide is heated Oxygen is expelled and the Tin returns to its normal condition and shrinks again.

In the diagram only four faces of the octahedron are shown. Thus we show four funnels only and four spikes out of the six. Four funnels and two spikes are not shown. Similarly the inner sphere cannot be properly represented and the reader must imagine the 20 Ad6 groups sticking out all pointing to the centre.

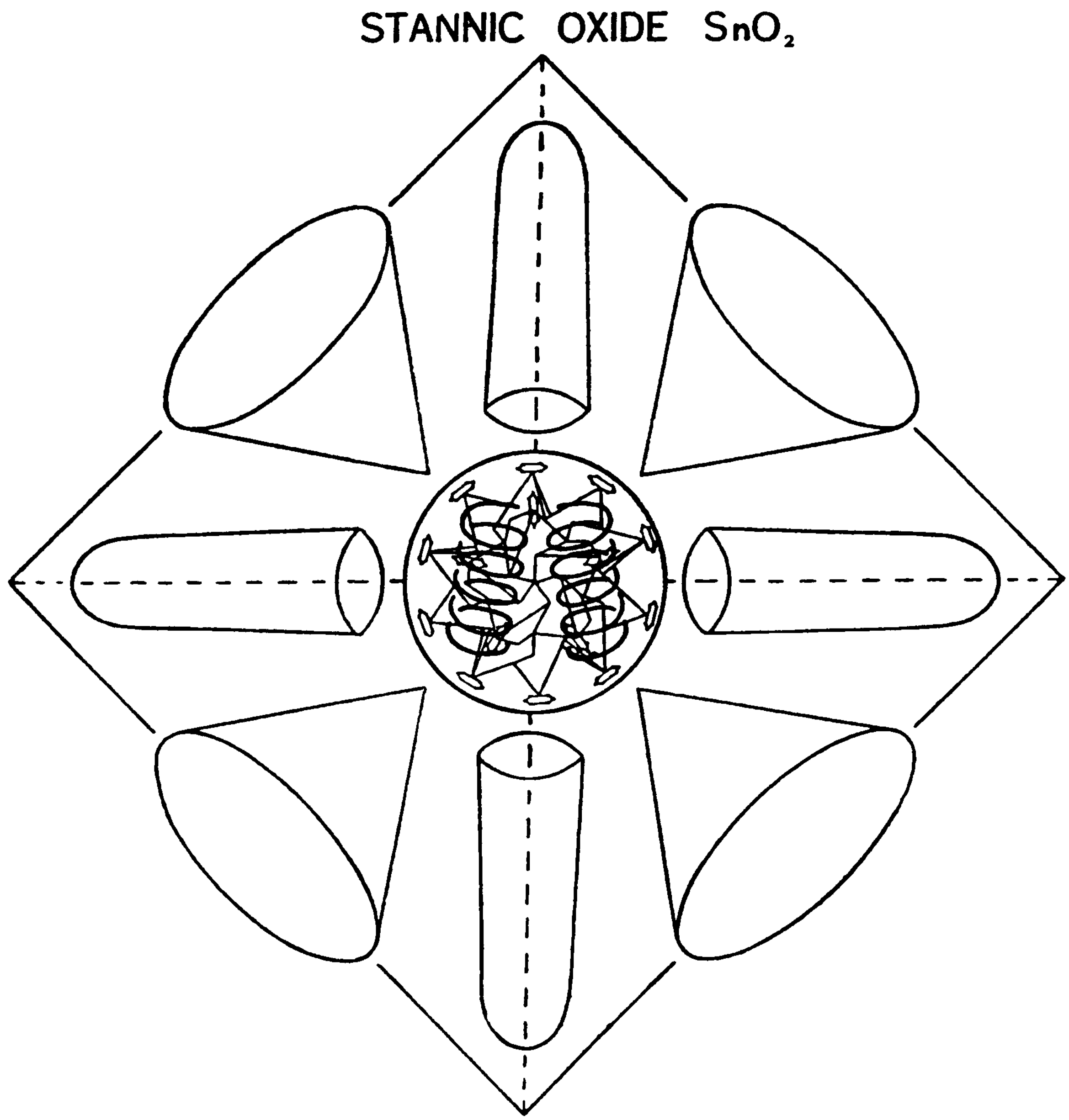


FIG. 180. STANNIC OXIDE SnO_2

STANNIC OXIDE SnO_2

As in Stannous Oxide, SnO, we have an atom of Tin which consists of a central globe, Ne120, eight funnels opening on the faces of an octahedron and six spikes pointing to the corners of the octahedron.

In SnO_2 the two Oxygen atoms enter inside the central globe, which is hollow. They stand nearly upright but inclined slightly to each other. Fig. 180. The 20 Ad6 groups in the Ne120 stand upright, as in SnO, but instead of pointing to the centre those at one side aim at one Oxygen pillar and those of the other side aim at the second pillar.

When the molecule is made to spin very slowly so that it can be observed, the Oxygen atoms are found to spin by themselves. As they spin past, the Ad6 nearest to one Oxygen atom points to it and then to the next Oxygen, thus making the Ad6 move in a waggling, or oscillating back and forth movement, as the two columns come round.

Attempts were made to add more Oxygen atoms. If a third Oxygen atom is added the Ad6 groups loose their cohesion and the whole thing disintegrates.

Four Oxygens will not stick at all. If four Hydroxyl OH groups are tried we get $Sn(OH)_4$ but this is unstable and remains only so long as the will holds them. If the will is released SnO_2 is formed and the remaining Oxygen atoms go off with the Hydrogen forming $2H_2O$.

The diagram of SnO_2 is seen to be the same as that of SnO in essentials. Two Oxygen atoms are shown inside the Ne120 sphere and the whole is a little larger.

Only one side of the octahedron is drawn and therefore four funnels and two spikes are not shown.

PHOSPHORIC ACID H_3PO_4

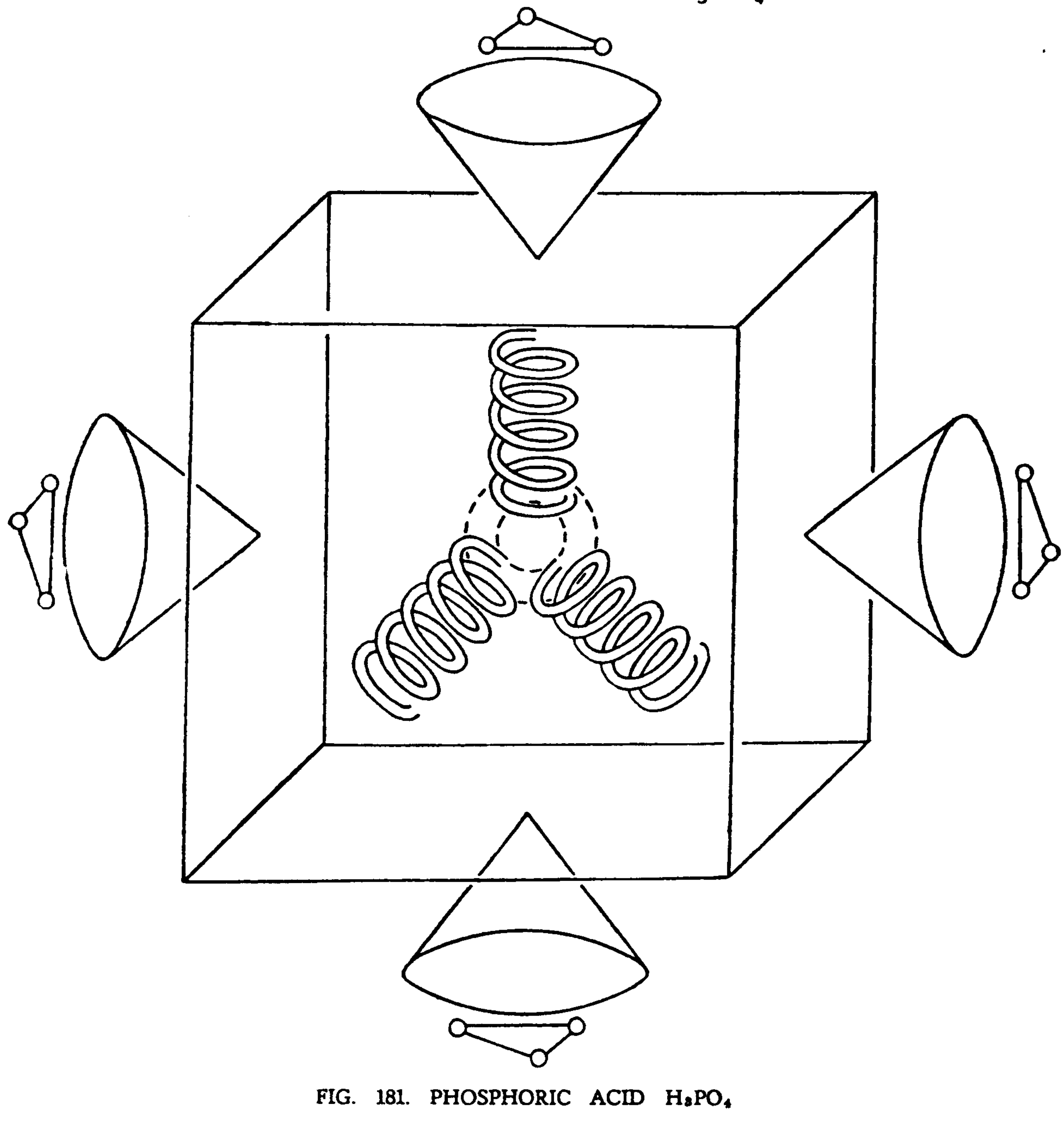


FIG. 181. PHOSPHORIC ACID H_3PO_4

PHOSPHORIC ACID H_3PO_4

The Phosphate Group PO_4 and Phosphite PO_3

The Phosphate group consists of a Phosphorus atom with four Oxygen atoms. Although Phosphorus is a cube it is suggested that the method used in the SO_4 group, see H_2SO_4, is used. Reference to Fig. 174 will show that the four Oxygen atoms are directed towards the faces of a tetrahedron and the four funnels of Sulphur come at the ends of the Oxygen atoms, with the components of Hydrogen floating over the funnels.

In the case of the Phosphate PO_4 group we have again four Oxygen atoms and these enter the molecule and arrange themselves so that they point to the four directions of a tetrahedron, as before. The Oxygen atoms are revolving much more rapidly than the funnels. The Phosphorus is however, a cube. This cube is placed round the Oxygen atom and the six funnels point to the six faces of the cube.

Phosphoric Acid H_3PO_4

In this we have the Phosphate group. The phosphate group does not stand alone. If three Hydrogens are added they break up into their two halves and float over funnels as they do in H_2SO_4. Fig 181.

There are various kinds of Phosphorus acids.

H_3PO_3 seems to be like H_3PO_4 except that as there are only three Oxygen atoms they are in a three dimensional triangle inside the cube instead of towards the faces of a tetrahedron.

It was also observed that there is a second form of Phosphoric acid in which the *funnels* actually break up. Each funnel of Phosphorus contains two constituent bodies, making twelve in all. These arrange themselves in groups of three and float over the four Oxygen atoms. The Hydrogen atoms divide as before more like the H_2SO_4 diagram.

Another Phosphoric acid was observed which has only *two* Hydrogen atoms. In this case the Hydrogen atoms are broken up on to a higher sub-plane, *i.e.* the two Hydrogen atoms give 6 groups of 2 balls, over the six funnels.

AMMONIA NH_3. TYPE A

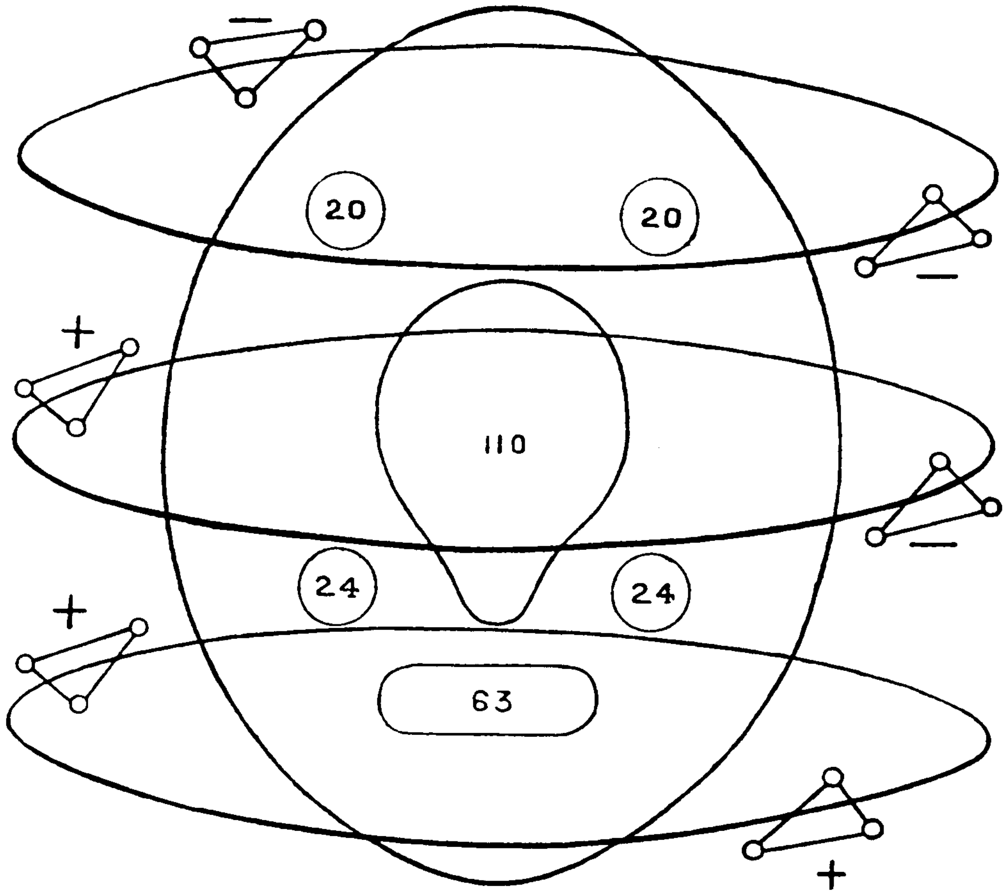


FIG. 182. AMMONIA NH_3 TYPE A

AMMONIA NH_3 TYPE A

The complete Nitrogen atom remains unbroken in the centre of the molecule, while the components of the three Hydrogen atoms circle round like planets round the sun. The Hydrogen atoms break up into the six triangles and these arrange themselves into three groups of two. Instead of the two half-Hydrogens of the atom remaining together as one would expect, however, there is a re-arrangement. The three groups circle on three planes; the first and topmost plane has two negative half-Hydrogens; the middle layer has one positive and one negative; and the bottom layer two positive half-Hydrogens.

AMMONIA NH_3 TYPE B

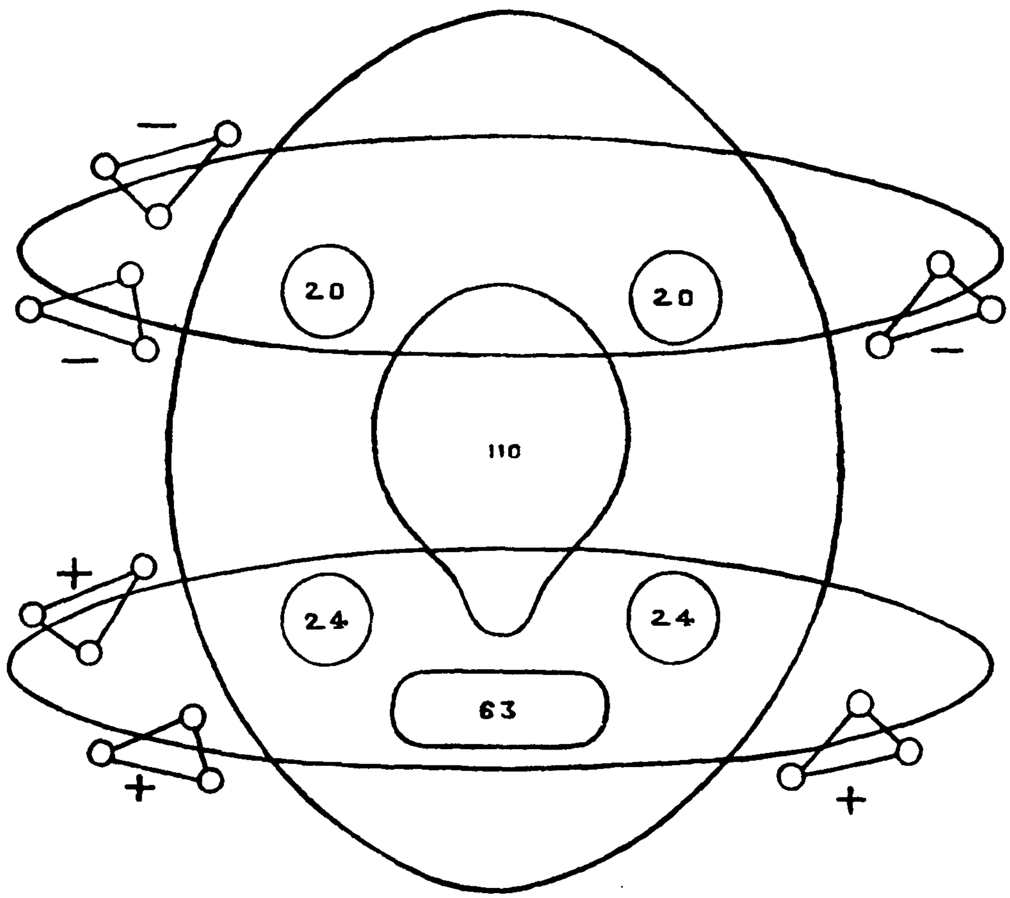


FIG. 183. AMMONIA NH_3 TYPE B

AMMONIA NH_3 Type B

This molecule also has the whole of the Nitrogen atom in the centre but round it revolve, on *two* planes, the six half-Hydrogens. Three negative half-Hydrogen atoms whirl round the upper part of the Nitrogen and three positive half-Hydrogen atoms round the lower half.

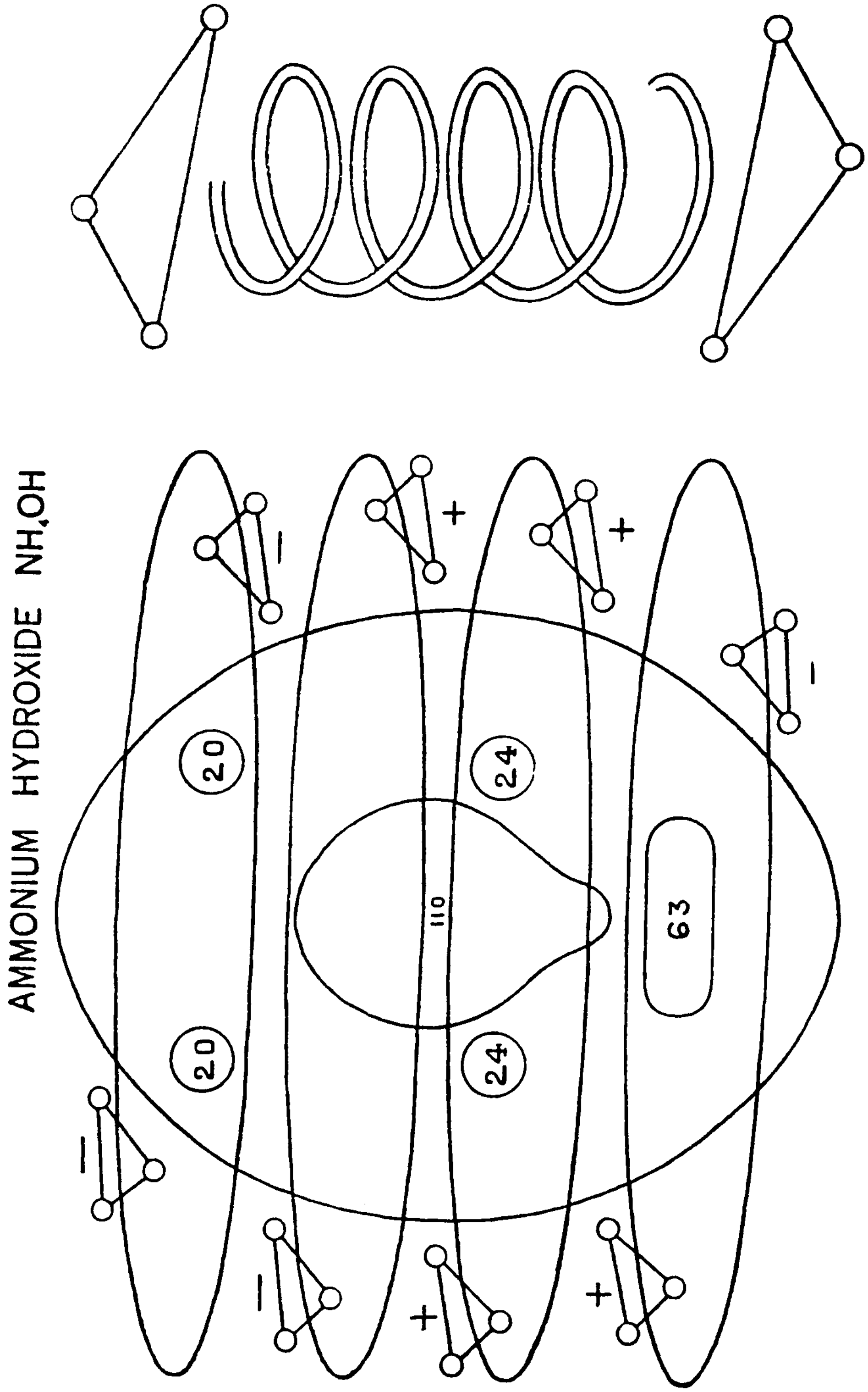


FIG. 184. AMMONIUM HYDROXIDE NH_4OH

AMMONIUM HYDROXIDE NH_4OH

The arrangement of the NH_4 part of the molecule follows the design of Ammonia Type A. In NH_4, however, we have four planes, on each of which circle two half-Hydrogen atoms. The topmost plane has two negative half-Hydrogens, the second, one negative and one positive, the third, two positive and the lowest, one positive and one negative.

The OH group remains together and is placed near the NH_4. Fig. 184.

UREA $(NH_2)_2CO$

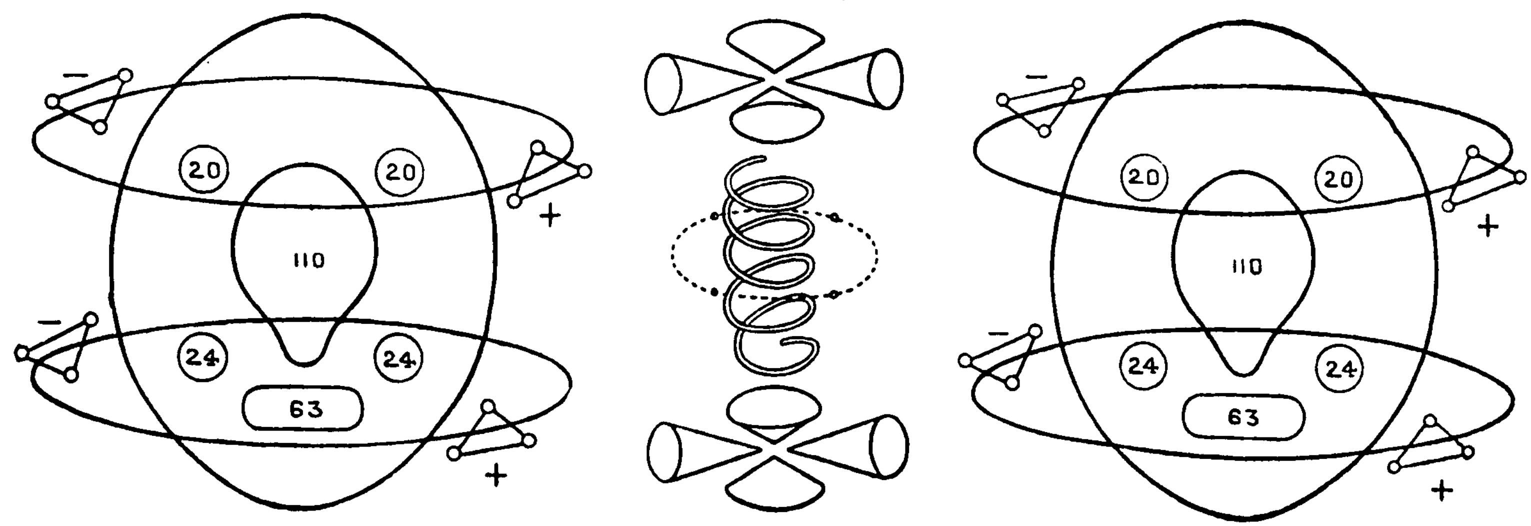


FIG. 185. UREA $(NH_2)_2CO$

UREA $(NH_2)_2CO$

Here again the Nitrogen and Hydrogen atoms remain together, following the general pattern of NH_3 Type A, except that here we have only two planes. Two of these NH_2 groups whirl round one CO group, which is arranged as already met with in other compounds. The Oxygen atom is in the centre forming a column. Round this column circle the four Anu from the Carbon centre and the eight funnels of the Carbon arrange themselves at the top and bottom of the Oxygen column.

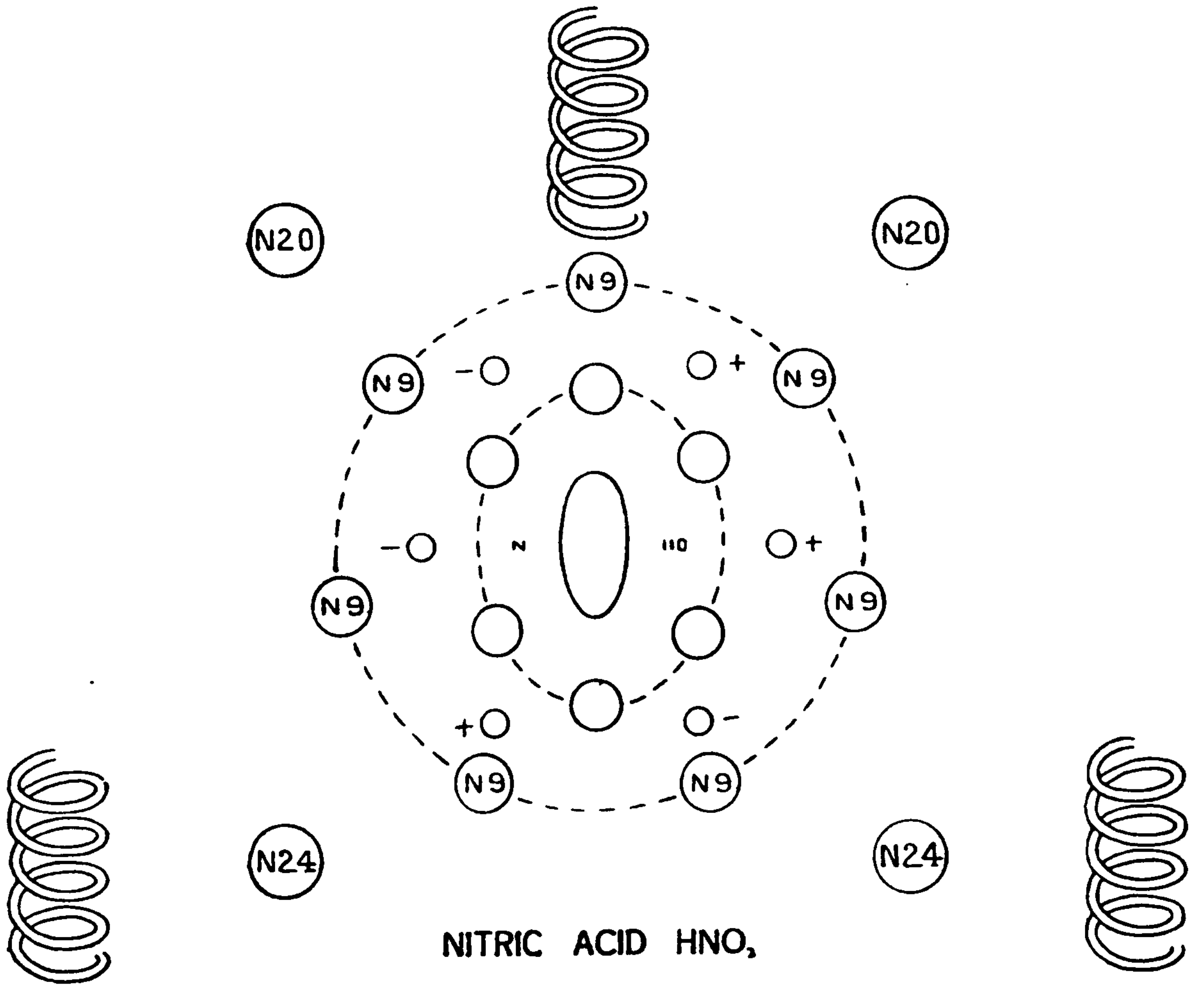


FIG. 186. NITRIC ACID HNO_3

NITRIC ACID HNO_3

In these nitrate compounds it is the Nitrogen which seems to suffer and not the Oxygen. The three Oxygens stand round the remains of the Nitrogen which is broken up considerably.

The centre piece of Nitric acid, HNO_3, is formed by N110. The ovoid at the centre of the N110 is upright and the six globes N14 arrange themselves at the points of a hexagon. Round this centre piece we find the six groups from the Hydrogen atom, also arranged in hexagonal form. They are marked—and+. Round these again come the seven N9 globes which form the N63 group of Nitrogen. These seven N9 globes are at the points of a heptagon. The other four groups from Nitrogen, two N20 and two N24, stand round at the corners like sentinels.

The three Oxygen atoms are at the points of a triangle, probably in the third dimension at right angles to the paper.

SODIUM NITRATE $NaNO_3$

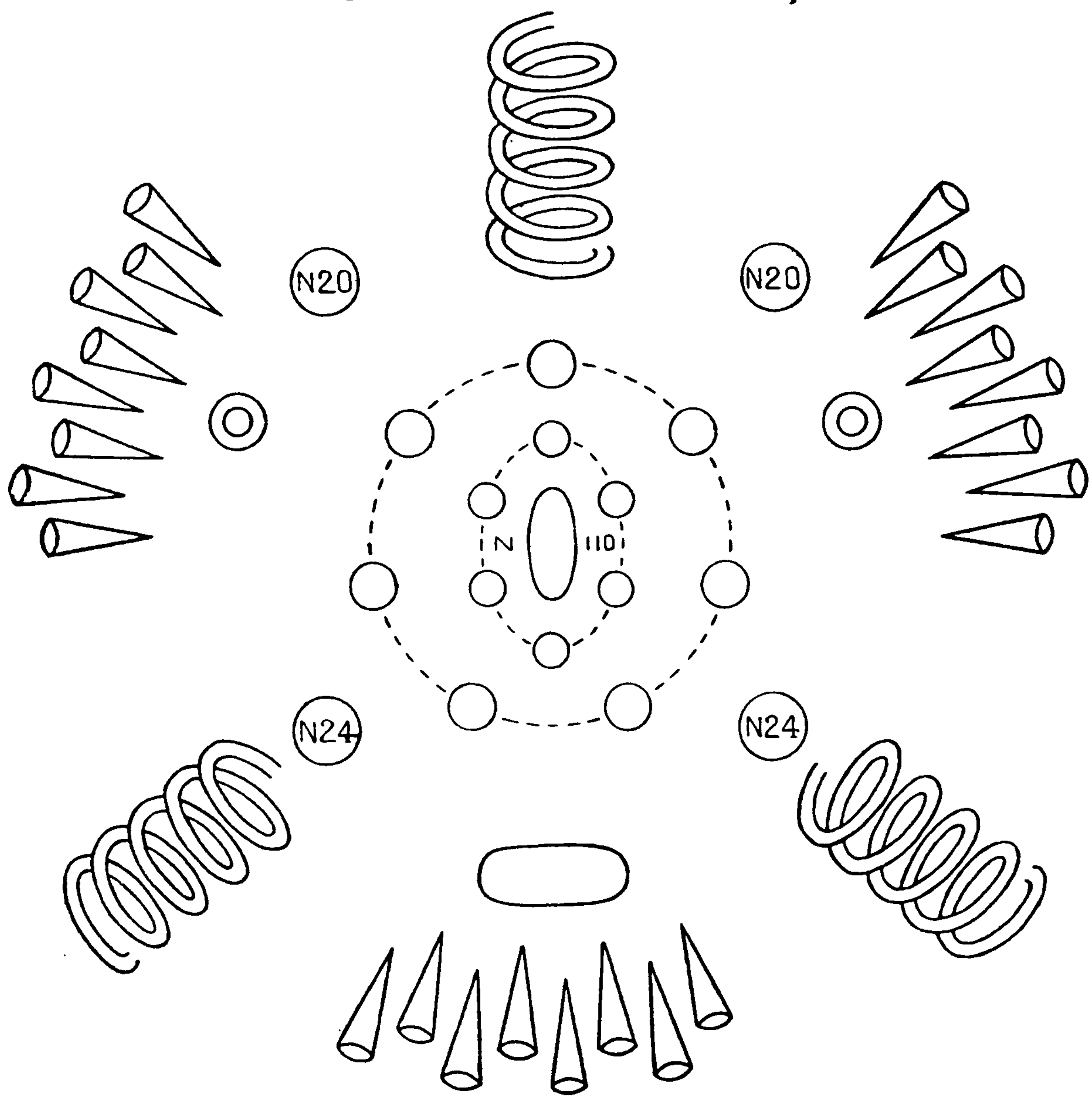


FIG. 187. SODIUM NITRATE $NaNO_3$

SODIUM NITRATE $NaNO_3$

Sodium Nitrate is somewhat similar to HNO_3 and KNO_3. Each has the NO_3 group. In Sodium Nitrate we have the Sodium dumb-bell instead of the Potassium spike. Sodium consists of a central rod, Na14, and two spheres, Na10, from each of which radiates a flower of 12 funnels, making 24 in all.

The Nitrogen atom acts as in the other nitrates, forming a central group with the N110 and N63 round it and the four sentinels, two N20 and two N24, at the corners. The three Oxygen atoms are also placed in Sodium Nitrate as they are in HNO_3 or KNO_3, that is, at the corners of a triangle, probably upright at right angles to the paper with the N110 group in the centre. Fig. 187.

It remains to account for the Sodium atom. It is broken up. The funnels are no longer in the usual groups (flowers) but are in rows like a brush coming down between the Oxygen atoms. There are eight funnels in a line coming out from the centre and sticking out. The Na10 are inside in the space from which the funnels start. The larger ovoid, the Na14, is shown below the N110 group. It will be seen that three groups of eight make up the 24 funnels. Four come from one set of 12 and four from another to make the third set. These are shown at the corners of a triangle between the Oxygen atoms and are drawn as pointing to the centre but making a brush. All revolve in the same direction.

POTASSIUM NITRATE KNO_3.

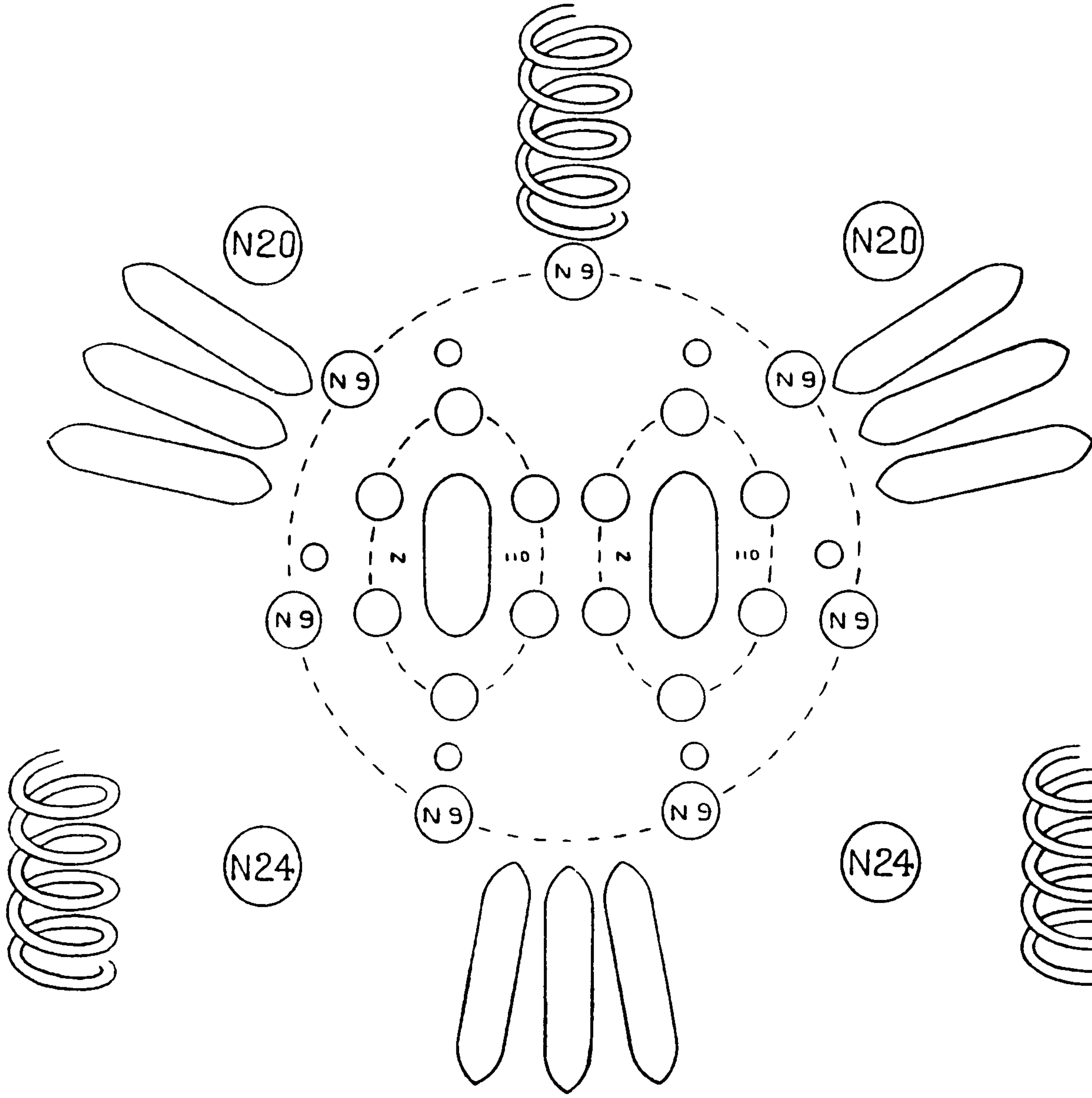


FIG 188. POTASSIUM NITRATE KNO_3

POTASSIUM NITRATE KNO_3

Here we have a Potassium atom instead of Sodium. The Potassium consists of 9Li63 spikes, 6Li4 globes and one N110.

The Potassium atom as well as the Nitrogen is split up. The Oxygen is very active and appears to act as the agent causing this splitting up. Fig. 188.

If we could put a tetrahedron over the head of this molecule, that would partly represent the way the components are arranged, but the two tetrahedrons are not placed one on top of the other but lie between one another. It is difficult to explain the perspective.

First there are two N110 groups revolving round a common centre. Then come the six Li4 at the points of a hexagon and taking the place of the Hydrogen units in HNO_3. Round these again come the seven N9 from the N63. The four globes, two N20 and two N24, appear at the corners as before.

The nine spikes from the Potassium, 9Li63, come between the Oxygen atoms and are indicated as arranged in groups of three. The diagram gives a *suggested* position for them as the original is not clear. These may perhaps be also at the points of a triangle in a plane perpendicular to the paper, making a three-dimensional figure. The Oxygen atoms are placed at the points of a triangle as in HNO_3.

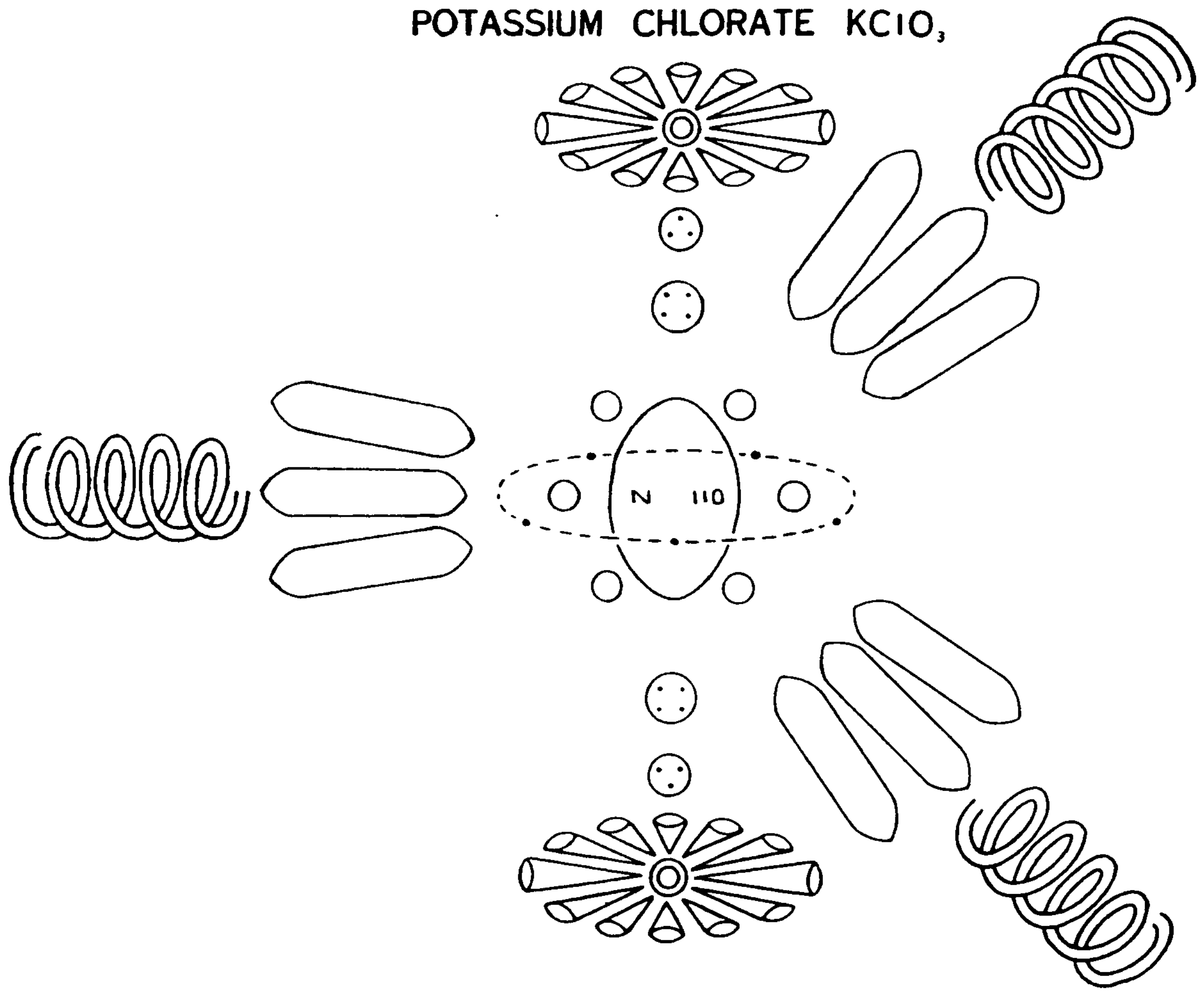


FIG. 189. POTASSIUM CHLORATE $KClO_3$

POTASSIUM CHLORATE. $KClO_3$

The arrangement in this molecule is somewhat like that in Potassium Nitrate.

Potassium is a spike element having a globe consisting of N110 surrounded by six Li4 balls. Above this come nine Li63 spikes.

The Chlorine atom is a dumb-bell, having a rod Cl.19 and two flowers, one at each end, each consisting of twelve funnels and a centre sphere.

The Oxygen atoms have the usual spiral form.

The molecule $KClO_3$ has a dumb-bell in the middle and the three Oxygen atoms round it at the points of an equilateral triangle. These are probably on a plane at right angles to the paper as in Nitric acid and Potassium Nitrate.

The centre of the whole molecule and of the rod of the dumb-bell, is the N110 with six Li4 round it. This comes from the Potassium and seems to push its way into the rod. The middle group of the rod, which is a ball of five Anu, forms a ring round the large group. The rest of the rod, two groups of four Anu and two groups of three Anu, are placed as shown, and complete the enlarged rod of the dumb-bell. The remainder of the Chlorine atom, consisting of the two flowers, appears in the normal position, at the top and bottom of the rod.

The nine spikes from the Potassium atom are at the corners of a triangle and the Oxygen atoms outside these.

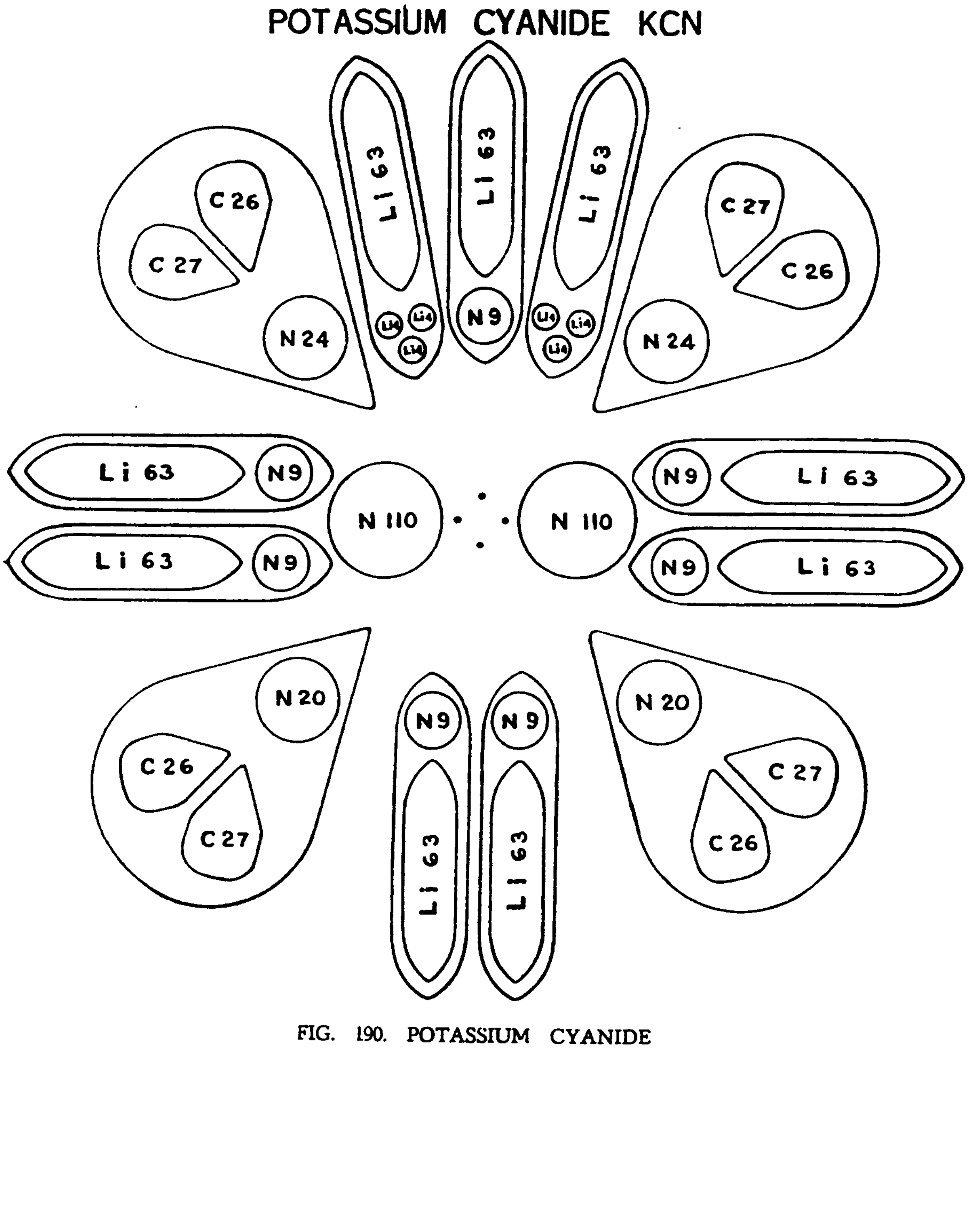


FIG. 190. POTASSIUM CYANIDE

POTASSIUM CYANIDE KCN

This compound was investigated in 1922. The following extract from a letter written by Mr. Leadbeater on September 9th, 1922, illustrates the way in which he approached this work and the patience with which he repeated his observations in order to be quite sure of the facts. The compound KCN is a fairly complex one, and all the component parts of the three elements have to be fitted in.

"I have spent several hours over KCN, and by patiently taking it section by section, disturbing its groupings and then watching them flow back again, I have at last been able to draw some sort of plan of its arrangements. It is very roughly done, I fear, for I have no skill in such matters, and it is of course only a two-dimensional diagram of something which really exists in three or four dimensions, but it may give you some idea of this uncomfortably complex substance.

The molecule is not symmetrical, but it has a strongly-marked tendency to float in a particular position with the group of three bars pointing upwards, so I have marked that 'top'. The actual centre consists of four Carbon Anu, next come two Nitrogen balloons, revolving violently round that centre, and apparently paying no attention whatever to the groups of spikes and funnels which surround them, all of which are moving very much more slowly.

Each of the sub-sections has become to some extent a separate entity, rotating on its own axis at right angles to the general scheme, like a pencil rolled between finger and thumb, but always pointing to the vigorously-active centre. It would seem that each Potassium spike and each pair of Carbon funnels have annexed one of the smaller bodies from Nitrogen, and decline to be separated from it."

It will be seen from the diagram that the grand centre is formed by four Anu. These obviously come from the centre of the Carbon atom, and are the four Carbon Anu referred to by Mr. Leadbeater.

The four sets of funnels from the Carbon atom are situated as shown and each pair adds a group from Nitrogen, either N24 or N20. It may be that these are really placed at the corners of a tetrahedron, so making the three-dimensional form as suggested by Mr. Leadbeater.

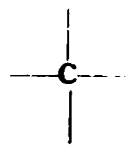
The remainder of the Nitrogen atom is split up. The seven N9 groups from the larger group N63, attach themselves to Li63 spikes from the Potassium, while the 'balloon,' now identified as N110, revolves round the grand centre.

The other N110 which revolves round the grand centre comes from the Potassium, as do the nine Li63 spikes and the six little Li4 spheres.

ORGANIC COMPOUNDS

Carbon is an octahedron composed of eight funnels, four of which are positive and four negative Fig. 191 gives two of the funnels, one positive and one negative, spread out flat, with the single loose Anu which binds them.

It is interesting to note that chemists have tried to conceive of the quadrivalence of the Carbon atom, represented diagrammatically as



as four valencies radiating from the centre of a tetrahedron to its four corners. No chemist has, so far, conceived of the Carbon atom as consisting of eight half valencies, in the eight directions represented by the eight faces of an octahedron. This, however, is what is seen by clairvoyance.

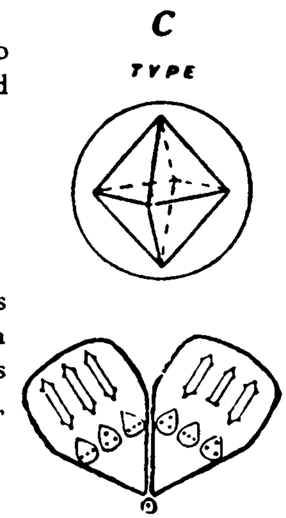


FIG. 191. CARBON

METHANE CH_4

Methane is the simplest of the Carbon open-chain series, being composed of one Carbon and four Hydrogen atoms.

The combination of four Hydrogen atoms with one Carbon atom is seen in Fig. 192. The four Hydrogen atoms break up into eight triangular groups, four of which are positive and four negative. Each positive group floats at the mouth of a negative Carbon funnel and each negative group at the mouth of a positive funnel.

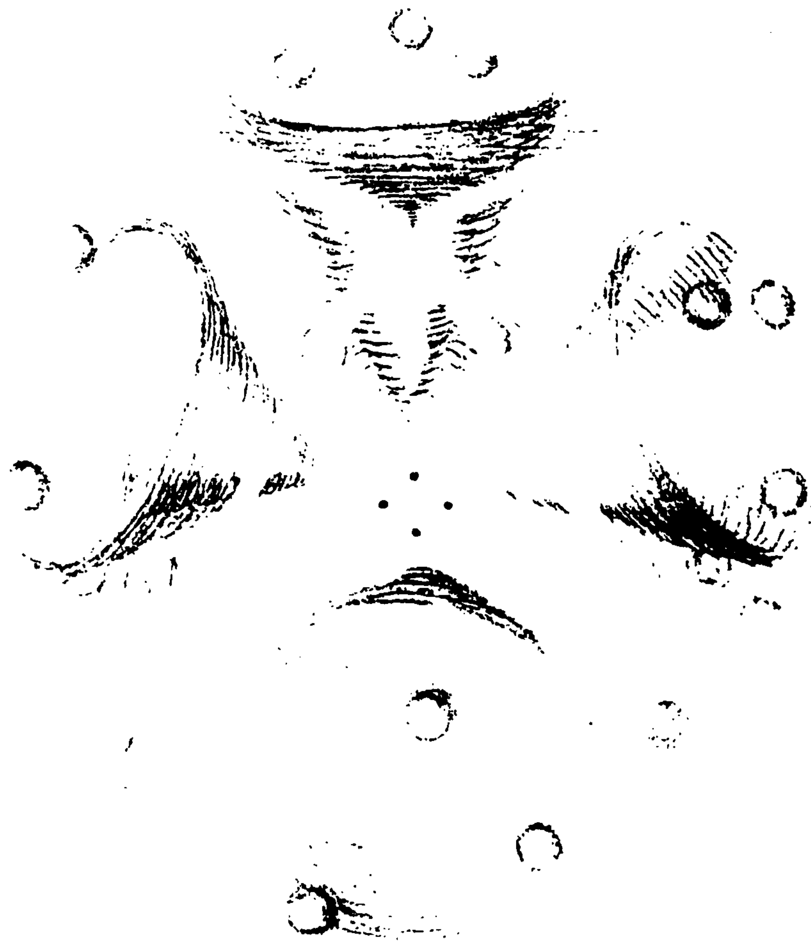


FIG. 192. METHANE CH_4

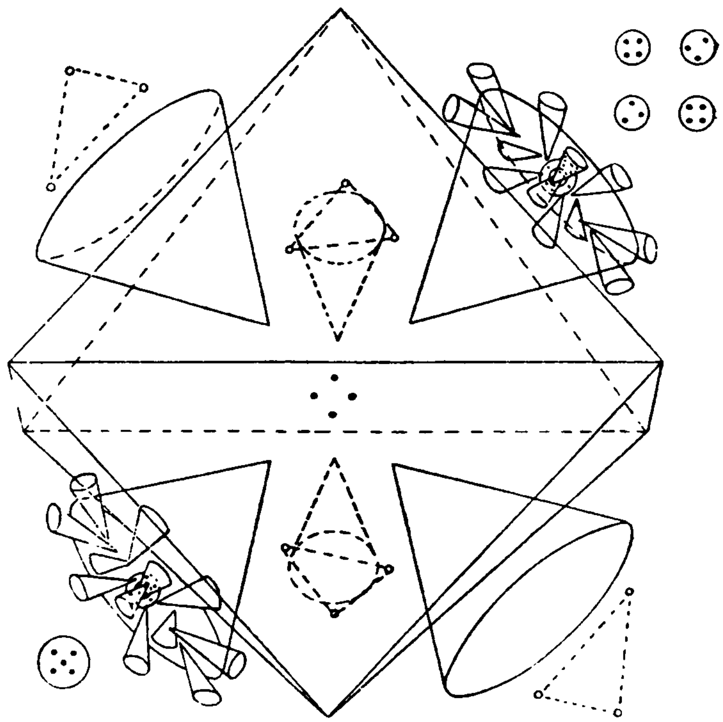


FIG. 193. METHYL CHLORIDE CH_3Cl

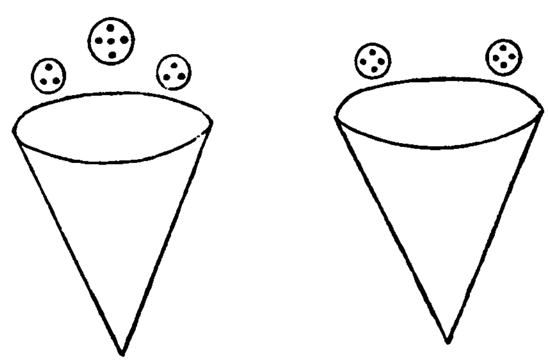


FIG. 194. IN ISOMER OF METHYL CHLORIDE

METHYL CHLORIDE CH_3Cl

The first Carbon compound of the chain series, Methane CH_4, was shown in Fig. 192. Methane is represented as

$$\begin{array}{ccc} & H & \\ & | & \\ H— & C & —H \\ & | & \\ & H & \end{array}$$

Methyl Chloride is made by the substitution of a Chlorine atom for one Hydrogen.

$$\begin{array}{ccc} & H & \\ & | & \\ H— & C & —Cl \\ & | & \\ & H & \end{array}$$

Chlorine, which is a dumb-bell, undergoes disruption. Its two ends, each of which consists of a central sphere whence radiate twelve funnels, separate from the central rod. This central rod itself breaks up. The result is shown in Fig. 193.

It was mentioned earlier that in the central rod of Sodium there appears a body of six Anu. This body is positive, and appears to act as the centre of the whole atom of Sodium. Similarly in Chlorine, the centre of it all is a body of five Anu in its central rod. This body of five Anu is positive. When Chlorine breaks up, this body of five Anu takes one end of Chlorine with it, and floats over a negative funnel of Carbon. The remaining bodies of the central rod, two of four and two of three Anu, go with the second end of Chlorine and float over a positive funnel of Carbon. Over each of the six remaining funnels of Carbon, there floats a half-Hydrogen triangle, as in Methane.

ISOMER OF METHYL CHLORIDE CH_3Cl

A variant of Methyl Chloride was observed, which is slightly different in the distribution of the five bodies of the central rod. This distribution is as in Fig. 194. Over the mouth of the two Carbon funnels, and under the bodies from the central rod, as in Fig. 193, there float the two ends of Chlorine.

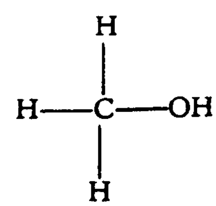
TRICHLOR METHANE $CHCl_3$

When examined clairvoyantly, the appearance of $CHCl_3$ is as in Fig. 195.

In the previous combination, Methyl Chloride, CH_3Cl, the atom of Chlorine was broken up into two parts. Here, however, the three Chlorine atoms are not so broken up, but each attaches itself as a whole to a Carbon funnel. The Chlorine is partly sucked into the funnel. The central rod buckles up and bends in the process. The two flower ends of Chlorine, however, remain outside. One end of the atom of Hydrogen also gets partly sucked into a funnel.

METHYL ALCOHOL CH_3OH

Methyl Alcohol differs from Methane in having one Hydrogen atom replaced by the Hydroxyl group, thus



We have seen the appearance of the OH group in Fig. 158. Fig. 196 gives that of CH_3OH. The Oxygen stands upright to two Carbon funnels, and the two Hydrogen triangles at its top and bottom are sucked partly into the funnels.

It was noted in the course of the investigations that Oxygen has a great quality of force, and does not break up when combining so as to accommodate itself to other atoms. In the present figure, the investigator described its behaviour as being " stiff as a poker ".

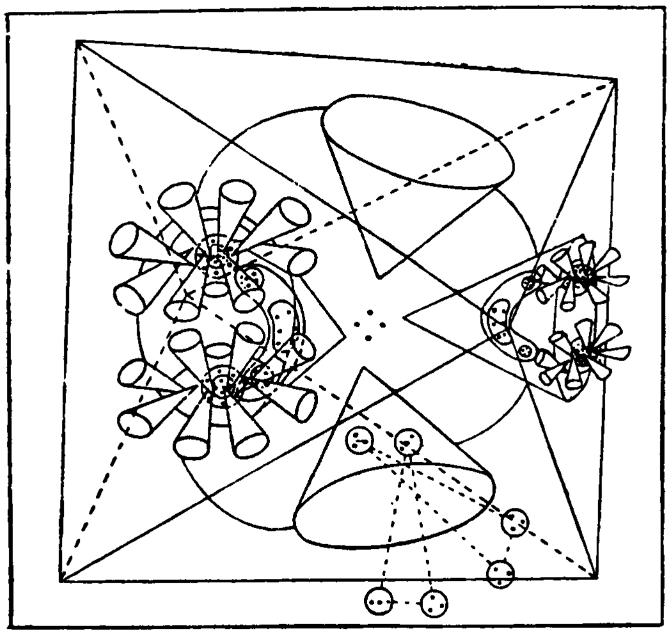


FIG. 195. TRICHLOR METHANE $CHCl_3$

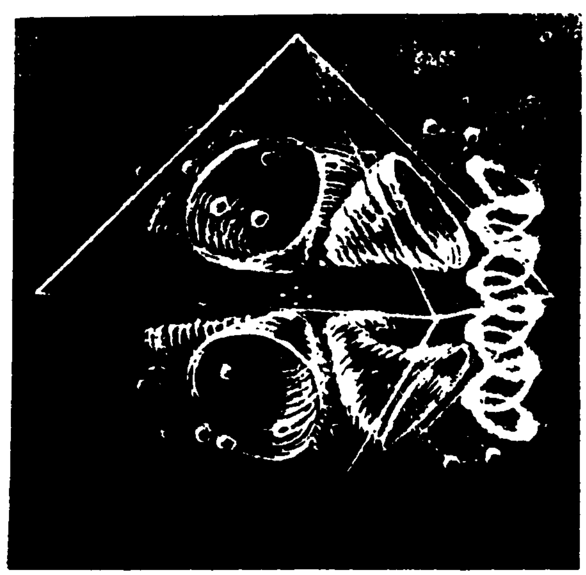


FIG. 196. METHYL ALCOHOL CH_3OH

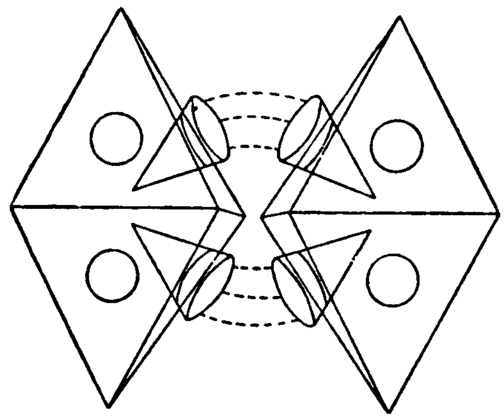


FIG. 197. TWO CARBON ATOMS LINKED TO EACH OTHER

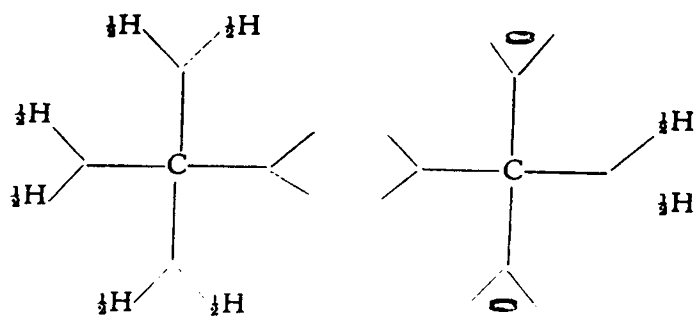


FIG. 198. ACETIC ACID CH_3COOH

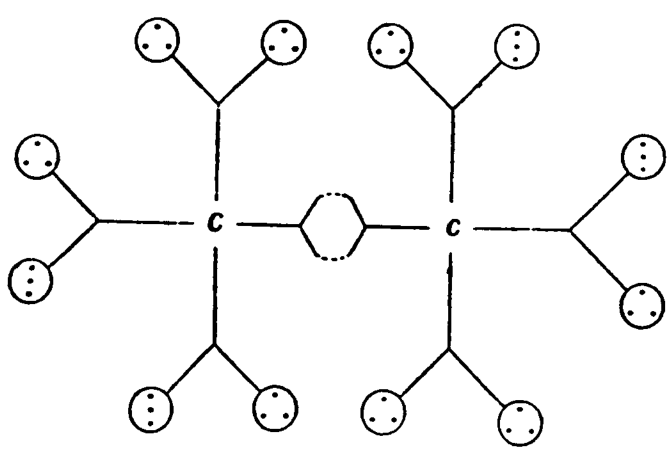


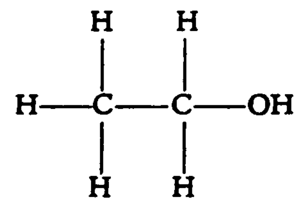
FIG. 199. ACETYLENE C_2H_2

ETHANE C_2H_5OH

In this and the following compounds we have two Carbon atoms linked together in a chain.

Fig. 197 shows how this occurs. A positive funnel of one Carbon atom selects a negative funnel of the other Carbon, for the purpose of linking. The linked funnels cannot of course lie on one plane, and therefore the forces which link are curved.

When, therefore, Ethyl Alcohol



is examined, Figures 196 and 197 enable us to see how it is constructed.

ACETIC ACID CH_3COOH

When it is realized that a valency of Carbon is distributed into two half-valencies, one positive and the other negative, the structure of Acetic Acid becomes simple. Stated in the usual form, but taking each valency of Carbon to consist of two half-valencies, it is as in Fig. 198.

This odd-looking formula is perfectly clear, if one holds in one's hands two octahedrons, placed side by side as in Fig. 197. The first Carbon with its three Hydrogens is similar to Methane, Fig. 192, so far as the three Hydrogens are concerned. In the second Carbon, the position of each Oxygen is as in Methyl Alcohol, Fig. 196, that is, upright and at right angles to two funnels. In the formula, to suggest this, the symbol for Oxygen, O, is placed horizontally. The Hydrogen floats, as two half-Hydrogen triangles, over the two remaining funnels. Though these two half-Hydrogens float over two Carbon funnels, and are so to say satisfied, yet owing to the proximity of an Oxygen atom to each of them, they are pulled towards the Oxygens and so are restless.

ACETYLENE C_2H_2

Acetylene can be produced by dropping water on Calcium Carbide. When this change is looked at clairvoyantly, the Oxygen is seen to fly to the Calcium funnels, releasing the Carbon segments. These Carbon segments arrange themselves in the formation represented by Fig. 199.

The mode of linking C—C is shown in Fig. 197. Four Carbon funnels are thus used up by this linking. The two Hydrogens, broken up into their twelve constituent charge units, each of which contains three Anu, then fly to the remaining twelve funnels of the two Carbon atoms. There is apparently no double bond between the Carbons in Acetylene.

TARTARIC ACID COOH. CHOH. CHOH. COOH

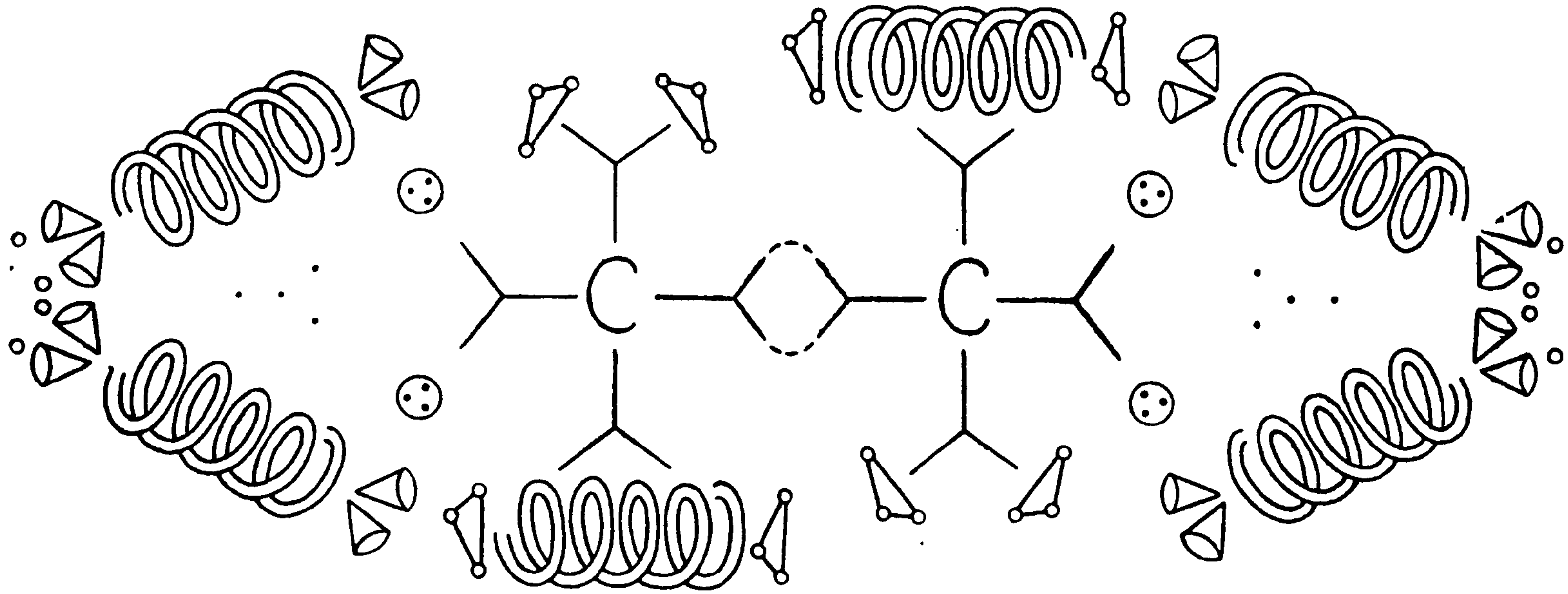


FIG. 200. TARTARIC ACID

TARTARIC ACID COOH. CHOH. CHOH. COOH

In Tartaric acid we have a symmetrical molecule, the two halves being similar. Fig. 200. The two Carbon atoms are joined by using two funnels from each Carbon. The two Hydroxyl (OH) groups place themselves over two funnels as usual, the Oxygen being drawn down into the funnels as in Methyl Alcohol. The well-known Carboxyl group, COOH, is shown here in the form in which it appears in other acids. It will be seen that the four central Anu of the Carbon make a grand centre for the group, and the eight funnels of the Carbon atom place themselves at the ends of the Oxygen atoms. The triplets of the Hydrogen atom come between the two Oxygen atoms and push them apart. These two triplets are over the two funnels of a central Carbon atom. The remaining four triplets of the Hydrogen atom float over the funnels of the Carbon atoms which are attached to the Oxygen, but the description is not clear as to the exact distribution of these four triplets.

MALEIC ACID $COOH.CH-CH.COOH$

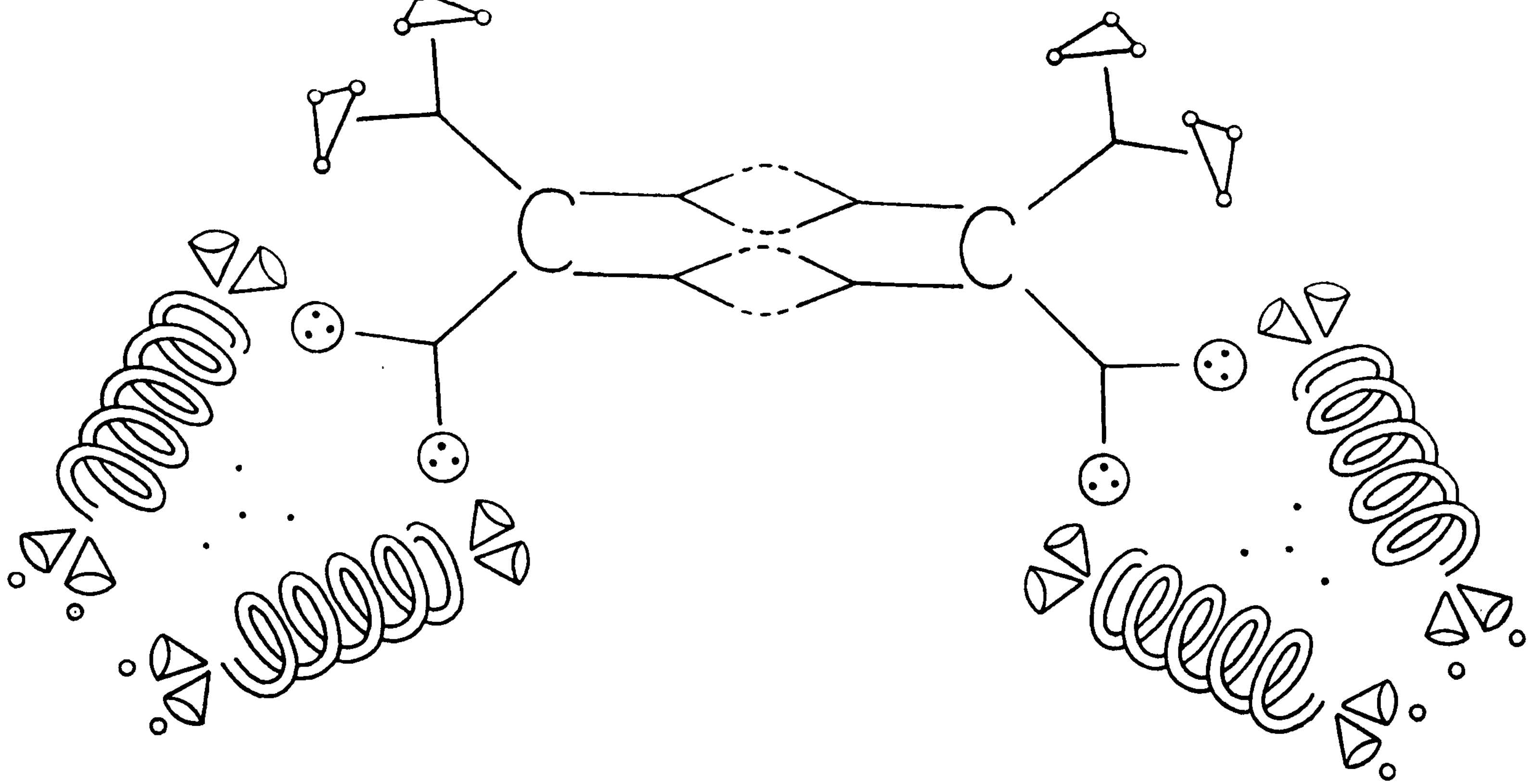


FIG. 201. MALEIC ACID

MALEIC ACID OR $C_2H_2(COOH)_2$

This compound has a double bond in the centre, which means that four of the funnels of each central Carbon are engaged in making this bond. Fig. 201. The octahedrons may be visualized as standing parallel with one complete side used in these bonds. The remaining valencies point to two corners of a tetrahedron. One pair of funnels in each central Carbon is used in holding a Hydrogen atom, this Hydrogen dividing into its two triangles as usual. The other pair of funnels, completing the four valencies, is used to hold a Carboxyl group. This Carboxyl group is arranged just as is the Carboxyl group in Tartaric acid. It is shown making an angle with the Hydrogen to indicate that the whole is in three dimensions and that the valencies point to the corners of a tetrahedron.

DI-ETHYL ETHER $(C_2H_5)_2O$

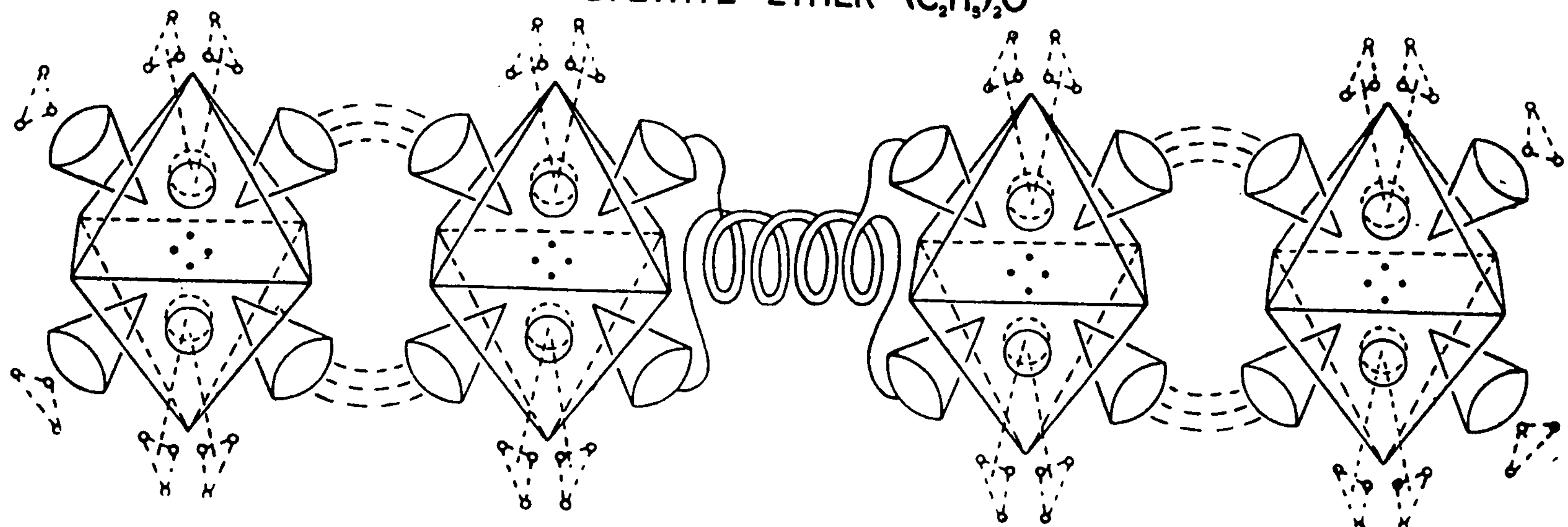


FIG. 202. DI-ETHYL ETHER

DI-ETHYL ETHER $(C_2H_5)_2O$

In the Ethers a group of the ethyl type is attached to another by means of an Oxygen atom. The example given here is Di-ethyl ether, but the other Ethers are on the same plan.

In Fig. 202 the molecule is shown lying on its side like a fallen column, the two groups of C_2H_5 being linked by the Oxygen atom. In the case where two Carbon atoms are joined together four funnels take part, the negative funnel of one Carbon being linked by lines of force to the positive of another.

In the Ethers the tail ends of the double Oxygen snake open out and point to a negative and a positive funnel respectively. The Oxygen atom is thicker and shorter than usual, and the two parts of the molecule hold together because the snakes are pulled in opposite ways because one is negative and the other positive. Four funnels of Carbon are occupied by the Oxygen.

In their natural free state there is a normal position for the atom and its parts. The Carbon atom, for instance, naturally points up and down as in an octahedron. Here the Oxygen pulls the Carbon atoms askew so that they are leaning a little forward. If it were not held strongly the molecule would fall apart.

In the diagram an attempt has been made to show the octahedron as if we were looking direct at one face. Four funnels are shown and the other four indicated.

The Hydrogen atoms break up into half-Hydrogens, as in Methane, and float over the funnels not occupied by the Oxygen, or are used to link the Carbons together.

BENZENE C_6H_6

Benzene is the first member of the closed chain, or ring, series.

It consists of six Carbon and six Hydrogen atoms and can be represented diagrammatically as a single ring. Fig. 203.

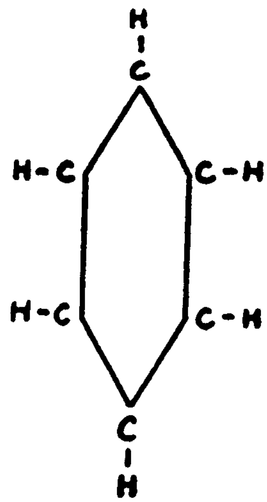


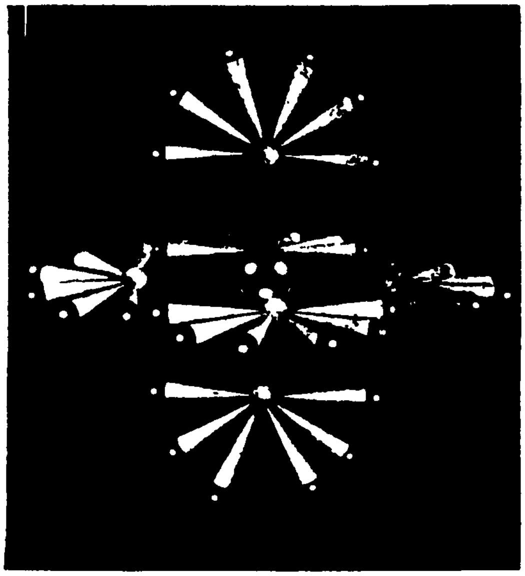
FIG. 203. THE BENZENE RING

Of the four valencies, three are satisfied, what becomes of the fourth valence?

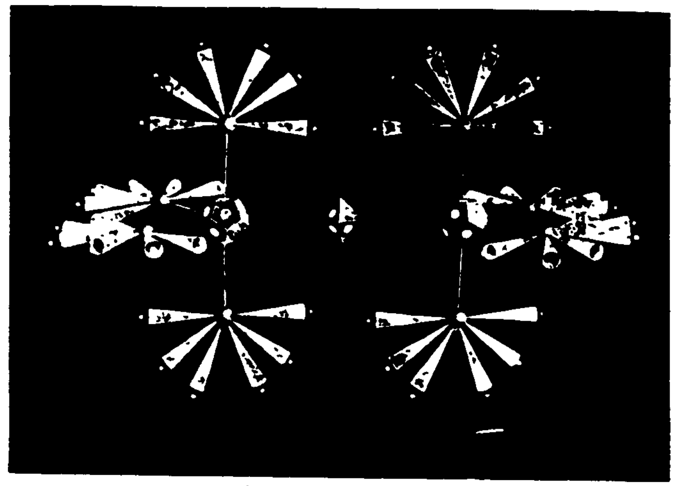
Clairvoyance finds that this valence goes inward.

In Benzene one pair of funnels from each of the six Carbons passes into the ring. These twelve funnels then form a dodecahedron at the centre of the ring. It should be noted that this ring is not a flat hexagon but that the six Carbons are placed at the six corners of an octahedron. The remaining six funnels in each Carbon form themselves into a fan-shape, with the six triplets from each Hydrogen floating over the mouths of the funnels.

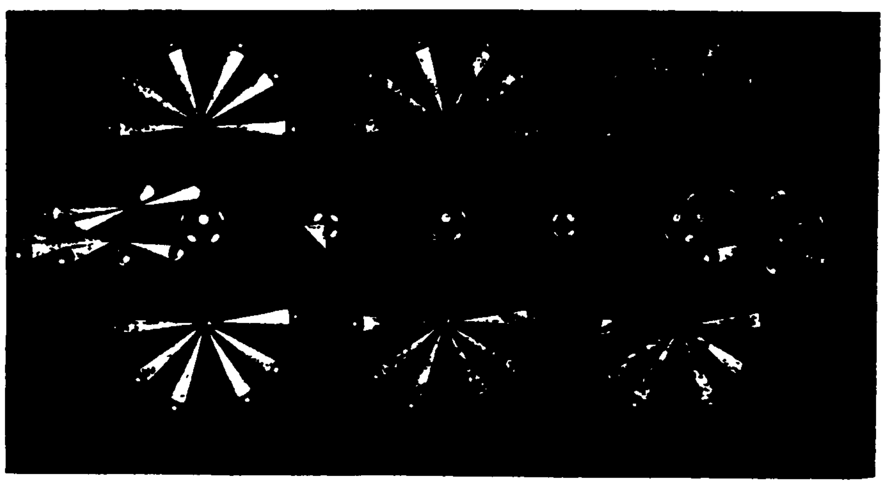
The appearance of the Benzene molecule is shown in Fig. 204, which is a photograph from a model. We must remember that no model can ever adequately represent the reality, since first the distances between Anu and between groups of them, and their relative sizes, cannot be correctly represented in any model, and secondly each funnel which looks solid is not solid at all but is only a whirlpool of force created by the Anu as they revolve.



BENZENE C_6H_6



NAPHTHALENE $C_{10}H_8$



ANTHRACENE $C_{14}H_{10}$

FIG. 204. BENZENE, NAPHTHALENE AND ANTHRACENE SHOWING THE FORMATION OF SINGLE, DOUBLE AND TRIPLE RING COMPOUNDS.

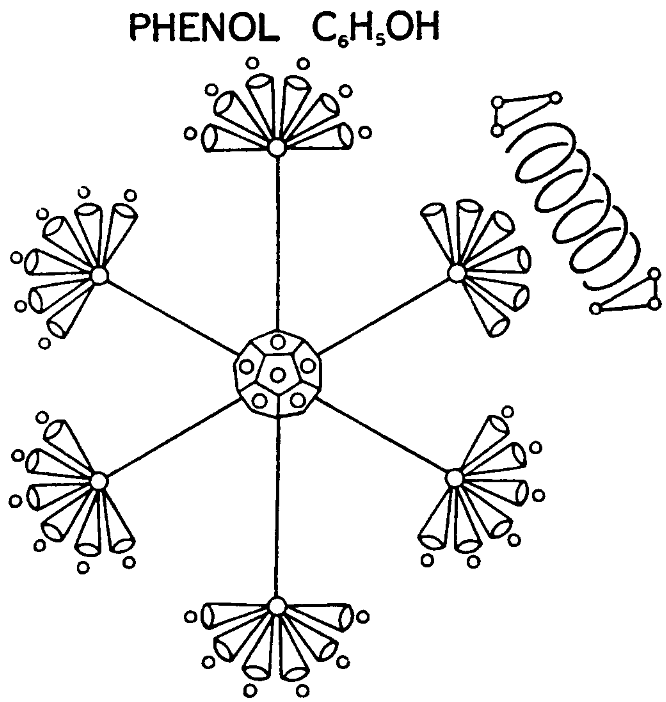


FIG. 205. PHENOL C_6H_5OH

PHENOL $C_6H_5(OH)$

This compound is a simple derivative of Benzene. Fig. 205. The diagram of Benzene should be studied first in perspective, showing the central dodecahedron and the rest of the Carbon atoms distributed at the corners of an octahedron. Fig. 205 shows the six Carbon atoms in Phenol as at the corners of a flat hexagon. This is merely for convenience in the diagrams. The true form is as in Benzene. Phenol is Benzene with the Hydroxyl (OH) group at one corner, and not at the top, as might have been expected. The molecule is not straight but asymmetric. The difference in these things is not in the atoms but in the way in which they lie in reference to the currents. The Phenol is distorted and wobbly. When the Oxygen is lost the Phenol becomes straight again and there is a sense of relief—here there is a distinct rudiment of sensation.

HYDROQUINONE $C_6H_4(OH)_2$

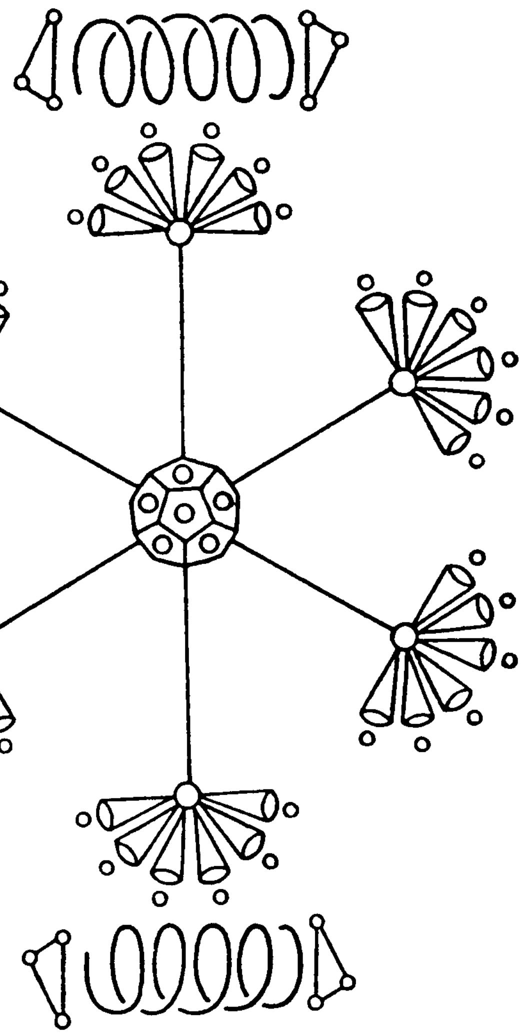


FIG. 206. HYDROQUINONE $C_6H_4(OH)_2$

Here we have two Hydroxyl groups attached to the Benzene ring. They are attached at the top and bottom. The whole is really an octahedron, as in Benzene, but slightly elongated. The two Oxygens seem to elongate the molecule a little but the whole is stable.

BENZALDEHYDE C_6H_5CHO

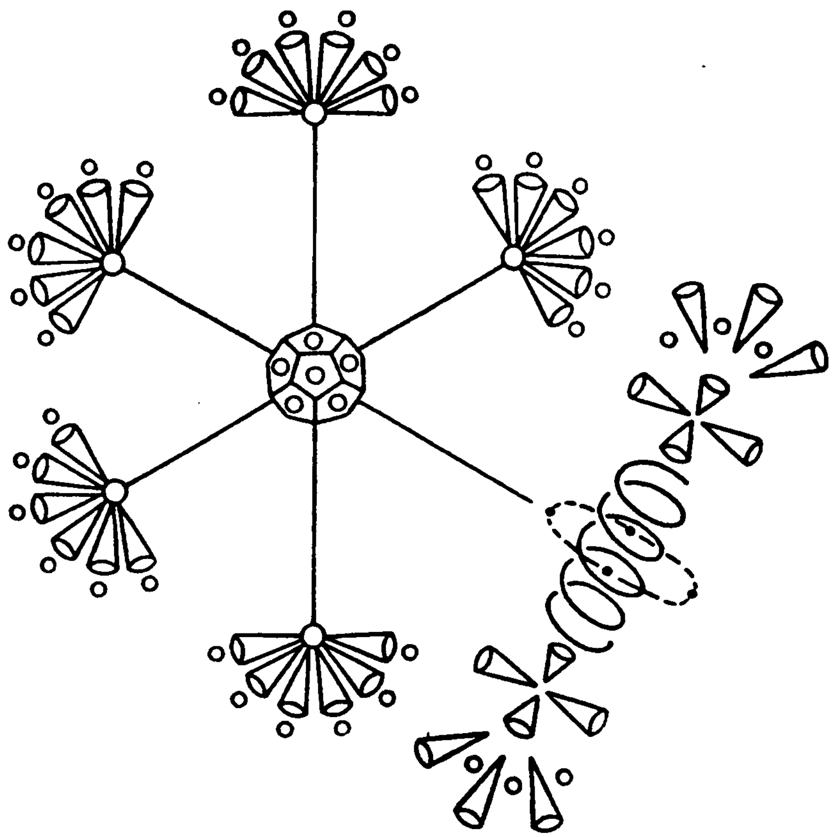


FIG. 207. BENZALDEHYDE C_6H_5CHO

This is a ring compound derived from Benzene. It has an aldehyde group (CHO) attached to one corner. It is described as the usual hexagonal ring with a wart at one corner.

This corner is composed as follows. Usually the *six* funnels of the corner Carbon (two funnels of which are used in the dodecahedron) point outward with the six small H3 groups floating over them. In this case there is no corner Carbon but the six funnels and the Hydrogen atom form part of a complex body. The centre-piece of this body is the Oxygen. The eight funnels from the Carbon of the CHO divide into two groups of four and lie flat at each end of the Oxygen. The *four central Carbon Anu* circle round the Oxygen.

Above the four flat Carbon funnels there are three more Carbon funnels pointing outward. These are from the original six. Three of these six are shown at each end of the wart, sticking out but one at each angle of a triangle. The six balls of H3 do not float over the six funnels as before but are pulled down in some way and are not so definitely attached to their funnels. They are described as restless and dodging in and out. They are shown between these three funnels.

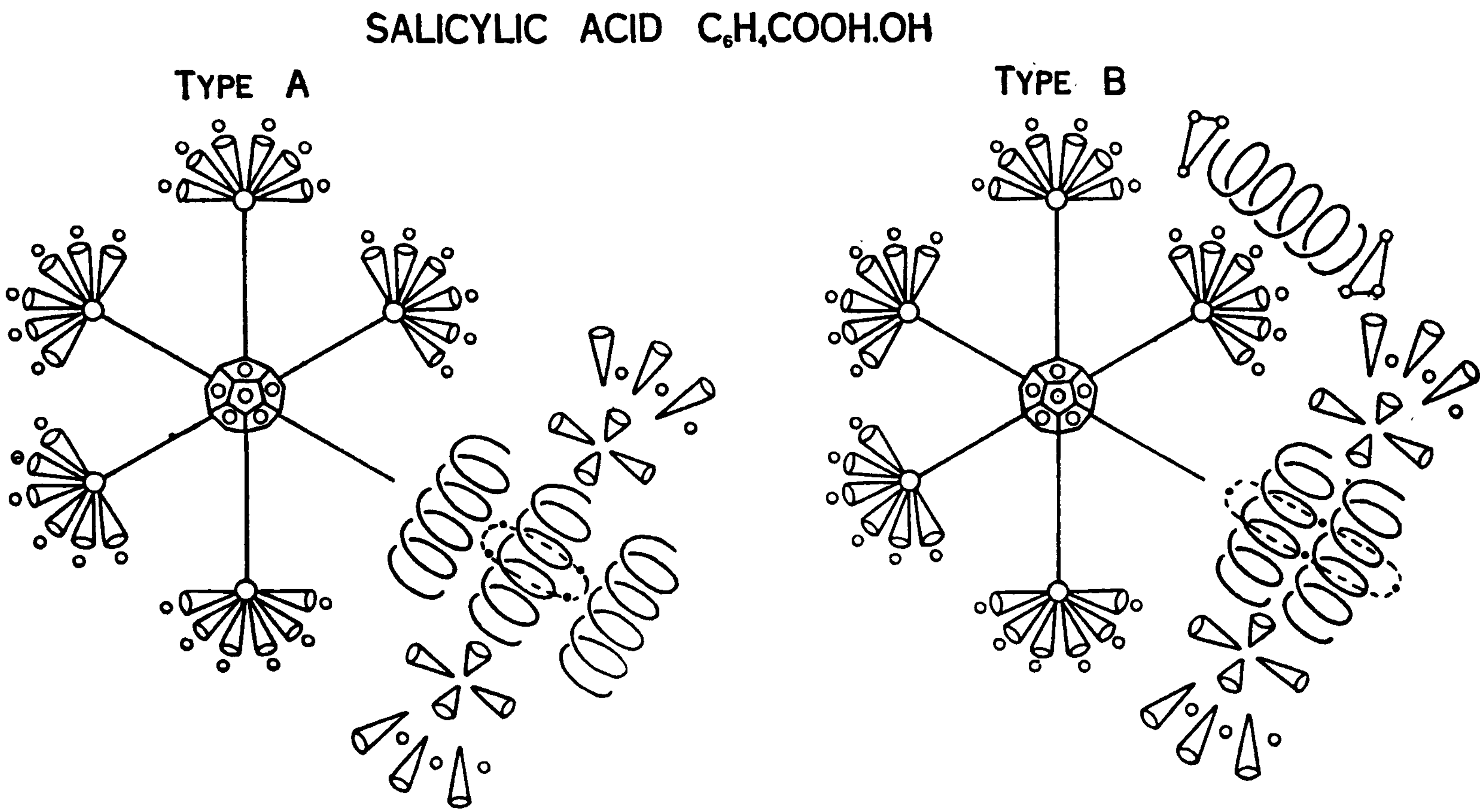


FIG. 208. SALICYLIC ACID

SALICYLIC ACID $C_6H_4COOH.OH$

Two varieties of this compound have been observed. Fig. 208.

In *Type A* the COOH and OH groups coalesce. Salicylic acid is fundamentally a Benzene ring. In *type A* we have an arrangement very much resembling Benzaldehyde. The five Carbon atoms in the ring are as in Benzaldehyde but the 'wart' has become larger as three Oxygen atoms are attached to the sixth Carbon, or rather take the place of the sixth Carbon. The three Oxygen atoms are side by side, with the four Anu from the Carbon circling round the central one. At the ends of the Oxygen atoms appear the four flat funnels from the Carbon atom of the Carboxyl group, while six funnels of the Carbon atoms belonging to the ring radiate out as in Benzaldehyde. In between these funnels, not still, but moving in and out, are the six balls from the Hydrogen of the COOH.

Type B. In this arrangement the OH group remains at one corner as in Phenol, while the COOH group forms a "wart" on the sixth corner as in Type A except that there are only two Oxygen atoms instead of three.

There appeared to be a mixture of these two types within the specimen examined.

PYRIDINE C_5H_5N

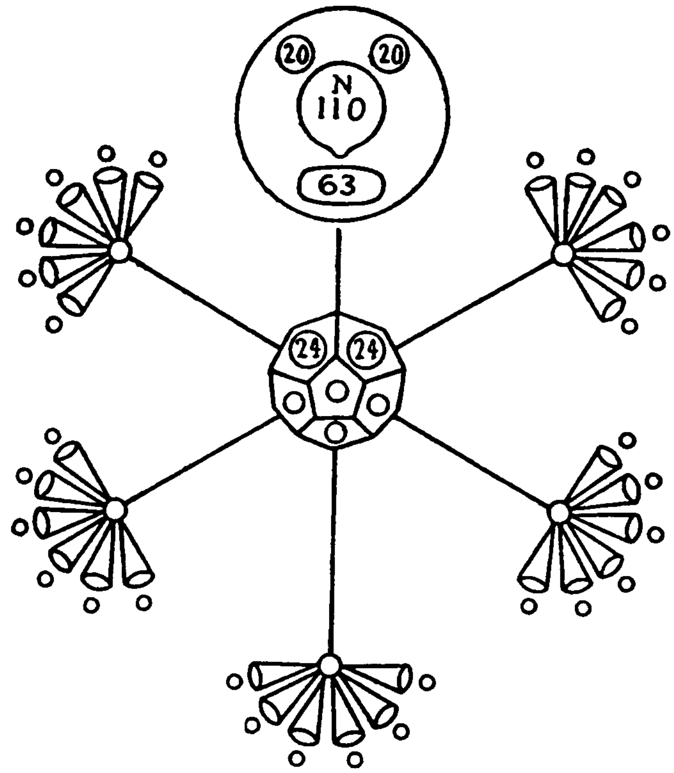


FIG. 209. PYRIDINE C_5H_5N

PYRIDINE C_5H_5N

There are only five Carbon atoms in this compound, so the Nitrogen atom enters the ring and plays the part of the sixth Carbon. As there are only five Carbons, which provide ten funnels and not twelve, the dodecahedron in the centre would be incomplete. However, two groups from the Nitrogen, the two N24 groups, are given away by the Nitrogen and take the places of the two missing funnels. This produces an awkward-looking, asymmetric centre, somewhat dented in. Also there are only five Anu from the five Carbon atoms to provide the grand centre of the dodecahedron. Fig. 209.

The remainder of the Nitrogen atom takes the place of the sixth Carbon atom. The arrangement is stable and the whole is a very sluggish creature. The pear-shaped Nitrogen balloon N110 is in its usual place with the 'dish' N63 below it. It is not possible to say how the valencies work. The two N20 groups remain in their usual places.

NAPHTHALENE $C_{10}H_8$

The chemical formula for Naphthalene is $C_{10}H_8$. Chemists have long postulated that the arrangement of the atoms of Carbon and Hydrogen in it can be represented in a flat space diagram only in some such form as follows:

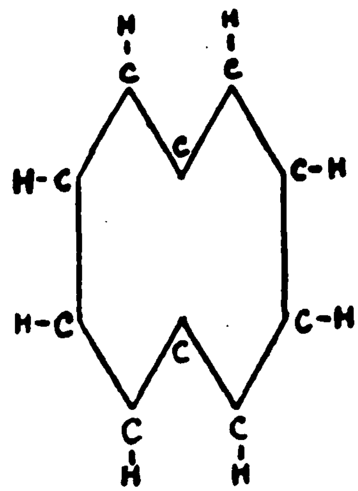


FIG. 210. NAPHTHALENE

When Naphthalene is examined clairvoyantly, its appearance is as in Fig. 204. We find a symmetrically balanced molecule, which has a close resemblance to two molecules of Benzene placed in juxtaposition. Fig. 210. The difference, however, is that out of the six arms of each Benzene, two have disappeared. But in the new combination, the symmetry is brought about by a new object between the two truncated Benzene molecules. This new object is composed of eight funnels of Carbon. These funnels become spheres, and the eight spheres make one whirling group. The arrangement of the spheres show that they are on the eight faces of an octahedron. The student will at once follow the arrangement of Naphthalene, after examining that of Benzene. Fig. 204.

ANTHRACENE $C_{14}H_{10}$

The chemical formula for Anthracene may be represented by Fig. 211.

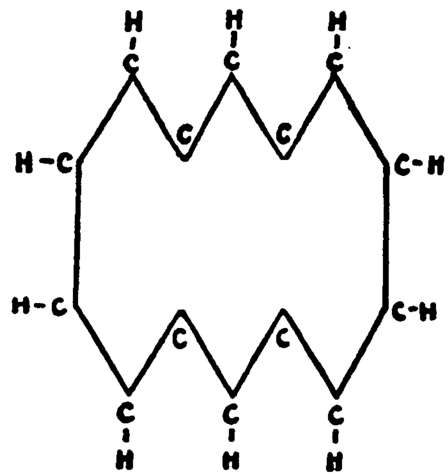


FIG. 211. ANTHRACENE

Anthracene has not yet been examined clairvoyantly but we give a suggested model of it. Fig. 204.

ALPHA AND BETA NAPHTHOL $C_{10}H_7OH$

These compounds are derivatives of the double ring compound, Naphthalene.

In *alpha* and *beta* naphthol we have hydroxyl OH groups attached at one corner of the molecule, the only difference being that in *alpha* naphthol the OH is at the top and in the *beta* compound at one side. Fig. 212.

In the description given by Mr. Leadbeater he says that the six funnels where the Oxygen are attached seem to flatten and make a cushion on which the Oxygen rests as on a brush. The Oxygen seems to be pulled down by the funnels.

In the *alpha* variety the two rings are distorted a little. They are pulled sideways and the second one, that with the Oxygen attached, is a little elongated. In the *beta* form the second ring is pulled still more to the side and bent upward. The whole thing is revolving, but in the *beta* form is more wobbly as if it had a double axis.

These molecules give an uncomfortable feeling of strain. They are not symmetrical and seem unnatural.

Each of the angles of the hexagon ring may have a magnetism of its own and this may account for the OH attaching itself to one corner rather than another.

There is an interesting note here by Mr. Jinarājadāsa, who says that speaking from memory he placed the OH of *beta* naphthol at one corner of the molecule but that Mr. Leadbeater said that it was at another corner. This proved to be in accordance with scientific theory.

ALPHA AND BETA NAPHTHOL $C_{10}H_7OH$

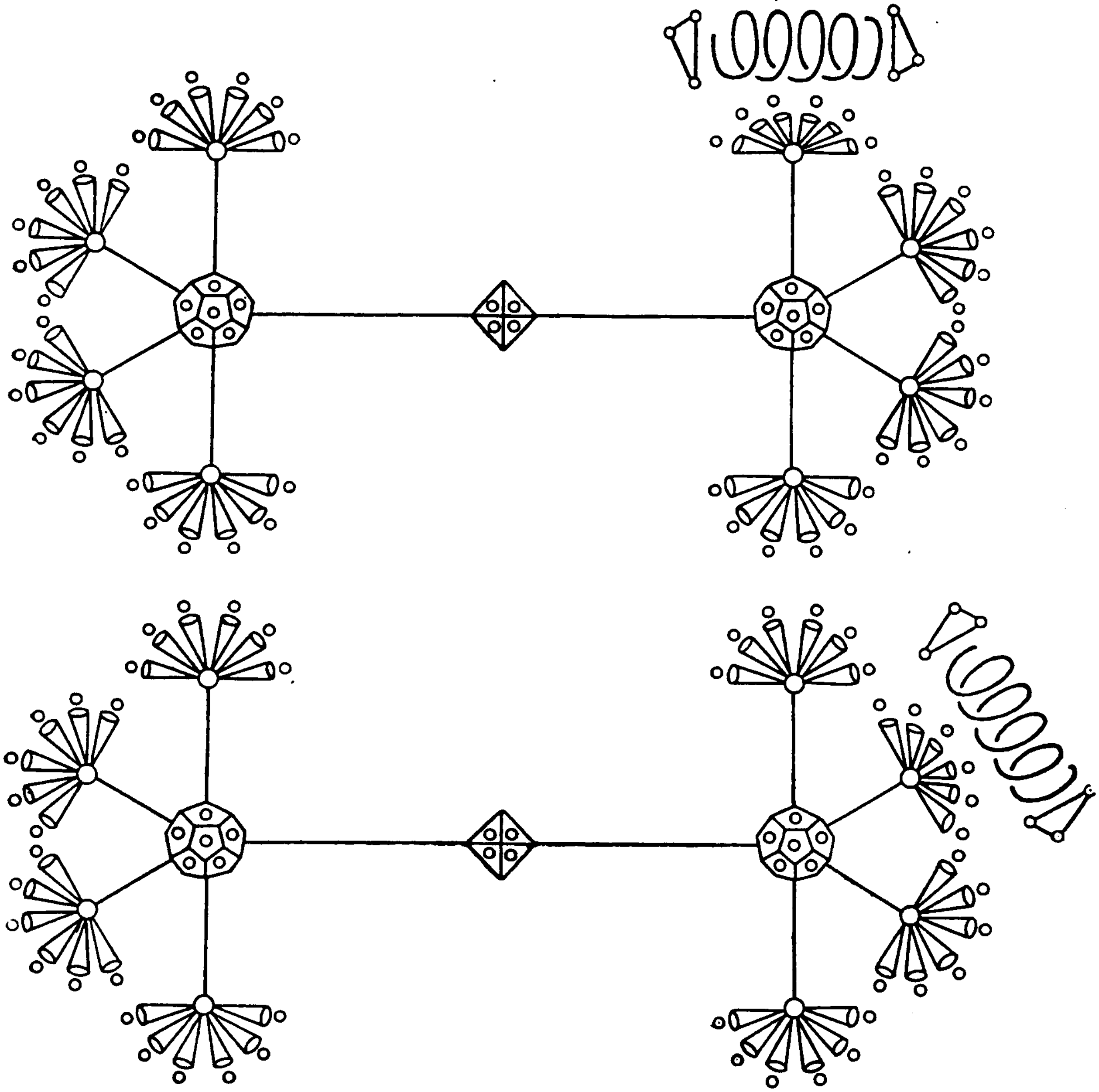


FIG. 212. ALPHA AND BETA NAPHTHOL $C_{10}H_7OH$

INDIGO $C_6H_4NH.CO.C-C.CO.NH.C_6H_4$

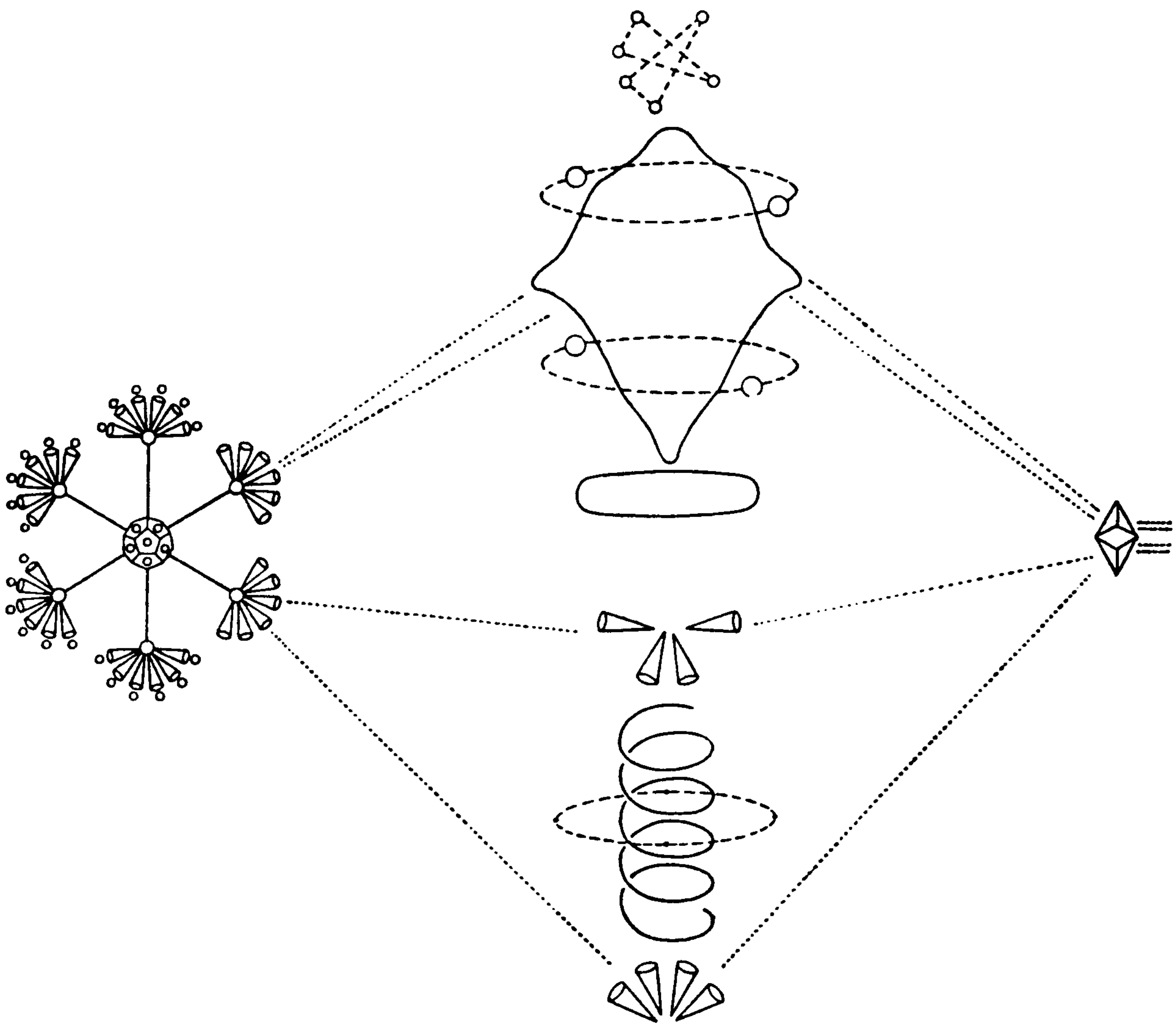


FIG 213. INDIGO

INDIGO $(C_6H_4NH.CO.C)_2$

Indigo is a complex molecule. Fig. 213. It consists of four rings but they are not true Benzene rings. The molecule is double or symmetrical, and each side has a Benzene ring and a second ring attached where Nitrogen, or the NH group, and the CO groups form the connecting links. The two halves of the molecule are connected through a double bond Carbon. Only one half of the molecule is given in Fig. 213.

A particularly interesting point about this diagram is that it illustrates how the valencies of Nitrogen act. The N110 is distorted, having projections at the top and bottom. The two N20 groups circle round the top projection and the two N24 groups circle round the bottom projection, which is pulled down by the N63. The two side projections are directed towards the valency forces from the Carbon atoms. The Hydrogen atom floats above the Nitrogen.

The CO group is arranged as in Carbon Monoxide. The Oxygen is in the centre, as a pillar, and the Carbon funnels flat at the top and the four Carbon Anu circle round it. The Carbon funnels provide the valency forces as usual, but the Carbon in the ring to which the CO is attached has its funnels bunched together like petals closing. The central valence is as in Maleic acid.