

19 February 1962

## THE TRIAD OF THE METABOLISM OF FOOD

### SECTION 1

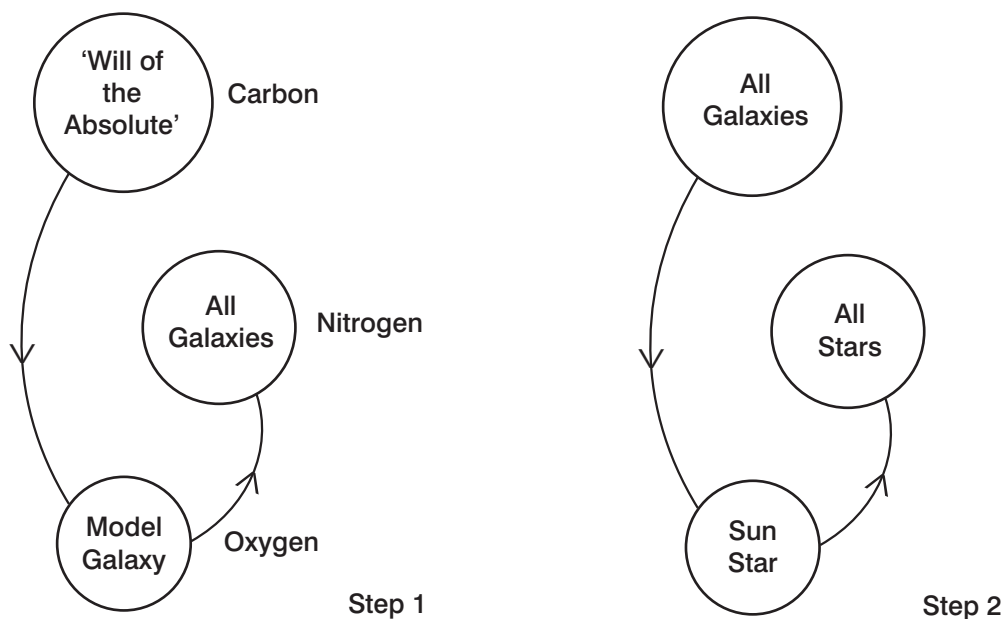
This week it is important to remind ourselves: 1) that the Law of Three Forces governs the genesis of every event in the Universe, 2) that the order of action of the forces determines the *kind* of event which will arise, and 3) that there are six possible orders of action and therefore six different kinds of event at every density level.

In the Ray of Creation and the Three Octaves of Radiations we study one of these six kinds of event according to the order of action:

C – O – N

conveying active force (Carbon) which acts upon the inert raw material (Oxygen) to form organised matter (Nitrogen) which is capable of indefinite repetition or 'replication'.

Thus, the 'Will of the Absolute' has first to create a model Galaxy out of the raw material of the Universe, and on this model all possible Galaxies arise: (Step 1)



Then within the Galaxies a model Star or Solar System is derived from the original condensation of material and on this model all the different kinds of star are born – the blue and the red giants, the white dwarfs, the binary systems, etc. (Step 2)

The process continues through Planetary Systems, individual Planets and their satellites.

The same *kind of event* is to be seen in, for instance:

1. The evolution of varieties within a species of organic life. Thus within the order 'Carnivora' of the class 'Mammalia' all possible varieties of *dog* are derived by interbreeding from some prototype which gave rise also to all the other genera and species of carnivora.
2. The manufacture by man of such toys as motorcars. Think of all the varieties of 'mechanically-propelled vehicles suitable for the transport of passengers or goods by road' (and now even amphibian!) which have 'evolved' since Daimler took out the first patent for an internal combustion engine in 1885!

## SECTION 2

But now we have to consider *a different kind of event* set up by a different order of action of the forces, namely:

**O – C – N**

where raw material is acted upon by previously-prepared substances of high potency as one step in a chain-reaction of progressive refinement and synthesis.

### Examples:

1. The panning and refinement of alluvial metals or mineral ores to produce pure metals or precious stones,
2. a sugar-refinery,
3. the many processes used in cooking,
4. the making of wine and selection of good vintages, and
5. on a larger scale, the key process of Darwinian Evolution – namely ‘natural selection’ and ‘survival of the fittest’, which establishes successful ‘mutations’.

This triad can be symbolised: →

The fundamental difference between the two triads described is that the ‘Triad of Creation’ results in a loss of potential, the canalising of one possibility out of many; whereas the ‘Triad of Refinement’ ends higher than it began with the creation of entirely new possibilities. Both processes, however, are inevitably accompanied by a third kind of triad – the *destruction* of unwanted matter, elimination, excretion – the triad

**C – N – O**

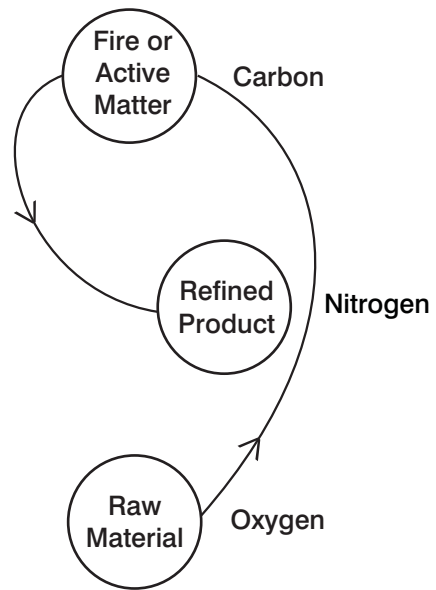
The compost bucket bears witness to this process in cooking as does the unskilled labourer – the washer-up!

**Discussion:** You will have plenty of opportunity of finding examples of these and the other three Triads in course of time. Now it is only necessary to be clear as to the *difference* between the first two and to have some good examples in your mind.

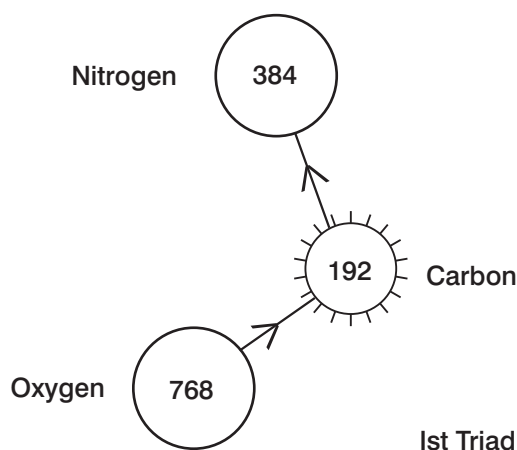
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## SECTION 3

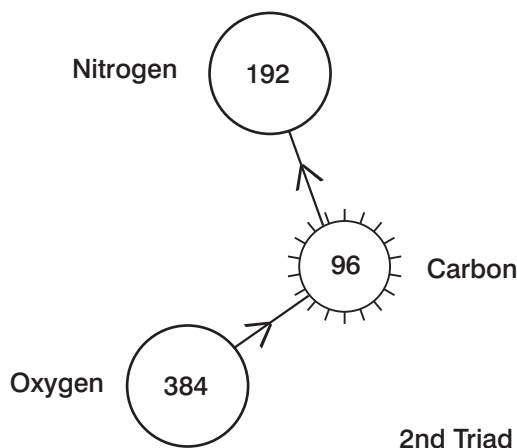
In the following ‘Diagram of Metabolism’ or ‘Food Table’ only one of the six triads is shown at first, namely the triad of ‘refinement’. The process of cooking is continued in digestion, so that the food is first broken down into its basic constituents. This is done by the ‘enzymes’ produced in the different glands which open into the alimentary tract, salivary and gastric glands, pancreas and intestinal glands with the help of bile.



All this is included in the 1st Triad:

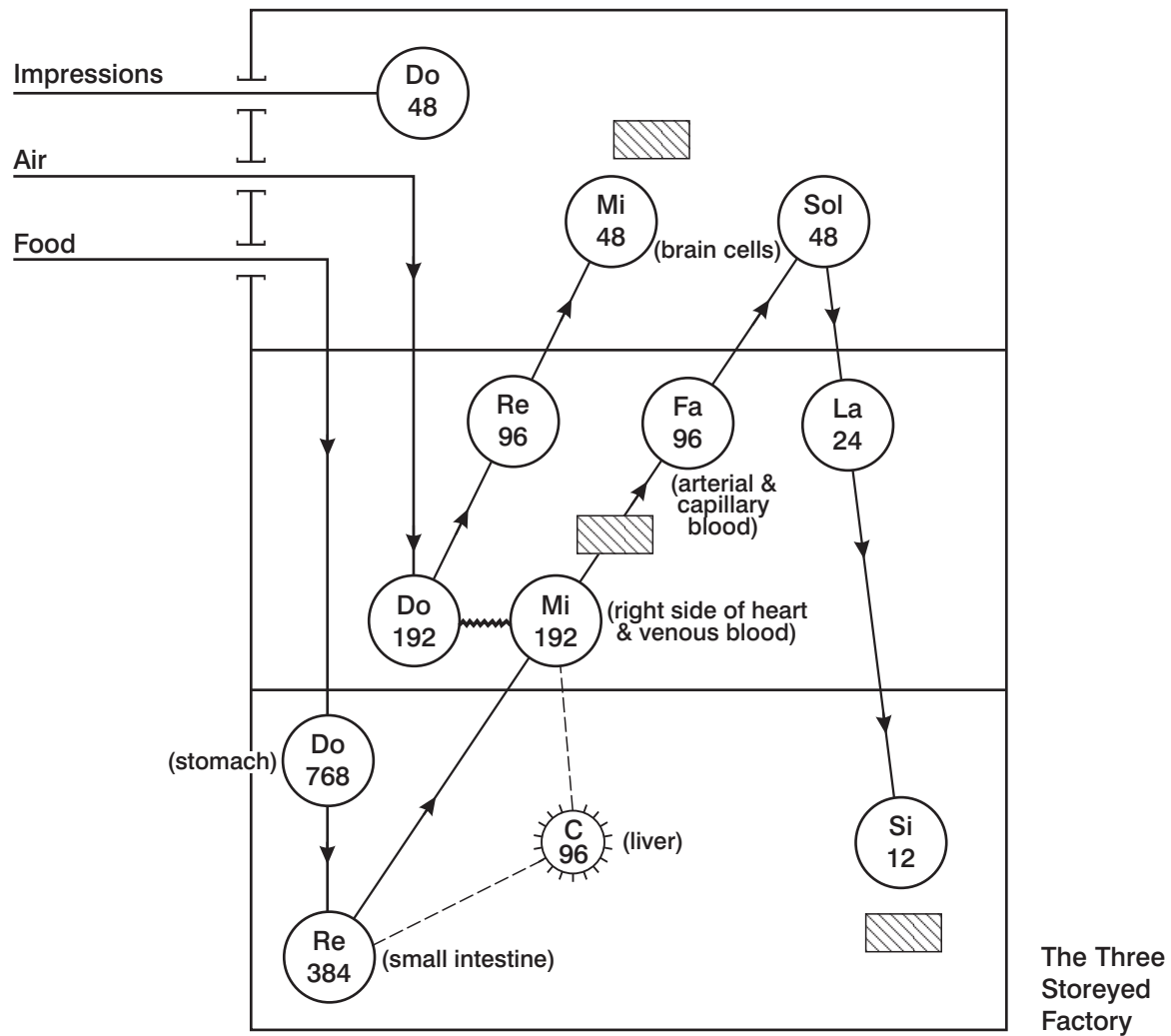


The dissolved food constituents (simple sugars, glycerol and fatty acids, amino-acids, salts, vitamins) are then absorbed via the portal vein into the liver where the next step takes place, the Nitrogen 384 becoming the raw material (Oxygen) to be acted on by the powerful furnace of the liver – (Carbon 96) to form Nitrogen 192. This is the state of the food when it emerges from the liver, and is conveyed via the hepatic veins and inferior vena cava to the right side of the heart ready to be pumped to the lungs for oxidation. [The 2nd Triad]



We can now put these three steps in simplified form (omitting the Carbons) into the Three-Storeyed Factory diagram. (overleaf)

You can see that the octave of the digestion of food has now reached the Mi-Fa 'interval', at which point an additional impulse or 'shock' must be given. This is provided by Nature by the entry of air into the lungs and the instantaneous oxidation of all the constituents of the venous blood which have been deployed throughout the alveolar epithelium in a layer not much thicker than the diameter of a single red blood corpuscle. This sends the constituents of food in the blood plasma on to the next step 'Fa 96'. At the same time the Air Octave goes from Do 192 to Re 96 with the formation of oxy-haemoglobin conveyed to the tissues by the arteries. The brain cells (as well as the other tissue cells), by a further step in refinement, receive their supply of air and food as Mi 48 and Sol 48 respectively. At this point the Air Octave reaches its 'interval' and stops: a small amount of food, however, goes on through two further steps of



refinement – La 24 and Si 12 – before the octave reaches its final ‘interval’. But this is only sufficient to keep the spinal cord alive, and not enough for the full development of the Voluntary Nervous System.

Impressions entering as Do 48 do not find the necessary Carbon ready prepared in the brain and so the Impressions Octave does not even start. This is the state of affairs (see figure, above) in ordinary man who has not begun to ‘realize Himself’.

It is at this point that the ‘Alchemy of Happiness’, as taught in Schools, has to begin.

(Pause for discussion)

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**COMMENT.** (Perhaps for Group-takers only?)

The more you know about physiology the more you will come to see in this simple diagram a wonderful help in steering through its growing complexities. I have beside me the 9th edition (1952) of a well-known text-book: *Applied Physiology* by Prof. Samson Wright. Since I was coached by its author for an advanced examination in Physiology a year or two after the 1st edition appeared, I have seen this book treble its original size. Now there are about 300 pages of fairly intricate biochemistry needed to describe what is contained in our diagram (above). It is now very

difficult to distinguish there the clear-cut steps in metabolism; it is next to impossible to separate the different *kinds* of process; digestion, elimination, synthesis. But with a good understanding of this diagram and a clear sight of the *main* octave, it is possible to fill in all the subordinate octaves and put each detail into its right place.

For instance, there is a whole *secondary* octave discernible in the first step (Do 768 to Re 384). You take a bite of food which is first moistened by saliva from the parotid gland, masticated and rolled into a neat package or 'bolus' coated with mucus from the other glands of the mouth, and within this package digestion by the enzymes ptyalin and amylase begins. The complicated process of swallowing sends the food down through the thorax in the gullet to the cardiac end of the stomach. Just as the sight or smell of food has caused the mouth to water (the three kinds of saliva to go into action) so the entry of food into the mouth has caused the glands at the lower end of the oesophagus to secrete, so as to help the food to pass the cardiac sphincter and prevent the food sticking in the gullet as it does if we have 'lost our appetite'. On entering the stomach the food is first attacked by a solution of hydrochloric acid, and then by the pepsin and other enzymes. As each portion of food becomes sufficiently digested and acidified the pyloric sphincter at the lower end of the stomach opens fractionally so that a small jet of liquid food passes into the duodenum. Here the medium is strongly alkaline and the next three steps of digestion are carried on by the bile, the pancreatic juice (with its powerful enzyme trypsin) and the 'succus entericus'. All down the three parts of the small intestine (duodenum, jejunum and ileum) the fully-digested food is gradually absorbed into the tributaries of the portal vein. It has now become 384. The next step carried out in the liver is one of storage and synthesis – storage of glucose by means of that wonderful substance glycogen, storage of fats in different depots, and synthesis of higher fatty compounds with high energy phosphates and of all different forms of protein needed for cell metabolism and multiplication.

So much work is being done all over the world on protein synthesis in cells, and particularly in brain cells, that we ought soon to be able to work out chemically the smaller octaves between 192 and 96 and possibly 96 and 48. But the rest will have to be studied psychologically!

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