Particles which collide with the Earth at right angles to the Earth's surface pass through less atmosphere than those colliding at an angle of less than a right angle. Thus, all other things being equal, more particles will actually collide with the Earth going straight down than if they travel in any other direction.

Some particles will pass right through the Earth, but those which pass right through the centre of the Earth are much more likely to collide with the atoms of the interior than those which miss the centre - simply because they travel further within the Earth. Thus, all other things being equal, there will be fewer particles emerging perpendicularly from the Earth than will emerge at any lesser angle.

As the Earth's atmosphere contains less atoms per cubic foot than the Earth's interior, more particles will come down through the atmosphere than will come up from the interior of the Earth.

The action of the particles colliding with the Earth creates pressure on the surface of the Earth. As the particles come from all directions, the pressure on the Earth's surface is equal in all directions. This is why the Earth is spherical.

However, there is a difference in pressure in terms of overall upward and downward movement of particles. More particles come down than go up. This pressure differential is what we call gravity.

In my opinion, objects on Earth are not 'pulled' down. They are pushed down. Objects 'fall' towards the centre of the Earth partly because more particles hit the Earth travelling straight down and partly because less particles emerge from the Earth going straight up.

Planets which are smaller than the Earth, such as the moon, have less gravity because more particles go up from the moon's surface - because more particles pass through the moon's interior. Thus on the moon the downward pressure differential is less which means less gravity.

It seems likely that the large amount of particles emitted by the Sun in the form of light etc. is larger than the Sun's gravity. If this is so, the Sun's planets will not 'fall' into the Sun because the Sun's outward pressure would be too strong.

Two planets in space will move towards each other by compression. They are not 'attracted' to each other. Particles from space will hit the surface of each planet with equal force from all directions - except one. There will be slightly fewer particles coming from the direction of the other planet -- because the interior of the other planet will have prevented some particles from passing through. There will be slightly less pressure on the side of the planets which face the other planet. The pressure will be lowest on a line passing through the centre of both planets. Thus each planet will movie towards each other's centre.

The paradox of weight concerns the strange behaviour of objects 'falling' to the surface of the Earth. For example, if we take two spheres of equal diameter - one made of lead and one made of aluminium - and we drop them from the same height at the same time, they will both hit the ground at once. However, if we then throw each sphere upwards with the same force - we find that the aluminium sphere will go higher than the lead sphere. We can throw it higher because aluminium is 'lighter' than lead.

In my view, the reason why the aluminium sphere goes higher is because it creates less resistance to the gravitational 'tide' than the lead sphere. The resistance is less because the aluminium atoms contain less sub-atomic particles such as protons, neutrons, electrons and neutrinos than the lead atoms.

The atoms or elements can be regarded as sieves The aluminium 'atomic' sieve has a wide mesh while the lead 'atomic' sieve has a fine mesh. If you hold two ordinary wire sieves under a waterfall, the one with the finest mesh will 'appear' to be the heaviest. It is the same with atoms.

Lead appears to be heavier than aluminium because its atomic sieve creates a much greater resistance to the particles raining down on the Earth from space. The greater the resistance of an atom - the 'heavier' the atom will appear to be.

If you hold two ordinary wire sieves under a waterfall and let them go at the same height at the same time, they will both hit the bottom of the waterfall at the same moment - regardless of the difference in the size of the mesh. The downward pressure of the water completely masks the resistance differential.

In the same way, gravity masks the resistance differential of the lead and aluminium spheres. However, if the two spheres were orbited in space - at the same height and speed, the aluminium sphere would gradually outpace the lead sphere despite both of them being weightless.

The concept of 'atomic sieves' is important because it helps us to understand the mechanics of cell growth. Before turning to cell growth, I will hypothesise on my conception of the phenomena known as magnetism.

It is well known that all magnets are made of iron or an alloy of iron such as steel. The reason why iron based metals are magnetic under certain conditions is to do with their atoms.

When an iron bar is magnetised, its atoms become parallel to each other. This of itself is not significant. The important point is that the electrons of the atoms orbit in the same direction and nearly the same plane. This fact produces two effects. Firstly, particles in the gravitational stream pass easily through the longitudinal axis of the bar i.e. at right angles to the electron plane, but with difficulty through the electron plane itself. This creates a pressure differential, high pressure on the longitudinal axis and low pressure at right angles to the axis. Secondly, the particles travelling in each direction on the longitudinal axis are twisted by the electrons as they only orbit in one direction. Thus a vortex is created - clockwise at one end and anti-clockwise at the other.

When the particles leave the end of the magnetised bar, they diverge, with the outer particles arching backwards towards the low pressure area along the sides of the bar. The places where the particles converge and diverge produce the well-known lines of force.

When the particles leaving the end of the iron bar vortex into the atmosphere, they can convert iron based objects into similar magnets. The vortex has similar properties to a tornado, in that the area within the vortex is a low pressure area. Just as two planets will move toward each other because of the relatively low pressure area that exists between them, so the two magnets move together for the same reason.

If the poles of the magnets are the same, their vortexes will revolves in opposite directions. The repulsion effect is due to the interaction of the electrons within the magnetised iron bars and the other magnet's vortexes. The two vortexes cancel each other out and this forces the electrons to reverse which in turn forces the iron bar to twist and move away from the other iron bar.

Chapter 16. Cell Growth.

Cell growth depends upon a number of factors, particularly the availability of food and the energy stored therein. When a cell enters a high energy environment, such as an area bathed in sunlight, its relative speed increases. The increase in speed is due to the energy field created by the photons etc., in the sunlight. The photon clouds move faster than the other elements or compounds in the area, and their presence increases the speed of anything mowing in the same direction as themselves. This is because the resistance caused by particles flowing in the opposite direction is reduced.

The higher speed of the cell reduces the wavelengths of its compounds and increases their frequency. This means that the cell's sieve mesh is enlarged, and more slowly moving particles can be 'captured' by the cell.

Although the photons move everything in their path more quickly, the elements with a fine mesh sieve create more resistance and travel more slowly. The cells are largely composed of high frequency wide mesh elements like hydrogen, oxygen, nitrogen and carbon. This means they move faster and can capture the slower fine mesh elements.

Cell compounds are made up of various elements and the compounds wavelengths are the product of their constituents. Where wavelengths are similar in phasing, there is little overlap between them. By this I mean that where they overlap they are completely synchronised. Thus the mesh is larger than it would have been if they were not synchronised. See Figure 7(a) and 7(b). The greater the wave overlap, the less efficient the compound. Some elements, such as hydrogen, have wavelengths which are compatible with many others in so far as synchronisation is possible to a high degree.

The large mesh elements like hydrogen, carbon, nitrogen and oxygen remain close to the centre of the cell's wave path; while the fine mesh elements, such as sodium, calcium, phosphorous and magnesium remain further out.

The cell is very complex and therefore a fine mesh compound organism. The outer compounds of the cell are relatively of finer mesh than the inner ones. When the speed of the cell increases in the photon stream, the large mesh compounds in the energy environment outside the cell squeeze pass the outer cell compounds and get into the cell.

(A typical large mesh compound is water, composed of large mesh hydrogen and oxygen). These large mesh compounds join the cell's central large mesh compounds with the result that there is in increase in the relative velocity of the cell's centre to the cell's outside.

The increased speed of the cell increases both the distance between the outer compounds and the distance between the outer and inner compounds. Thus the cell is enlarged and relatively finer mesh compounds can enter the cell.

When the sunlight stops, the photon stream finishes and the cell slows down. The larger mesh elements and compounds then become detached from the centre of the cell and squeeze pass the outer compounds again. However, the outer compounds close ranks and trap the remaining finer mesh compounds which have entered the cell

The increased speed of the cell increases both the distance between the outer compounds and the distance between the outer and inner compounds. Thus the cell is enlarged and relatively finer mesh compounds can enter the cell.

In this way the cell gradually 'grows' until the outer compounds are so far from the centre compounds that they reach a 'collision' wave path. The cell then splits in the manner described in Chapter 14.

In my view, elements can only join up with other elements to form compounds if there is a degree of synchronised overlap somewhere on their collective wave frequencies. A complete lack of any synchronisation will mean incompatibility. Frequent synchronisation will mean good bonding. Elements which are by themselves incompatible may become compatible by joining compounds containing the incompatible element. The joint wave length may allow synchronisation to take place.

So the acceptance of elements or compounds into the cell structure depends on their wavelength compatibility. Water can become a carrier compound for many elements because of the wide degree of synchronisation offered by its compound wavelength. Such elements are said to be 'soluble'.

Chapter 17. Cell Joins.

It is my hypothesis that uni-celled organisms are slowly reacting groups of chemical compounds which reproduce themselves by splitting, by a double reversal process. These uni-cells have a definite identity due to their chemical compounds and this gives them a specific compound wavelength pattern.

It is because of this multiple wavelength, due to the large number of compounds which make up the uni-cell, that such cells are normally incompatible with other uni-cells. This is partly because their identity varies according to their age. The age of a cell indicates the position in time that it has reached in its overall chemical reaction.

When a cell splits, its wavelengths are incompatible because they are separated both in space and time. In addition the uni-cell has a certain overall charge due to the positive and negative energy spirals within the cell compounds. The charges of the newly divided uni-cells are therefore identical and the new cells repel each other. Of course, given millions of such uni-cell organisms and millions of years, it is possible that two uni-cells which were absolutely compatible in both their wavelength identity and their overall charge would meet. It is my hypothesis, regarding cell joins, that this happened in the past, and that the result was a 'double-celled' organism. In such a double-cell, the two nuclei would not merge into one, because this would immediately put them on a collision wave path due to their combined size. Their compatibility would prevent them from so merging and splitting. They would be compatible, not identical.

The two compatible uni-cells would remain in the form of a double-cell as long as each remained compatible both in terms of charge and wavelength pattern. If my structural hypothesis on the tetrahedron shape of uni-celled organisms is basically correct, as per Figure 3(d) in Chapter 11, a double-celled organism would form a trigonal bi-pyramid shape as in Figure 8(a). This reverses into a rhombic duo-decahedron as shown in Figure 8(b).

It is interesting to note that the cells of most multi-celled organisms, whether plants or animals, conform to the rhombic duo-decahedron shape.

The double cells would grow in exactly the same way as the uni-cells, - indeed they would probably grow better because of their wider range of wavelengths. Growth would be very even due to the inter linked nature of the double-cell, and the two uni-cells making up the double-cell would split at virtually the same time.

After splitting, the 'parent' uni-cells would remain inter linked, because they would still be compatible. The other half of the split uni-cells would not be compatible with their own 'parent', but they would be compatible with their opposite half and the opposite 'parent'. The 'new' uni-cells would therefore inter link with each other, after crossing over so that they remained next to their opposite 'parent'. Thus the double cell would become a quadruple cell, after binary fission, consisting of two pairs of inter linked uni-cells sticking together side by side. Two double-cells side by side. A small number of splits would produce a large multi-celled organism.

Chapter 18. Double-cell Implications.

The concept of double cells fits quite well with known facts on cell constitution. Most cells in multi-cellular organisms are of this type, known as 'diploid' cells to the biologists. Human cells are an example of the diploid cell, their nucleus's containing double chromosomes which are intertwined around each other.

The double cell configuration projects certain structural and electromagnetic implications. Unlike uni-cells, the double cell is not omni-directional, and any multi-cellular growth is affected by this fact. Furthermore, if the double cell is to grow and reproduce by binary fission, it must have access to a food source and reproduction space. These requirements restrict the sort of growth patterns which can be achieved.

The double cell based organisms can only grow in the following structural forms :-

Solid tubes, which consist of double-cells joined end to end, as per Figure 9(a).

Sheets, consisting of double-cells stacked together either vertically or horizontally, as per Figures 9(b), and 9(c).

Hollow tubes, consisting of sheets of double-cells which have joined edge to edge, as per Figures 9(d), 9(e) & 9(f).

Apart from the structural implications due to tine double celled configuration, there would also be electromagnetic implications. Each double-cell would consist of a positively charged uni-cell inter linked with a negatively charged uni-cell. Figure 9 shows the positive and negative parts of the double-cells divided by dotted lines. The drawings reproduce the double-cells as though they were double cubes. However, as I have said in Chapter 17, the double-cell base is likely to take the form of a rhombic duo-decahedron. This means that the cells do not line up in a rectangular form, but adopt a diagonal/hexagonal layout as per Figure 9(g). As a result, the cell structures have sides or edges which are all positively or all negatively charged.

The effect of the electro-magnetic configuration of the overall multi-cellular organism, whether solid tubes, sheets or hollow tube forms, is determined largely by the environment of the organism. The main determining factor is the Earth's surface which carries a negative charge. As a result the solid and hollow tubes tend to grow in a vertical plane. Sheets vary according to their configuration. Some will grow in the vertical plane while others will prefer the horizontal plane.

Algae may be examples of solid tubes, while leaves may be examples of sheets. Hollow tubes are structurally very strong and most plants and animals of any size are likely to be constructed out of such tubes. As you can see in Figure 9(d), (e) & (f), the hollow tubes can come in a variety of structural configurations. There could be tubes within tubes as long as the double-cells had one of their sides exposed to a food source. The double-cells would only split by binary fission if there was room for such reproduction.

Chapter 19. Sexual Reproduction.

In my view, sexual reproduction is a result of the double-cell configuration and developed with the multi-cellular organisms. Thus the multi-cellular organisms have two forms of reproduction whereas the uni-celled organisms only have one. The multi-cellular organisms can split by binary fission like the uni-celled organisms.

They can also spilt by a separation of their double-cells into two uni-cells and these uni-cells can recombine with other compatible uni-cells.

The biologists call the unicellular binary fission split - mitosis, and the double-cell separation - meiosis. The recombination of the separated uni-cells is called fertilisation.

Of course, the biologists do not see the double-cell as such, but rather see it as a single cell. In their view this single cell simply reduces its chromosome content by half during meiosis. It is then regarded as a half cell, or 'haploid' cell.

It is my contention, as you have observed, that the uni-cell structure is hollow and allows for the replication of its structure by this fact. The double-cell therefore consists of two 'hollow' uni-cells intertwined. Just before mitosis, the two cells have replicated themselves becoming four cells - two internal and two external. Slightly different from the current biological view

In this chapter I will consider sexual reproduction as conducted by a multi-cellular organism which has grown in the form of a hollow tube. The same basic system of reproduction would apply to all the other structural forms previously illustrated.

The hollow tube stands vertically on the Earth's surface with its positively charged end attached to the negatively charged Earth. The hollow tubes upper end is negative. It is repelled by the Earth, and occupies a position as far away from the Earth as possible -that is -- vertically above the base of the tube.

The organism consists of sheets of double-cells wrapped up in a tube form. Each layer of double-cells being separated by a food transport medium such as a layer of water.

As the organism grows by mitosis, starting from an original double-cell, it follows that those original cells must be located at the structural centre of the organism. When the original double-cells separate, because their wavelengths or electromagnetic charges are no longer compatible, the positively charged 'half' would be attracted towards the negatively charged Earth and would go down; while the negatively charged 'half' would go up the tube.

The separation of the double-cell would take place only when the wavelengths became sufficiently out of synchronization to overcome the bonding caused by the wavelength compatibility, or the electromagnetic compatibility.

Alternatively, the electromagnetic charges might become sufficiently identical to cause the separation, but they would have to overcome the bonding effect of the wavelength compatibility first.

This double retention aspect of double-cell inter linking would mean that the double-cells would separate long after the mitosis splits. Once they had started to separate, however, the separation process would continue, cell by cell, until the whole organism disintegrated. Only continuous mitosis would prevent the separation process from breaking down the multi-cellular organism. If mitosis stopped, due to the end of the chemical reaction process of the uni-cells, or because of lack of food, the meiosis separation would eventually overtake the organism, and it would disintegrate.